



BY HAND DELIVERY

August 23, 2019

Department of Energy Resources

c/o Judith Judson
Commissioner
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Unitil

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National Grid

c/o Corinne DiDomenico
Manager, Environmental Transactions
100 East Old Country Road
Energy Procurement, 2nd Floor
Hicksville, NY 11801

RE: Request for Proposals for Long-Term Contracts for Offshore Wind Energy Projects under Section 83C of the Green Communities Act

To the Soliciting Parties:

Vineyard Wind LLC ("Vineyard Wind") is pleased to submit its proposals in response to the Request for Proposals for Long-Term Contracts for Offshore Wind Energy Projects issued on May 23, 2019 and revised on August 7, 2019, by Fitchburg Gas & Electric Light Company d/b/a Unitil, Massachusetts Electric Company d/b/a National Grid, Nantucket Electric Company d/b/a National Grid, NSTAR Electric Company d/b/a Eversource Energy and the Massachusetts Department of Energy Resources (the "RFP").



We are hand delivering seven (7) copies of each of the unredacted "Confidential Version" and seven (7) copies of a redacted "Public Version" for each of the 400 MW and 800 MW Project proposals on appropriately labeled CD-ROMS as specified by Appendix I and Section 1.7 of the RFP.

A Bid Fee in the aggregate amount of [REDACTED] has been made by wire transfer in accordance with your posted instructions as follows:

<u>Distribution Company</u>	<u>% of Bid Fee</u>	<u>Bid Fee Amount</u>
Eversource Energy	53.62%	[REDACTED]
National Grid	45.41%	
UNITIL	0.97%	
Total	100%	

Vineyard Wind submits its proposals subject to its statement regarding confidentiality attached to this letter as Attachment 1 - Confidentiality.

We look forward to the evaluation of our proposals and stand ready to provide any further information or assistance that you may require.

Respectfully submitted,

Vineyard Wind LLC



By: Lars Thaaning Pedersen
Title: Chief Executive Officer

Attachment I – Confidentiality Statement of Vineyard Wind LLC

As authorized by Sections 1.7.4 and 1.7.5 of the RFP, Vineyard Wind has submitted its proposals, each with a public (redacted) and a confidential (un-redacted) version. Vineyard Wind has redacted information from its proposals on the basis that all such redacted information is non-public, proprietary or sensitive information (“Confidential Information”) and intends that such Confidential Information, to the extent included in its un-redacted form in the confidential version, is and shall remain confidential and shall be treated as confidential by the Evaluation Team (including the DOER and the Distribution Companies), the Independent Evaluator (including its subcontractors), the Evaluation Team Consultant, to DOER’s consultant, to ISO-NE and personnel of one or more Other Authorities. Pursuant to Section 1.7.4 of the RFP, Vineyard Wind has clearly identified all Confidential Information which is contained in the confidential (un-redacted) version of the proposal by redacting such Confidential Information in the public (redacted) version.

The Confidential Information consists of cost and pricing information and other proprietary or sensitive information that is not generally known or readily ascertainable, that, if known to competitors of Vineyard Wind, would be of economic value to such competitors and would provide them with an unfair advantage in their bidding and negotiating strategies, which could be used to the detriment of Vineyard Wind and the public, in particular in connection with later solicitations anticipated to be conducted under the authority of an Act Relative to Green Communities, St. 2008, c. 169, as amended by St. 2016, c. 188, Section 12 (“Section 83C”) as well as in similar solicitations that may be conducted by other New England states. Accordingly, Vineyard Wind expects that its Confidential Information be handled by DOER in accordance with MA G.L.C. 25A, sec. 7, as set forth in Section 1.7.5 and Appendix E of the RFP and by the Massachusetts Distribution Companies and the Independent Evaluator in accordance with Section 1.7.5 and Appendix E of the RFP and applicable law, including with respect to the Independent Evaluator pursuant to paragraph (f) of Section 83C.

All such Confidential Information is provided to DOER for DOER's sole use in the context of reviewing Vineyard Wind's specific proposals, and for no other purpose. Under MA G.L.C. 25A, sec.7, such information is not a public record; to the extent public record requests are received by DOER requesting Confidential Information, Vineyard Wind expects DOER will deny such requests, and Vineyard Wind further requests that DOER provide it with notice of any such requests and such denials. In the unlikely event that DOER nonetheless proposes to disclose Vineyard Wind's Confidential Information to any other state's equivalent agency, Vineyard Wind expects DOER will provide Vineyard Wind with affirmative sufficient advance notice together with the opportunity for Vineyard Wind to meet with DOER to discuss the reasons why DOER proposes to disclose Vineyard Wind's Confidential Information and to discuss alternatives to and/or conditions and/or limitations on such disclosure. Vineyard Wind further expects that it will be informed of any disclosure by any of DOER or the Massachusetts Distribution Company as may be required by law. Further, Vineyard Wind submits its proposals in response to the RFP and includes such Confidential Information in its confidential (un-redacted) version in reliance on the commitment made in Section 1.7.5 of the RFP that the Evaluation Team will notify Vineyard Wind and will work with Vineyard Wind on developing appropriate means to limit disclosure of such Confidential Information prior to the Evaluation Team's disclosure as contemplated in the RFP.

Part II (a)
Proposal Certification and Authorization (Appendix C)

A proposal will be considered incomplete unless all required signatures are provided.

The undersigned certifies that he or she is an authorized officer or other authorized representative of the Bidder, and further certifies that:

(1) the Bidder has reviewed this RFP and all attachments and has investigated and informed itself with respect to all matters pertinent to this RFP and its proposal; (2) the Bidder's proposal is submitted in compliance with all applicable federal, state and local laws and regulations, including antitrust and anti-corruption laws; (3) the Bidder is bidding independently and that it has no knowledge of the substance of any proposal being submitted by another party in response to this RFP other than a response submitted by the bidder's affiliate for a project where the Bidder is also a project proponent or participant, and notice of each such affiliated bid or project must be disclosed in writing with each of the Bidder's and affiliated bidder's proposal; (4) the Bidder has no knowledge of any confidential information associated with development of the RFP; (5) the Bidder's proposal has not been developed utilizing knowledge of any non-public information associated with the development of the RFP; (6) the Bidder has not obtained any confidential bidding-related information directly or indirectly from any of the Distribution Companies, in preparation of its bid; (7) except as disclosed by the Bidder in the relevant portions of its response, the Bidder is not an Affiliated Company of any Massachusetts investor-owned electric Distribution Company and no Distribution Company which is seeking proposals pursuant to the RFP has a financial or voting interest, controlling or otherwise in the bidder or the bidder's proposed project; (8) the bidder accepts that confidential information about their proposal might be shared, on a confidential basis subject to Appendix E, with any members of the Evaluation Team, the Evaluation Team Consultant, and Independent Evaluator, ISO-NE or Other Authorities personnel; and (9) the bidder will continue to observe these requirements throughout the RFP process.

Violation of any of the above requirements may be reported to the appropriate government authorities and shall disqualify the Bidder from the RFP process.

The undersigned further certifies that the prices, terms and conditions of the Bidder's proposal are valid and shall remain open until December 31, 2019 unless otherwise extended by mutual agreement.

The undersigned further certifies that he or she has personally examined and is familiar with the information submitted in this proposal and all appendices thereto, and based on reasonable investigation, including inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of the undersigned's knowledge and belief.

The undersigned understands that a false statement or failure to disclose material information in the submitted proposal may be punishable as a criminal offense under applicable law. The undersigned further certifies that that this proposal is on complete and accurate forms as provided without alteration of the text. The undersigned further understands and agrees to the provisions of this RFP related to confidential information subject to Appendix E, and consents to the limited exchange and sharing of confidential information related to the Bidder's proposal as described in this RFP, including with members of the Evaluation Team, the Independent Evaluator, ISO-NE, or and adjacent Control Area personnel.

Project Title(s) Vineyard Wind 2 [REDACTED] Generator Lead Line
(as Submitted to the Soliciting Parties)

Bidder Name Vineyard Wind LLC

Bidder or Authorized
Representative Mr. Lars Thaaning Pedersen

CEO of Vineyard Wind LLC 8/23/2019

Bidder Representative's Title Date


Signature of Bidder or Authorized Representative

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(as Submitted to the Soliciting Parties)

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Bidder or Authorized Representative Mr. Lars Thaaning Pedersen

CEO of Vineyard Wind LLC 8/23/2019

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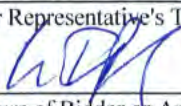
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APPENDIX C

CERTIFICATION AND AUTHORIZATION

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Bidder or Bidder's Authorized Representative

Mr. Lars Thaaning Pedersen

Print or Type Name	Vineyard Wind 2	Generator Lead Line,
	Vineyard Wind 2	Commitment Agreement,
	Vineyard Wind 2	Generator Lead Line, and
	Vineyard Wind 2	Commitment Agreement

Project Title(s) as Submitted to the Evaluation Team

CEO of Vineyard Wind LLC 8/23/2019

Title Date

PROPOSAL FOR LONG-TERM CONTRACTS FOR AN ■■■■ MW OFFSHORE WIND ENERGY PROJECT

Prepared for

**Fitchburg Gas & Electric Light Company d/b/a Unitil, Massachusetts Electric
Company d/b/a National Grid, Nantucket Electric Company d/b/a/ National Grid,
NSTAR Electric Company d/b/a Eversource Energy, and the Massachusetts
Department of Energy Resources**

August 23, 2019

Submitted by



VINEYARD WIND

Certain information in this document or electronic file is non-public, proprietary, commercial, and/or financial information ("Confidential Information"), which has been redacted from the version of this proposal marked "PUBLIC". Vineyard Wind intends for all such Confidential Information to remain confidential and for the version of this proposal marked "CONFIDENTIAL" to be treated as a non-public record that is exempt from disclosure under applicable laws and as set forth in the Request for Proposals issued on May 23, 2019 and revised on August 7, 2019.

PUBLIC

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Image Index

Cover: Cape Cod beach stock image by Ken Wiedemann ◇ Section 1: Veja Mate offshore wind project ◇ Section 2: Veja Mate offshore wind project ◇ Section 3: Veja Mate offshore wind project ◇ Section 4: Beatrice offshore wind project ◇ Section 5: Veja Mate offshore wind project ◇ Section 6: Veja Mate offshore wind project ◇ Section 7: North Atlantic Right Whale stock image ◇ Section 8: Neptune survey vessel by Lauren Owens Lambert ◇ Section 9: Marine survey personnel by Lauren Owens Lambert ◇ Section 10: Veja Mate offshore wind project ◇ Section 11: Veja Mate offshore wind project ◇ Section 12: Veja Mate offshore wind project ◇ Section 13: Covell's Beach, Town of Barnstable by Lauren Owens Lambert ◇ Section 14: Beatrice offshore wind project ◇ Section 15: Stock image by Alamy ◇ Section 16: Veja Mate offshore wind project

Confidentiality Statement

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[illegible]



List of Acronyms

Acronym	Meaning
ACOE	US Army Corps of Engineers
ACP	Alternative Compliance Payment
ADLS	Aircraft Detection Lighting System
ADR	American Depositary Receipt
AIS	Automatic Identification System
AIV	Alternative investment vehicle
Avangrid	Avangrid Inc.
Avangrid Networks	Avangrid Networks Inc.
Avangrid Renewables	Avangrid Renewables LLC
BOEM	Bureau of Ocean Management
BOP	Balance of plant
BUZM3	NOAA Buzzards Bay weather platform
CAA	Clean Air Act
CAPEX	Capital expenditures
CCIS	Capacity Capability Interconnection Standards
CDC	Commercial Development Company
CDO	Chief Development Officer
CEO	Chief Executive Officer
CIP	Copenhagen Infrastructure Partners
CLF	Conservation Law Foundation
CO2	Carbon dioxide
CO2e	CO2-equivalent
COA	Corresponding Onshore Area
COD	Commercial operation date
COP	Copenhagen Offshore Partners
COP	Construction and Operations Plan
CPPD	Certification, Project and Pricing Data
CRMC	Rhode Island Coastal Resource Management Council
CTV	Crew transfer vessel
CVA	Certified verification agent
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEIS	Draft Environmental Impact Statement
Distribution Companies	Unitil, National Grid, and Eversource Energy
DMF	Division of Marine Fisheries



List of Acronyms (Continued)

DOER	Massachusetts Department of Energy Resources
DPU	Department of Public Utilities
DRI	Department of Regional Impact
DSCR	Debt-service coverage ratio
EDC	Electric distribution company
EFSB	Energy Facilities Siting Board
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
ENF	Environmental Notification Form
EPA	Environmental Protection Agency
EPC	Engineering, Procurement, and Construction
ERM	Environmental Resources Management
ESA	Endangered Species Act
ESP	Electrical service platform
ETU	Elective transmission upgrade
EWG	Exempt wholesale generator
FAA	Federal Aviation Administration
FAB	Rhode Island Fisheries Advisory Board
FCA	Forward Capacity Auction
FCAQ	Forward Capacity Auction Qualification
FCM	Forward Capacity Market
FCP	Fisheries Communication Plan
FDR	Facilities Design Report
FEED	Front-end engineering and design
FERC	Federal Energy Regulatory Commission
FIR	Fabrication & Installation Report
first 800 MW project	Vineyard Wind 1
FLiDAR	Floating LiDAR
FPA	Federal Power Act
ft	feet
FTE	Full-time equivalents
G&G	Geotechnical and geophysical
GHG	Greenhouse gas
GIS	Gas-insulated switchgear
Greentown	Greentown Labs
GridAmerica	GridAmerica Holdings, Inc.
GWSA	Global Warming Solutions Act



List of Acronyms (Continued)

HCA	Host Community Agreement
HDD	Horizontal drill direction
HLV	Heavy lift vessel
HSE	Health and safety
HTV	Heavy transportation vessel
HV	High voltage
Iberdrola	Iberdrola S.A.
IHA	Incidental Harassment Authorization
in	inches
ISO-NE	Independent System Operator-New England
ITC	Investment Tax Credit
ITT	Invitations to tenders
km	kilometer
kV	kilovolt
Lease Area	Lease Area OCS-A 0501
LMP	Locational Marginal Prices
LOA	Letter of Authorization
m	meters
M&A	Mergers and acquisition
m/s	Meters per second
MA WEA	Massachusetts Wind Energy Area
mAGL	meters Above Ground Level
MassCEC	Massachusetts Clean Energy Center
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MBTA	Migratory Bird Treaty Act
	Massachusetts Board of Underwater Archaeological Resources
MBUAR	
MEPA	Massachusetts Environmental Policy Act
metocean buoy	Meteorological-oceanographic buoy
MHC	Massachusetts Historical Commission
mi	miles
MMPA	Marine Mammal Protection Act
mMSL	meters above Mean Sea Level
MP	Monopile
	Magnuson-Stevens Fishery Conservation and Management Act
MSFCMA	
MSL	Mean Sea Level
MW	Megawatt
NARW	North Atlantic Right Whale



List of Acronyms (Continued)

NBPA	New Bedford Port Authority
NCC	National Control Center
NCIS	Network Capability Interconnect Standards
NEPA	National Environmental Policy Act
NEPOOL GIS	New England Power Pool Generation Information System
NERC	North American Electric Reliability Corporation
NHPA	National Historic Preservation Act
nm	Nautical mile
NMFS	US National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOWI	National Offshore Wind Institute
NOx	Nitrogen oxide
NPCC	Northeast Power Coordinating Council
NPDES	National Pollutant Discharge Elimination System
NPV	Net present value
NRDC	Natural Resources Defense Council
NTM	Notice to Mariners
NWF	National Wildlife Federation
O&M	operations and maintenance
OATT	Open Access Transmission Tariff
OCS	Outer Continental Shelf
OECC	Offshore export cable corridor
OEM	Original equipment manufacturers
OffshoreMW	OffshoreMW LLC
OPEX	Operational Expenditure
OSRP	Oil Spill Response Plan
PAL	Public Archaeology Lab
PAM	Passive acoustic monitoring
PATON	Private Aids to Navigation
PLA	Project labor agreement
POI	Point of interconnection
PP10	Planning Procedure No. 10
PPA	Power Purchase Agreement
PTC	Production Tax Credit
PTF	Pool transmission facilities
QP	Queue position
REC	Renewable energy credit



List of Acronyms (Continued)

RFP	Request for Proposals
RODA	Responsible Offshore Development Alliance
ROV	Remotely operated vehicle
ROW	Right-of-way
RTR	Renewable technology resource
SAP	Site Assessment Plan
SCADA	Supervisory Control and Data Acquisition
ScottishPower Renewables	ScottishPower Renewable Energy Ltd.
SEMA	Southeast Massachusetts load zone
SERIES	Vortex mesoscale time series
SIS	System impact study
SMAST	School for Marine Science and Technology, UMass Dartmouth
SMS	Settlement Market System
SOV	Service operation vessel
sq mi	Square mile
TBF	To be filed
TCM	Turbine condition monitoring
[REDACTED]	
[REDACTED]	
[REDACTED]	
the "Project"	Vineyard Wind 2
the "Town"	Town of Barnstable, Massachusetts
TP	Transition piece
UK	United Kingdom
UMass PPC	University of Massachusetts, Dartmouth Public Policy Center
US	United States
USCG	US Coast Guard
USFWS	US Fish and Wildlife Service
Vineyard Power	Vineyard Power Cooperative
Vineyard Wind	Vineyard Wind LLC
VOC	Volatile organic compound
Vortex	Vortex Factoria De Calculs, S.L.
WHOI	Woods Hole Oceanographic Institute
WTG	Wind turbine generator
XLPE	Cross-linked Polyethylene



ATTACHMENT TO:

**SECTION 1 OF APPENDIX A TO THE RFP
CERTIFICATION, PROJECT AND PRICING DATA**

ATTACHMENT 1.0-1

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 1 OF APPENDIX A TO THE RFP
CERTIFICATION, PROJECT AND PRICING DATA**

ATTACHMENT 1.0-2

REDACTED



ATTACHMENT TO:

**SECTION 1 OF APPENDIX A TO THE RFP
CERTIFICATION, PROJECT AND PRICING DATA**

ATTACHMENT 1.0-3

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 1 OF APPENDIX A TO THE RFP
CERTIFICATION, PROJECT AND PRICING DATA**

ATTACHMENT 1.0-4

REDACTED

VINEYARD WIND 2

The **800 MW Vineyard Wind 2** project (the “Project”), which Vineyard Wind has designed and developed specifically for the Commonwealth, builds off of the successes and learnings of Vineyard Wind 1, unlocks substantial additional economic benefits, further accelerates the growth of the offshore wind industry in the Commonwealth of Massachusetts, and continues to provide Massachusetts ratepayers a reliable source of fixed price, low-cost zero carbon energy. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Vineyard Wind has shown, in the years developing the Vineyard Wind 1 project, a strong and sustained commitment to working with local communities, stakeholders, and businesses to ensure its projects are designed, constructed, and operated in way that enhances opportunities and benefits, while avoiding, minimizing, and mitigating potential negative impacts. This commitment will only grow with Vineyard Wind 2.

For Vineyard Wind 1, we entered into a milestone host community agreement (HCA) with the Town of Barnstable (the “Town”), and this agreement benefits Vineyard Wind 2. [REDACTED]

[REDACTED]

With Vineyard Wind 1, we committed to entering into a project labor agreement (PLA) with the building trades unions, and once finalized, that PLA will have broken new ground for the union workforce and open a whole new industry of union job opportunities. [REDACTED]

[REDACTED]

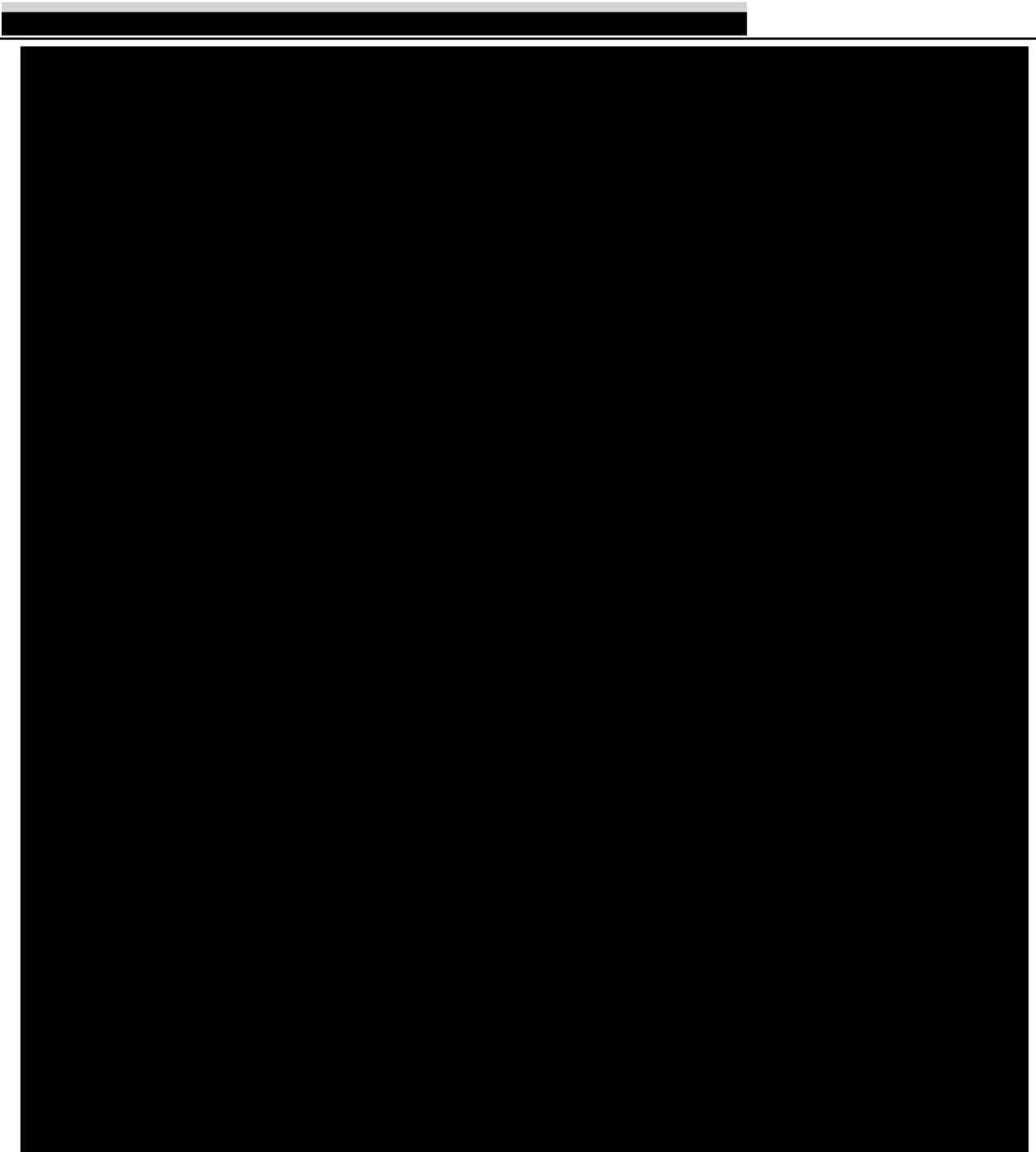
Vineyard Wind 1 entered into a first-in-the-nation, landmark agreement with the Natural Resources Defense Council (NRDC), the National Wildlife Federation (NWF), and Conservation Law Foundation (CLF) to provide enhanced protection of the critically endangered North Atlantic Right Whale (NARW) during construction and operation of Vineyard Wind 1. Vineyard Wind will continue its collaboration with environmental organizations to implement measures that minimize the Project’s impacts on marine life, especially the NARW. [REDACTED]

[REDACTED]

When Vineyard Wind 1 began, it benefitted from the nation’s first fisheries representative. Today Vineyard Wind has engaged with some of the leading fisheries organizations in the region to better understand fisheries issues and concerns, including organizations such as the Massachusetts Lobstermen’s Association and the Martha’s Vineyard Fishermen’s Preservation Trust. Vineyard Wind is also sponsoring the largest offshore wind fisheries survey program on the East Coast with funding of more than \$2 million per year. [REDACTED]

VINEYARD WIND 2 PROJECT OVERVIEW

Vineyard Wind 2’s Offshore Wind Energy Generation Facility will be located in federally designated Lease Area OCS-A 0501, located approximately 23 miles (mi) south of Martha’s Vineyard and 25 miles south of Nantucket. This area is southwest of the Vineyard Wind 1 project site, where Vineyard Wind is currently developing the nation’s first commercial-scale offshore wind project. The proximity of the two projects is a considerable advantage in developing Vineyard Wind 2, as Vineyard Wind is already very familiar with the area.



Vineyard Wind 2's Viability is Unquestionable and Demonstrated by the Following Key Project Characteristics:

- ✓ Geological and environmental studies conducted annually since 2016 providing a sound basis for the federal permitting process as well as for foundation design and cable installation;

[REDACTED] (WTG)
[REDACTED]

- ✓ Negligible viewshed impacts for Martha's Vineyard and Nantucket and no viewshed impacts for Cape Cod and the South Coast;

[REDACTED]
[REDACTED]

- ✓ Thoroughly studied cable landing, onshore cable route, and substation site designed to minimize community and environmental impacts, and developed in close consultation with Town of Barnstable officials;

- ✓ Vineyard Wind 1 serving as a blueprint for continued, coordinated development of municipal infrastructure and offshore wind transmission that will be followed for Vineyard Wind 2;

[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- ✓ Sustained, long-term local outreach and public participation that has built a network of local supporters for Vineyard Wind and offshore wind energy.

Extensively Researched and Surveyed Site Informing Project Design

The Project's Offshore Wind Generation Facility site offers several advantages relative to other available lease areas, having undergone extensive study, stakeholder engagement, and permitting while also benefitting from relatively less fishing activity compared to other more northern sites in the Massachusetts/Rhode Island Wind Energy Areas, good soil and seabed conditions, and high wind speeds. For example, geological and geotechnical (G&G) surveys of Lease Area OCS-A 0501 have been on-going on a yearly basis since 2016. These surveys provide a strong baseline for understanding of conditions in the Lease Area and serve as a robust foundation for developing the conceptual design of the Project. Avian and fisheries surveys began in the second half of 2018 in support of the Project's permitting process and supplement the data that Vineyard Wind has already compiled after conducting a thorough review of the available baseline data and available data on potential impact areas.

Robust and Flexible Project Design Plan***Negligible Viewshed Impacts for Martha's Vineyard and Nantucket and No Viewshed Impacts for Cape Cod and the South Coast***

The Project is located approximately 23 mi from the nearest shoreline on Martha's Vineyard, 25 mi from Nantucket, and south of Vineyard Wind 1. At this distance, only a portion of the WTGs will be visible from land-based vantage points during daytime hours and are likely to be considered visually subordinate to the landscape. Normal atmospheric phenomena, including fog, particulate matter, smog or any combination thereof, will further reduce the potential visibility of the WTGs. To further reduce viewshed impacts, Vineyard Wind has committed to radar-activated lighting systems. In addition, the presence of sea spray and salts further affect WTG visibility beyond what is reported in meteorological data. The WTGs will not be visible from Cape Cod or any other mainland locations.

Thoroughly Studied Offshore Cable Route, Cable Landing, Onshore Cable Route, and Substation Site Designed to Minimize Community and Environmental Impacts, Developed in Consultation with Town of Barnstable Officials

Recognizing that the transmission cable route and grid connection is one of the most challenging aspects of offshore wind development, Vineyard Wind has secured a well-designed and advanced interconnection solution for Vineyard Wind 2, the result of nearly two years of extensive local stakeholder engagement, planning, and design. Vineyard Wind has carefully selected, vetted, and secured the Project's export cable route, cable landing, onshore cable route, and onshore substation site to ensure the successful siting, interconnection, and delivery of offshore wind energy to the New England grid on schedule with minimal risk.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

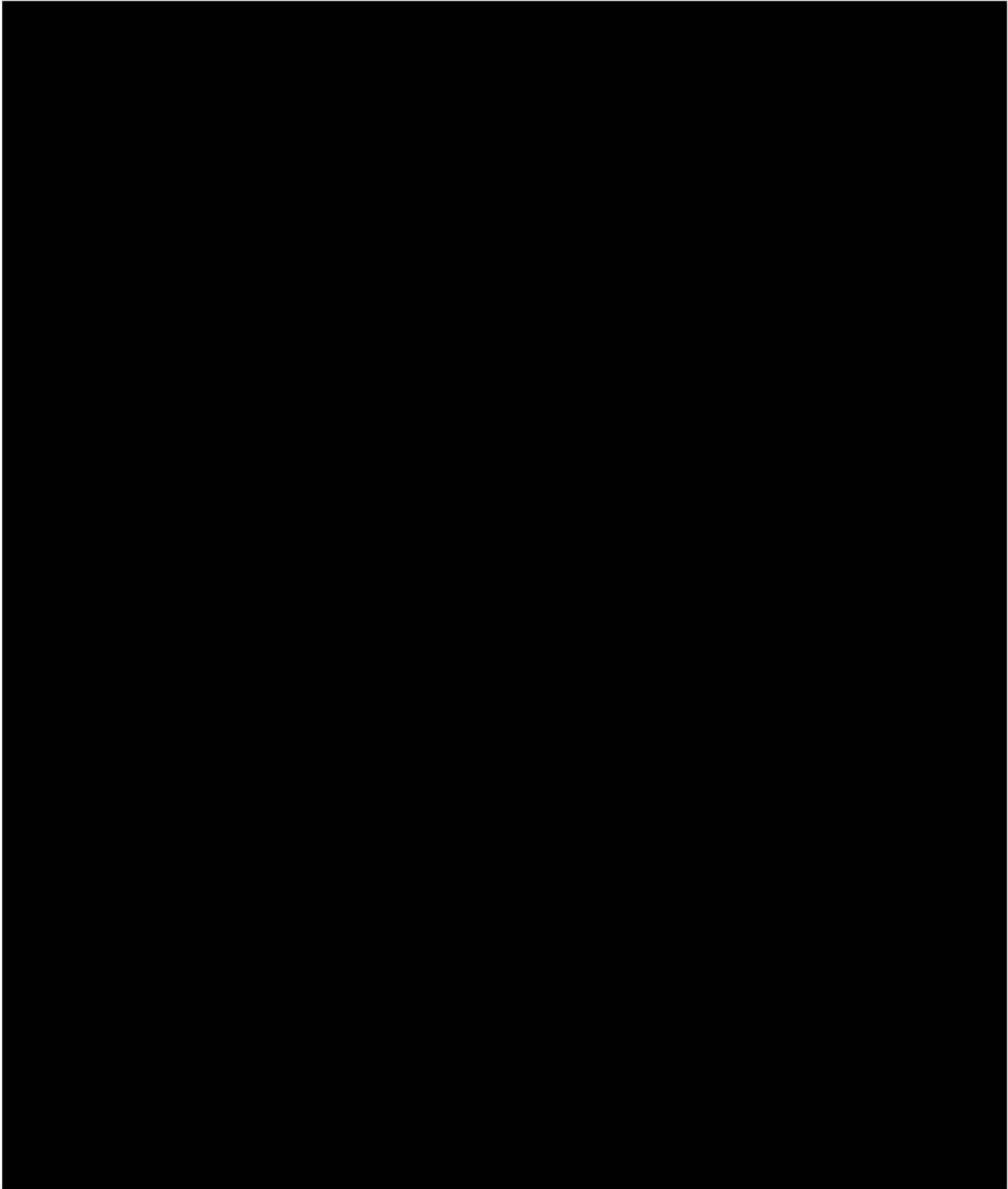
Extensive Local Outreach and Network of Supporters

Vineyard Wind has undertaken an extensive local public outreach and community participation program in support of Vineyard Wind 1. This has resulted in considerable public discussion about the net benefits of offshore wind for local communities, and a broader understanding of offshore wind and the various related issues by local residents than would otherwise be the case. Vineyard Wind's efforts to date in advancing the offshore wind industry with local stakeholder input has facilitated a strong network of local supporters, who provide third party validation and an important channel for communicating accurate information regarding issues and questions of concern, as well to the benefits of offshore wind projects. Evidence of the support for Vineyard Wind is seen in forms ranging from a rally with over 100 supporters, letters to the editor from elected officials, and endorsements and statements of support from leading national and regional environmental organizations.

SUBSTANTIAL JOB CREATION AND ECONOMIC DEVELOPMENT FOR THE COMMONWEALTH

Vineyard Wind 2 is more than just a second phase to the first utility-scale offshore wind project in the nation. The Project builds on the local investments, supply chain growth, and workforce development spurred by the industry's growth to date and expands both the scope and scale of investments in and commitments to improving and utilizing local infrastructure, businesses, and workers as well as fostering substantial economic benefits and job creation in EDAs across Southeastern Massachusetts.

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] These initiatives and benefits are in addition to all direct project expenditure, investment commitments, and direct funding initiatives that are included in the Base Proposal, as discussed above

[REDACTED]

[REDACTED]

[Redacted text block]

[Redacted text block]

[Redacted text block]

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[Redacted]

[Redacted]

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[Redacted]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

UNMATCHED LOCAL KNOW HOW

Unparalleled Experiences from Developing the US' First Major Offshore Wind Project

Vineyard Wind has spent the last three years trail blazing for the offshore wind industry, molding the regulatory frameworks, driving the market maturation, establishing the local partnerships, and educating the public that will drive the future of the offshore wind industry. In doing so, Vineyard Wind has gained unparalleled experience and understanding of what it takes to develop a utility-scale offshore wind project in the US. Throughout the development, permitting, and procurement of Vineyard Wind 1, Vineyard Wind has demonstrated its commitment to responsible and thorough stakeholder engagement, local outreach, and the effective development and utilization of local supply chain and ports, while ensuring communities affected by Vineyard Wind's projects realize sustainable benefits.

Key accomplishments on Vineyard Wind's first project which demonstrate our ability to deliver for Massachusetts include:

- ✓ Significant progress towards securing federal, state, local, and tribal permits and permissions. Vineyard Wind is working towards and has made significant progress in receiving all permits for Vineyard Wind 1;
- ✓ Concluding contracts for key aspects of the project, including entering into lease agreements with local ports, and in the final stages of contracting for all major supply packages;
- ✓ Actively working to involve local workforce and businesses and build the Massachusetts offshore wind workforce, through initiatives such as providing grants for education and training initiatives to local vocational schools, colleges/universities, and labor organizations, as well as organizing training programs, sponsoring community college classes, and hosting "Supply Chain Forums";
- ✓ Entering into a first-in-the-nation agreement with the Natural Resources Defense Council, the National Wildlife Federation, and Conservation Law Foundation to provide enhanced protection of the critically endangered North Atlantic Right Whale;
- ✓ Progressed negotiations with the Massachusetts Building Trades Council for the first Offshore Wind PLA in the nation, making good on Vineyard Wind's commitment to use union labor on the project;
- ✓ Entering a HCA with the Town of Barnstable, which guarantees over \$16 million in property taxes and community payments over the life of the project, and contemplates future Vineyard Wind offshore wind projects; and
- ✓ A hands-on collaborative approach to community outreach that has proven successful in building support for offshore wind projects and facilitating the successful permitting of Vineyard Wind 1 at the state, local, and regional level.

Vineyard Wind is the only developer with firsthand experience developing, permitting, contracting and financing a commercial-scale offshore wind project in federal waters for Massachusetts. The

significant experience and knowledge gained in developing Massachusetts' first offshore wind project - Vineyard Wind 1 - has been brought to bear in developing Vineyard Wind 2, further ensuring successful delivery of the Project for Massachusetts. ensuring communities affected by Vineyard Wind's projects realize sustainable benefits.

GLOBAL EXPERIENCE AND WORLD CLASS EXPERTISE

Vineyard Wind, its parent companies, and affiliates have the experience and exceptional success in global and US offshore wind and transmission development necessary to ensure that the Project is delivered on time and on budget.

Global Offshore Wind Development, Permitting, Financing, Construction, and Operations Experience

Vineyard Wind's team include some of the most experienced offshore wind professionals in the world. At present, the team includes dozens of experts with an impressive combined track record of developing, financing, constructing, and/or operating 32 offshore wind projects totaling more than 11,000 megawatts (MW) of capacity in the US, Europe, and Southeast Asia. The three most recent projects to go into operation are the 402 MW Veja Mate project in the German North Sea (2017), the 350 MW Wikinger project in the Baltic Sea (2018), and the 588 MW Beatrice Offshore Wind Farm in Scotland (2019). In addition, the 714 MW East Anglia ONE offshore wind farm in the UK is currently under construction. The Project draws heavily from these professionals' expertise as well as the company's local staff and consultants, which includes experts in offshore wind, permitting, environmental assessment, fisheries, and outreach.

FINANCIALLY STRONG BACKERS READY TO INVEST IN VINEYARD WIND 2

Vineyard Wind is 50% owned by funds managed by CIP and 50% by Avangrid Renewables, two of the earliest and most experienced investors in US offshore wind. Both owners bring financial strength to Vineyard Wind 2 in addition to extensive experience in successfully organizing project finance for several offshore wind projects of similar complexity and scale. Vineyard Wind and its shareholder companies have significantly advanced the construction financing process for Vineyard Wind's first 800 MW project. This process is expected to generate synergies when organizing construction financing for Vineyard Wind 2.

Copenhagen Infrastructure Partners

CIP is a fund management company that specializes in energy infrastructure investments. Since its establishment in October 2012, CIP has raised four infrastructure funds investing in offshore wind and several other renewable technologies plus offshore power transmission assets in North America, Taiwan, Australia, the UK, and Germany, with total commitments of more than \$7.5 billion in equity. CIP has a "buy-and-hold" fund strategy, as its more than 40 Danish and international investors have investment horizons spanning more than 20 years. CIP's senior management have shaped the offshore wind industry through their involvement in a significant number of the world's largest offshore wind projects and transactions.

A New Course for Offshore Wind

[REDACTED]

The country's leading offshore wind developer is ready to deliver an offshore wind project designed specifically for Massachusetts ratepayers, businesses, workers, and stakeholders. [REDACTED]

[REDACTED]

[REDACTED] The Project will do this all while minimizing potential impacts on Massachusetts' coastal and other affected interests and communities.

Vineyard Wind welcomes the opportunity to discuss the Proposal with you and we thank you for your consideration.

SECTION 3 OF APPENDIX A TO THE RFP OPERATIONAL PARAMETERS

OVERVIEW

This section outlines the operational parameters, including maintenance outage requirements, operating constraints, electricity and transmission system reliability, and peak load moderation for Vineyard Wind 2 (the “Project”). Regular and comprehensive scheduled/preventative maintenance will ensure the longevity and reliability of equipment components over the course of the Project’s operating life and minimize outages. [REDACTED]

[REDACTED]

3.1 Maintenance Outage Requirements – Specify partial and complete planned outage requirements in weeks or days for all generation facilities and associated facilities required for the delivery of energy from the generation facilities to the delivery point. Also, list the number of months required for the cycle to repeat (e.g., list time interval of minor and major overhauls, and the duration of overhauls).

[REDACTED]

MAINTENANCE OUTAGE REQUIREMENTS

[REDACTED] Additionally, ISO-NE will be informed of planned maintenance campaigns well in advance to minimize the system impacts of any outages.

Maintenance outages for the various Project components are shown in **Table 3.1-1** below.

Wind Turbine Generators

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]		[REDACTED]
	[REDACTED]		
	[REDACTED]	[REDACTED]	
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			

[REDACTED]

[REDACTED] The WTGs not undergoing maintenance will remain online and operational. In this way, the Project will continue to contribute to meeting peak summer demand while maintenance activities are completed.

Electrical Service Platform

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] In-depth maintenance is necessary to ensure the safe and reliable operation of the Project, which in turn supports improved stability and reliability. Such maintenance may result in a full outage. However, measures will be taken to optimize the timing of this work, such as aligning it with other outages (e.g., onshore substation outage), in order to reduce the overall production loss. Any required full outage will be planned well in advance and coordinated with ISO-NE.

Inter-array Cables

During normal operations, scheduled inspections can be carried out on the inter-array cables without the need for an outage. No planned outages are expected for the inter-array cables.

Offshore and Onshore Export Cables

During normal operations, scheduled maintenance can be carried out on export cables without the need for an outage. No planned outages are expected for the export cables.

Onshore Substation

Scheduled maintenance of onshore substation components will take place at predefined intervals, in accordance with the manufacturer's recommendations and in coordination with ISO-NE. [REDACTED]

[REDACTED]

[REDACTED] Lastly, the work will be planned in collaboration with the ISO-NE in order to minimize any potential disruption to the wider grid.

[REDACTED]

[REDACTED] In-depth maintenance is necessary to ensure the safe and reliable operation of the Project, which in turn supports improved stability and reliability. Such maintenance may result in a full outage. However, measures will be taken to optimize the timing of this work, such as aligning it with other outages, in order to reduce the overall production loss. Any required full outage will be planned well in advance and coordinated with ISO-NE.

3.2 Operating Constraints – Specify all the expected operating constraints and operational restrictions for the project (i.e., limits on the number of hours a unit may be operated per year or unit of time).

OPERATING CONSTRAINTS

The Project's operating constraints are determined primarily by the technical parameters of the project components. WTGs and related structures, however, are designed to withstand the harsh offshore climate and ensure a long operational life for offshore wind projects. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The preventative maintenance measures described below will reduce the need for unscheduled maintenance and support enhanced operation of the Project.

[REDACTED]

Technical Parameters

Operational constraints for the WTGS are determined by temperature and wind speed. These operational constraints have been taken into account in the WTG availability calculation.

Temperature

[REDACTED]

Wind Speed

[REDACTED]

Scheduled Maintenance

[REDACTED] The WTGs will be serviced according to the manufacturer's recommendations and any applicable regulatory requirements. [REDACTED]

Unscheduled Maintenance

Unscheduled maintenance, which includes unscheduled repairs and the replacement of damaged components as well as cable untwisting, automatic system tests, and remote resets, can be planned only to a limited degree and may take place at any time throughout the year. [REDACTED]

[REDACTED]

Preventative Maintenance

Preventative maintenance will be performed to reduce the need for unscheduled maintenance. Vineyard Wind's shareholder companies have employed preventative maintenance initiatives that have proven successful in other offshore wind projects.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3.3 Reliability—Describe how the proposal would provide enhanced electricity reliability to Massachusetts, including its impact on transmission constraints.

ENHANCING ELECTRICITY RELIABILITY

Vineyard Wind 2’s injection of emission free, reliable offshore wind power into the New England grid will enhance the overall reliability of the larger New England electricity system and benefit Massachusetts ratepayers. [REDACTED]

[REDACTED]

New England is Experiencing Substantial Generation Retirements

Between 2013 and 2021, more than 4,600 megawatts (MW) of generation is expected to retire or come offline in New England. This amount is equivalent to approximately 16% of the region’s current generating capacity, and comes on top of recent power plant retirements, including Brayton Point Power Station (Somerset, Massachusetts) in 2017 and Pilgrim Nuclear Power station (Plymouth, Massachusetts) in May 2019. According to ISO-NE another 5,000 MW of oil- and coal-fired generation capacity may be at risk of retirement in the coming years.

New England Remains Overly Dependent on Natural Gas

The retirement of coal, oil, and nuclear generating facilities has increased the region’s reliance on natural gas generating resources and strained the existing pipeline infrastructure that delivers fuel into the region. Heavy reliance on natural gas puts the reliability of the New England electricity system at risk, particularly during extreme weather events. It also increases price volatility on wholesale markets and increases costs to ratepayers. This is perhaps best illustrated by the recent “bomb cyclone” event (also known as winter storm Grayson) that occurred in January 2018, which is described in further detail below.

Offshore Wind Enhances Electricity System Reliability

Reliability within the state of Massachusetts is interdependent on the reliability of the regional electric grid operated by ISO-NE. As such, reliability improvements in one part of the electricity system will have positive knock-on effects and impacts in the rest of the system. The Project will provide enhanced electricity reliability to the region, and Massachusetts, in the following ways:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

A similar assessment conducted by ISO-NE supports these results (see **Attachment 3.3-3**). This assessment covered a 16-day cold spell from December 24, 2017 to January 8, 2018 and includes the bomb cyclone. The assessment shows that an 800 MW offshore wind project would have improved operating conditions in the electricity system by:

- Displacing 216 million kWhs of predominately oil- and natural-gas fired generation;
- Saving upwards of \$45 million by lowering the average day-ahead locational market price by \$6 to \$8/MWh; and,
- Avoiding 108,500 short tons (98,429 metric tons) of CO₂ emissions.

Improving Transmission System Reliability

[REDACTED]

[REDACTED]

[REDACTED]

3.4 Moderation of System Peak Load—Describe how the proposal would contribute to moderating system peak load requirements and provide the following information:

- i. Estimated average output for each summer period (June– September) from 1:00–6:00 pm*
- ii. Estimated average output for each winter period (October–May) from 5:00–7:00 pm*

MODERATION OF SYSTEM PEAK LOAD

[REDACTED]

[REDACTED]

[REDACTED]

Estimated Average Output

[REDACTED]

[Redacted]

[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]



ATTACHMENT TO:
SECTION 3 OF APPENDIX A TO THE RFP
OPERATIONAL PARAMETERS

ATTACHMENT 3.3-1
REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 3 OF APPENDIX A TO THE RFP
OPERATIONAL PARAMETERS**

ATTACHMENT 3.3-2 ISO-NE Bomb Cyclone Study

To: New England Stakeholders

From: ISO New England System Planning Department

Date: December 17, 2018

Subject: High-Level Assessment of Potential Impacts of Offshore Wind Additions to the New England Power System During the 2017-2018 Cold Spell

Introduction

In late December 2017 and early January 2018, New England was gripped by a cold weather stretch of extended duration, with all major cities in New England averaging temperatures below normal for at least 13 consecutive days, including 10 days with average temperatures more than 10 degrees Fahrenheit below normal. This 16-day cold spell (December 24, 2017 through January 8, 2018) resulted in a temporary, but dramatic spike in the price of natural gas in New England, which in turn triggered heavy use of oil for electricity production and high wholesale electricity prices.

Following the cold spell, in response to a request from the Massachusetts Clean Energy Center (MassCEC) and using data provided by MassCEC, the System Planning Department at ISO New England performed a high-level assessment of the potential impacts offshore wind could have had on the power system and region, under similar cold-spell conditions. The assessment focused on the impact on production costs, environmental emissions, fossil fuel savings, and Locational Marginal Prices (LMPs).

This memo summarizes the results of that high-order-of-magnitude analysis. The analysis used gross assumptions in all calculations as follows:

- Limited number of offshore site locations provided by MassCEC
- Simplicity of system operations that does not capture all complexities of real-time operations, such as generators that might have frequently switched fuels or used mixes of oil and natural gas
- Use of annual rates for reductions of environmental emissions
- Estimates of heat rates for generating units
- Generic fuel prices and heat content of fossil fuels

Estimated Energy Production from Offshore Wind Resources

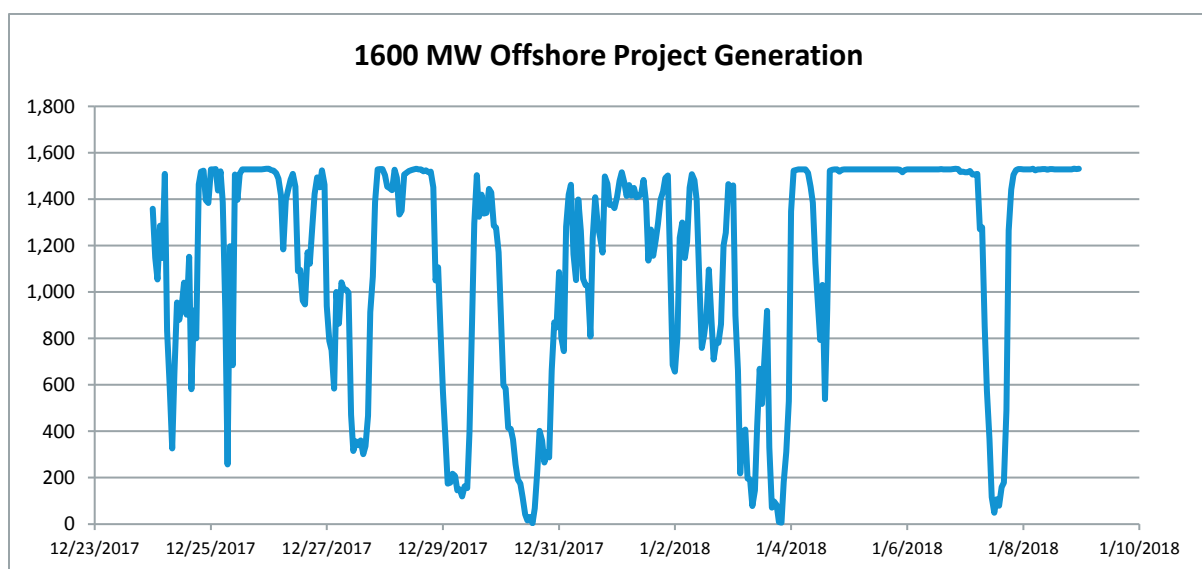
MassCEC provided the ISO with offshore wind production estimates for three offshore project scenarios of varying nameplate sizes: 400 MW, 800 MW, and 1600 MW. These estimates are based on wind speeds that were recorded for three offshore sites (Sites A, B, and C) during the cold spell period spanning from December 24, 2017 through January 8, 2018 (16 days). The offshore wind production estimate for each project scenario is shown in Table 1.

Figure 1 illustrates the estimated daily production of the 1600 MW project and shows that there are times when no wind production would have been expected during the 16-day period. This observation is consistent with the “cut-out periods” observed from existing New England wind facilities during the same 16-day period.

Table 1
MassCEC Offshore Wind Production Estimates (MWh)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
MassCEC Production Data (MWh)	106,865	215,569	435,257
Average Capacity Factor Over 16-day Cold Spell Period (% of nameplate capacity)	70%	70%	71%

Figure 1
**Estimated Offshore Wind Production for MassCEC 1600 MW Project Scenario Based on Wind Speeds
Recorded from December 24, 2017 through January 8, 2018 (MW)**



During this same 16-day period, the load served in New England was approximately 6.4 terawatt hours (TWh). Based on the production data provided by MassCEC, the energy production from the three offshore project scenarios represent, respectively, 2%, 3% and 7% (rounded percentages) of the New England load served during the period.

During this same 16-day period, the native New England generation was approximately 5.3 TWh. Based on the production data provided by MassCEC, the energy production from the three offshore project scenarios represent, respectively, 2%, 4% and 8% (rounded numbers) of the native New England generation during the period.

High-Level Avoided Production Cost Estimates

High-level estimates for avoided production costs were computed by assuming that the offshore wind production would successfully displace marginal fossil production during the 16-day period. Resulting ranges of high-level avoided production costs (in Millions of \$) are shown in Table 2.

Table 2
High-Level Avoided Production Cost Estimates (\$ Millions)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
MassCEC Production Data (MWh)	106,865	215,569	435,257
Avoided Production Costs (\$ Millions)	20-25	40-45	80-85

Estimated Avoided CO₂ Emissions

Annual average locational marginal unit (LMU) CO₂ emission rates in New England were used to estimate CO₂ emissions that could have been avoided by the additional offshore wind production. As in the computation of the high-level avoided production cost estimates, this analysis relies on the assumption that the offshore wind production would successfully displace any marginal, CO₂-emitting generation.

Actual CO₂ emissions from the New England generation fleet during the 16-day period were 2.07 million short tons. Estimated avoided CO₂ emissions for each scenario are shown in Table 3 and compared to actual CO₂ emissions.

Table 3
Gross Approximation of Avoided CO₂ Emissions Using Annual Average New England
LMU CO₂ Emission Rates (Short Tons and % of Actual New England CO₂ Emissions)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
MassCEC Production Data (MWh)	106,865	215,569	435,257
Estimated Avoided CO₂ Emissions (Short tons)	53,800	108,500	219,200
Estimated Avoided CO₂ Emissions (% of actual New England CO₂ emissions)	3%	5%	11%

Estimated Avoided Fuel Use

Using the offshore wind production estimates, displaced amounts of coal, oil, and natural gas production were determined for each project scenario during the 16-day period under study. These displaced amounts of fossil production were then in turn translated into fuel savings. Amounts of fuel savings were derived using each unit's primary fuel type and do not reflect changes in fuel consumption that could occur with active fuel switching during the actual cold spell event. Actual fuel amounts consumed for power production during the period were approximately 144,000 short tons of coal, 9 billion cubic feet of natural gas, and 2.4 million barrels of oil.

Table 4, Table 5, and Table 6 show order-of-magnitude results of avoided fossil fuel use resulting from the offshore wind production. The analysis does not include market dynamics, such as changes in bidding strategies of resources, resulting from the addition of wind production.

Table 4
Gross Estimates of Avoided Coal Use (Short Tons and % of Actual Use)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
Estimated Displaced Coal Production (MWh)	8,700	9,500	10,800
Estimated Avoided Coal Use (Short tons)	4,300	4,700	5,300
Estimated Avoided Coal Use (% of actual consumption)	3%	3%	4%

Table 5
Gross Estimates of Avoided Natural Gas Use (Billion Cubic Feet and % of Actual Use)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
Estimated Displaced Natural Gas Production (MWh)	34,900	114,600	248,000
Estimated Avoided Natural Gas Use (Billion cubic feet)	0.25	0.83	1.81
Estimated Avoided Natural Gas Use (% of actual consumption)	3%	9%	20%

Table 6
Gross Estimates of Avoided Oil Use (Barrels and % of Actual Use)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
Estimated Displaced Oil Production (MWh)	52,700	56,000	87,700
Estimated Avoided Oil Use (Barrels)	96,300	102,300	160,200
Estimated Avoided Oil Use (% of actual consumption)	4%	4%	7%

Changes in Average Day-Ahead LMP at the Hub

Table 7 shows approximate day-ahead LMP changes that could have resulted from the 400 MW, 800 MW and 1600 MW offshore projects. In reality, real-time events that occur on the system, including deviations in offshore wind production between the day ahead and the real time, could cause additional real-time LMP variations that are not captured in this analysis.

Table 7
Approximate Average Day-Ahead LMP Changes at the Hub (\$/MWh)

	400 MW Project (Site A)	800 MW Project (Sites A + B)	1600 MW Project (Sites A + B + C)
MassCEC Production Data (MWh)	106,865	215,569	435,257
Average Day-Ahead LMP Changes (at the Hub, in \$/MWh)	-6 to -4	-8 to -6	-13 to -11



SECTION 4 OF APPENDIX A TO THE RFP ENERGY RESOURCE AND DELIVERY PLAN

OVERVIEW

This section outlines the energy resource and delivery plan for Vineyard Wind 2 (the “Project”). Vineyard Wind has access to an extensive body of wind data collected from onshore and offshore measurement sites near Lease Area OCS-A 0501. Vineyard Wind has analyzed this wind data using industry best practice and state-of-the art methods to reduce energy production projection uncertainty. The wind data indicate a favorable wind resource in the Lease Area.

[REDACTED]

[REDACTED] Vineyard Wind and its shareholder companies therefore have every confidence in the annual energy production estimates included in this section as well as the Project’s ability to secure financing on this basis.

4.1 For Eligible Facilities, the bidder is required to provide an energy resource or fuel supply plan for its proposed project, including supporting documentation. The fuel supply/energy resource profile information should be consistent with the type of technology/resource option proposed and the term proposed. Bidders should respond to all information requests which are relevant to the bid in a timely manner.

All Projects

Provide a summary of all collected wind data for the proposed site. Identify when and how (e.g. meteorological mast or LiDAR—for “Light Detection and Ranging”) the data was collected and by whom.

WIND DATA

The Project’s rigorous wind resource assessment is based on onshore and nearshore wind data, as well as site-specific offshore wind data. Onshore and nearshore wind speed and direction measurements in the region of Lease Area OCS-A 0501 [REDACTED]

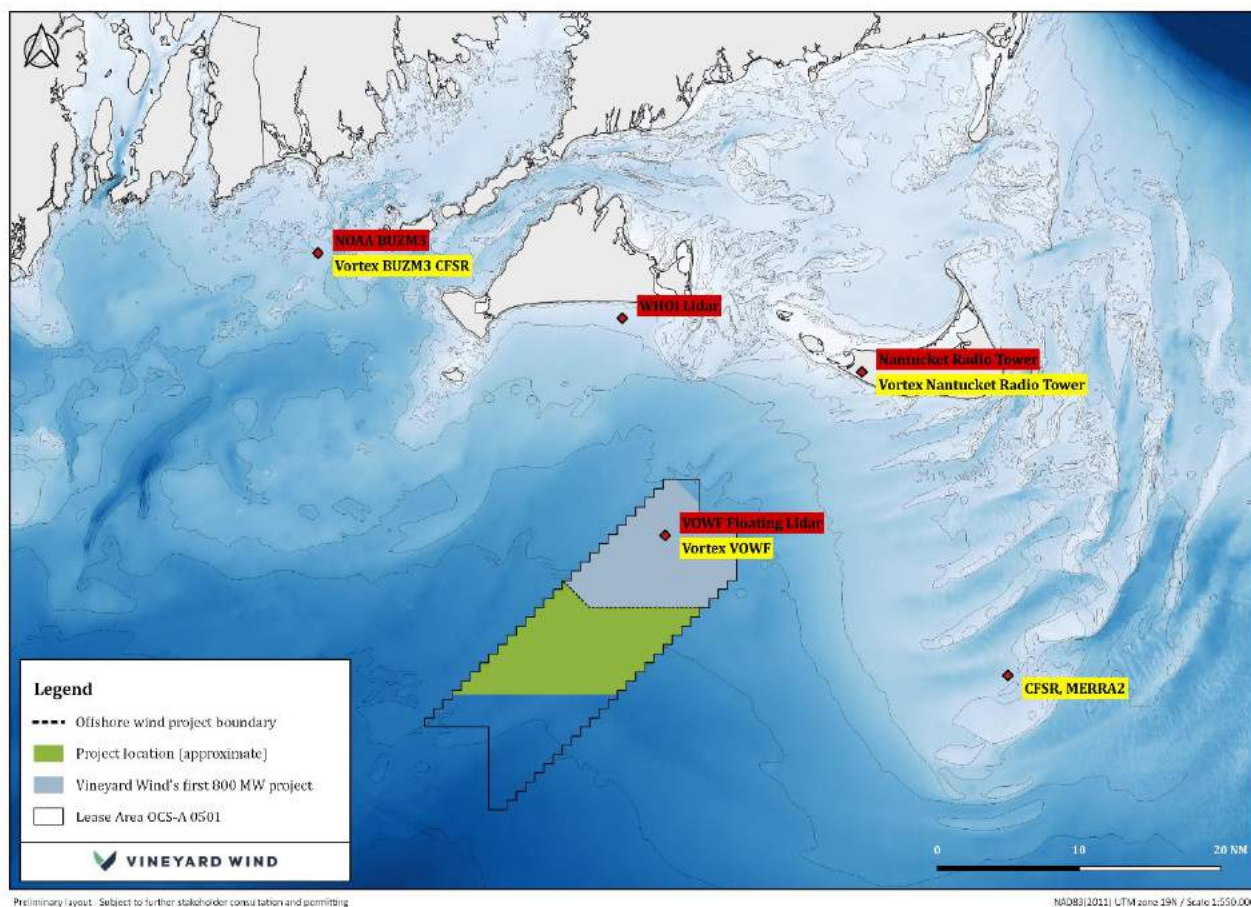
[REDACTED]

Additionally, in line with industry best practice, Vineyard Wind has deployed an FLS in the Lease Area, which began collecting wind data in May 2018. [REDACTED]

[REDACTED]

Figure 4.1-1 illustrates the measurement locations of the wind datasets Vineyard Wind used in its analyses as well as the study locations of the extensive wind assessment studies and production estimates carried out by Vineyard Wind. The datasets are summarized in **Table 4.1-1**. Full detail on the datasets, including descriptions of the individual measurement stations and mesoscale data, can be found in **Attachment 4.1-1**.

Figure 4.1-1 *Measurement and Study Locations of Primary Data Sources*



Note: Red boxes indicate measurement locations, yellow boxes indicate model output locations.

The primary data sources and methods used in the wind resource and energy production estimates are the following:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

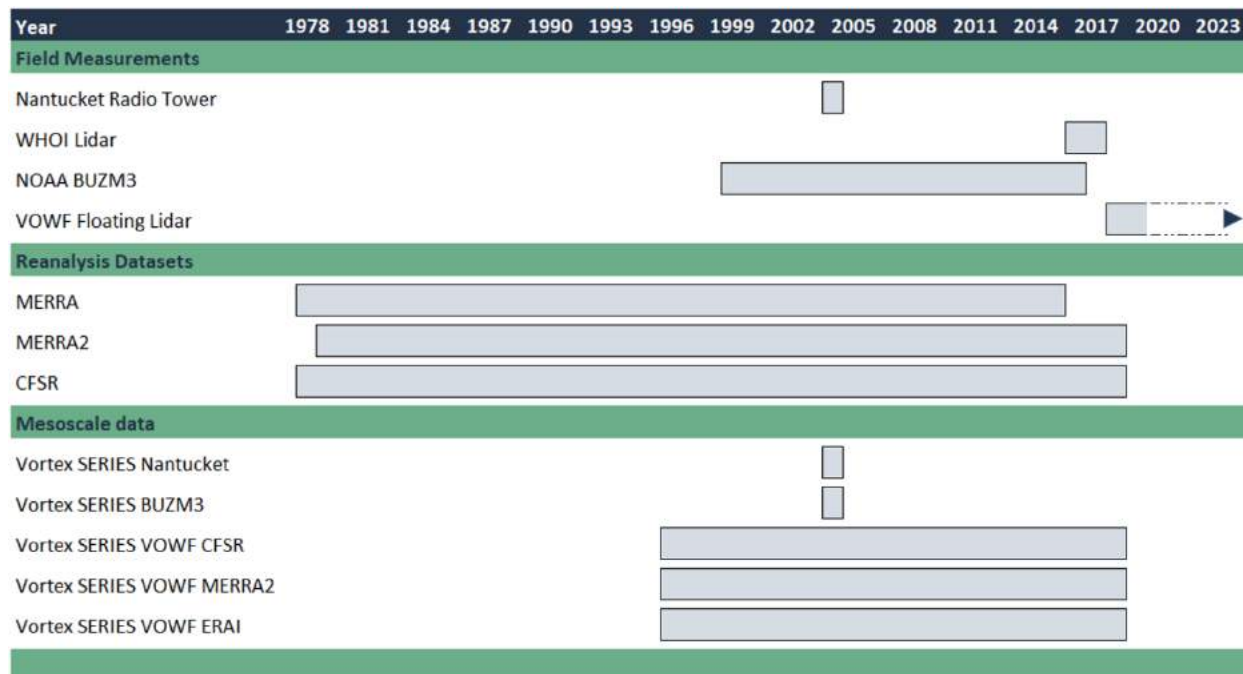
[REDACTED]

[REDACTED]



Figure 4.1-2 illustrates the time spans covered by each time series of measurement points from the locations shown in **Figure 4.1-1**.

Figure 4.1-2 Overview of the Time Spans of the Time Series Presented in Table 4.1-1



Indicate where the data was collected and its proximity to the proposed facility site. Include an identification of the location and height for the anemometers and/or “range gate” heights for sensing by LiDAR that were used to arrive at an assessment of the site generation capability.

Details of the data collection points and the locations of the additional sources shown in **Figure 4.1-1** are summarized in **Table 4.1-1** below.

**Table 4.1-1 Primary Sources Used to Assess Wind Conditions**

Name	Location [Long; Lat]	Timespan	Description and Comments
Field Measurements			
Nantucket Radio Tower	[-70.169; 41.281] Distance to Project site center: 32 miles (mi)	2005-07-22 to 2006-10-03	10-minute measurements at 325, 216, and 190 feet Above Ground Level (fAGL)
WHOI LiDAR	[-70.567; 41.325] Distance to Project site center: 28 mi	2016-10-08 to 2017-08-28	10-minute measurements between 187 and 656 feet above Mean Sea Level (fMSL)
NOAA BUZM3	[-71.033; 41.397] Distance to Project site center: 40 mi	1998-12-31 to 2017-07-31 1985-08-09 to 2017-07-31	10-minute measurements at 80 fMSL 8-minute measurements reported hourly at 81 fMSL
VOWF Floating Lidar	[-70.483; 41.073] Distance to Project site center: 10 miles (mi)	2018-05-23 to Present day	10-minute measurements at 98, 131, 197, 262, 328, 393, 459, 525, 590, 656, 787 fMSL
Mesoscale Data			
Vortex SERIES Nantucket	[-70.169; 41.281] Distance to Project site center: 32 mi	2005-07-31 to 2006-02-01	Three 1-hour mesoscale time series computed at the Radio Tower location, using respectively CFSR, MERRA2 and ERAI as input
Vortex SERIES BUZM3	[-71.033; 41.397] Distance to Project site center: 40 mi	2005-07-31 to 2006-02-01	Three 1-hour mesoscale time series computed at the BUZM3 weather station location, using respectively CFSR, MERRA2 and ERAI as input
Vortex SERIES VOWF CFSR	[-70.484; 41.053] Distance to Project site center: 10 mi	1997-01-01 to 2017-08-19	1-hour mesoscale time series computed at the Project Area, using CFSR as input
Vortex SERIES VOWF MERRA2		1997-01-01 to 2017-06-19	1-hour mesoscale time series computed at the Project Area, using MERRA2 as input
Vortex SERIES VOWF ERAI		1997-01-01 to 2017-06-03	1-hour mesoscale time series computed at the Project Area, using ERA-Interim as input
Reanalysis Datasets			
MERRA	[-70.000; 41.000] Distance to Project site center: 36 mi	1978-12-31 to 2016-02-29	1-hour reanalysis time series at 164 fMSL
MERRA2	[-70.000; 41.000] Distance to Project site center: 36 mi	1978-12-31 to 2019-01-01	1-hour reanalysis time series at 164 fMSL
CFSR	[-70.000; 41.000] Distance to Project site center: 36 mi	1979-12-31 to 2019-01-01	1-hour reanalysis time series at 164 fMSL (concatenation of CFSR and CFSR v2)



Provide (a) at least one year of hourly wind resource data. Real Data collected from the site is preferred, though projected data is permissible. Methodology must also be included and (b) a wind resource assessment report for the proposed facility from a qualified unaffiliated third-party wind resource assessment firm. Include an analysis of the available wind data which addresses the relationship between wind conditions and electrical output. Provide a projection of net annual energy production, including projections of average net hourly energy production, based on the wind resource data (a 12 x 24 energy projection) at both P50 and P90 levels.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

WIND RESOURCE ASSESSMENT

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED] and the following public wind energy resource maps provided by NREL: Wind Powering America map, available at: <https://www.eia.gov/todayinenergy/detail.php?id=4770> and Wind Prospector, available at: <https://maps.nrel.gov/wind-prospector>.

Another independent wind assessment, [REDACTED]

Net Annual Energy Production

Gross and net-after-wake wind turbine production have been calculated using the wind climate derived for the Lease Area, accounting for the Project's layout. [REDACTED]

[REDACTED] See **Attachment 4.1-5** for additional detail on the yield calculations.

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Wake losses from any relevant adjacent offshore wind projects, as well as electrical losses, [REDACTED]

[REDACTED] As a result, the Project's energy delivery plan is robust. [REDACTED]

The energy production numbers shown below account for net-after-wake values and all losses. Projections of net annual energy production, including projections of average net hourly energy production, based on the wind resource data (a 12 x 24 energy projection) at p50 and p90 levels are shown in **Table 4.1-3** and **Table 4.1-4**, respectively. The sum of all values is equal to the net energy production (at the metering point) as shown in **Table 4.1-2**.

[illegible]



[illegible]

Provide a site-adjusted power curve. Each curve should list the elevation, temperature and air density used.

POWER CURVE



[REDACTED]

[REDACTED]

Identify the assumptions for losses in the calculation of projected annual energy production, including each element in the calculation of losses.

[REDACTED]

These potential future losses for the Project were found to be acceptable and the energy delivery plan has been shown to be robust. As already noted, any build-out of neighboring areas has been considered and will have limited effects in light of the Project's layout and design.

4.2 Offshore Wind Energy Generation Delivery Plan

Please provide an energy delivery plan and profile for the proposed project, including supporting documentation. The energy delivery profile must provide the expected Offshore Wind Energy Generation to be delivered into the ISO-NE market settlement system and permit the Evaluation Team to determine the reasonableness of the projections for purposes of Sections 2.2.1.3 Eligible Bid Categories and 2.2.1.7 Capacity Requirements, and 2.2.1.8 Interconnection and Delivery Requirements



of the RFP. Such information should be consistent with the energy resource plan provided above and also considering any and all constraints to physical delivery into ISO-NE.

OFFSHORE WIND ENERGY GENERATION DELIVERY PLAN

[REDACTED]

[REDACTED]

[REDACTED]

The Project's layout will continue to be refined and optimized throughout the development phase. The final number and location of the WTGs is contingent upon the WTG model selected, results of future geotechnical campaigns as well as other engineering limitations, permitting, further stakeholder consultation, and potential changes to the layout of neighboring offshore wind projects.

Energy Output and Generation Profile

[REDACTED]



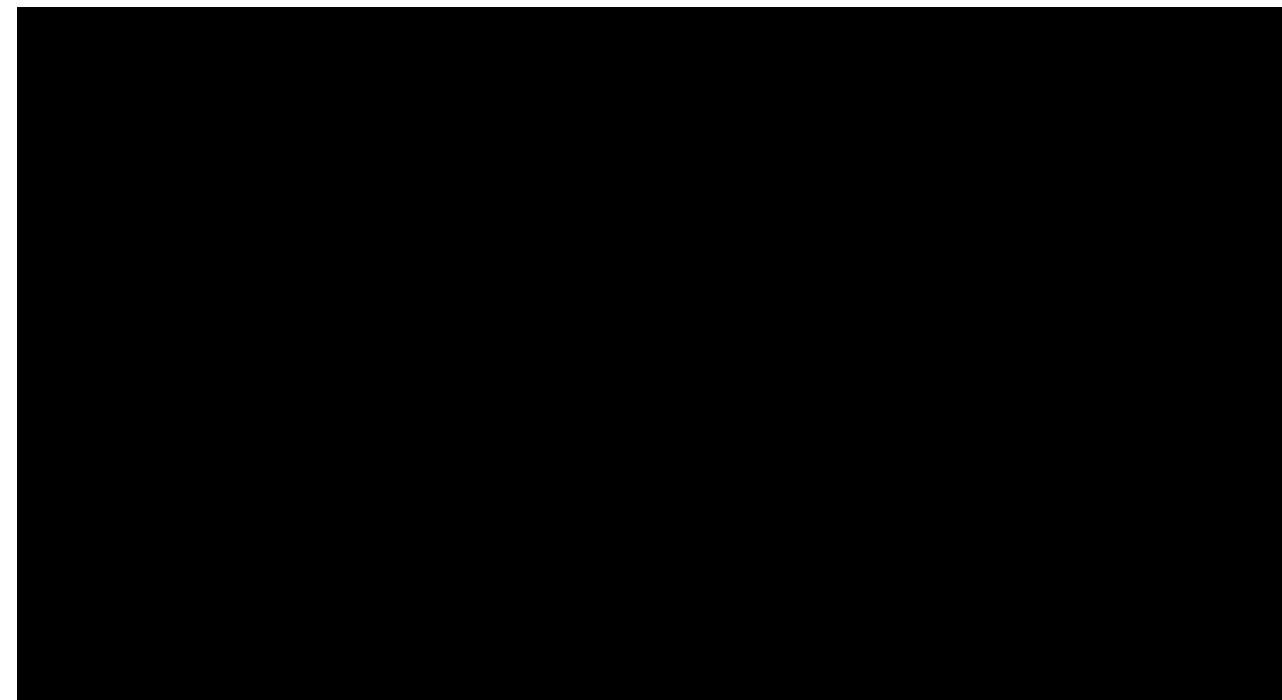
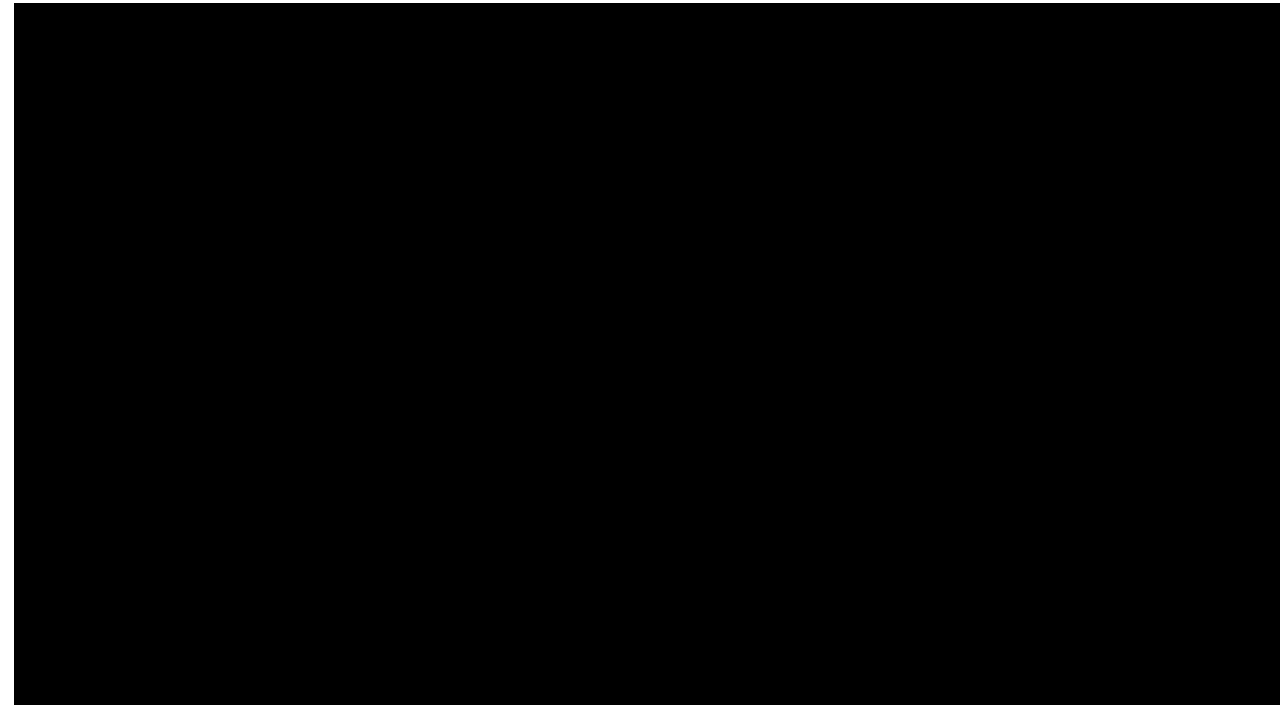
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



As detailed in **Section 6**, Vineyard Wind has conducted extensive assessments of the interconnection requirements for the New England transmission system based on all the applicable standards established by the North American Electric Reliability Council, Northeast Power Coordinating Council, and ISO-NE. The results of Vineyard Wind's preliminary investigation indicate that upon completion of the requisite studies by ISO-NE, the Project will meet both the Network Capability Interconnect

Standards (NCIS) and the Capacity Capability Interconnection Standards (CCIS) as established by ISO-NE.

At the start of commercial operation, the Project will deliver energy within the terms of any approved Power Purchase Agreements (PPAs) and consistent with ISO-NE rules and procedures.

Forward Capacity Market

Vineyard Wind fully intends to register and bid into the ISO-NE FCM and intends to continue participating in the ISO-NE FCM for the life of the Project, subject to the Project's ability to qualify as an intermittent resource. Vineyard Wind has completed preliminary estimates of the summer and winter capacity that it expects to qualify under the Forward Capacity Auction Qualification (FCAQ) requirements set forth in Section III.13.1 of Market Rule1 of ISO-NE's Transmission Tariff, which are shown in **Table 4.2-1**.

[illegible]

These projections are based on the detailed analyses of the long-term wind resource in the Lease Area already described in response to **Question 4.1** and the operating characteristics of the WTGs under consideration for the Project. The capacity amounts that would qualify under the FCAQ requirements will be adjusted to match the performance characteristics of the WTGs selected for the Project and the final WTG layout. Finally, as described in the response to **Question 4.1**, Vineyard Wind has documented the estimated annual energy production in a yield assessment report. See **Attachment 8.1-5** for the full report.

4.3 REC/Environmental Attribute Delivery Plan

Please provide documentation and information demonstrating that the project will Deliver GIS Certificates representing those RECs or Environmental Attributes. Please describe whether transfer of all GIS Certificates is authorized under the current ISO-NE GIS rules and protocols, or if a rule or protocol change is required. To the extent such change is required, please provide details regarding the proposal and the process for implementing the change.

REC/ENVIRONMENTAL ATTRIBUTE DELIVERY PLAN

Vineyard Wind 2 is a new offshore wind generation resource located within the ISO-NE Control Area that will begin operating after December 31, 1997 and generate electricity using wind energy as its fuel source. The Project will therefore qualify as a “New Class I Renewable Portfolio Standard Eligible Resource” as defined under M.G.L. c. 25A § 11F and 225 C.M.R. 14.00. Vineyard Wind will provide documentation demonstrating such qualification at the appropriate time as per the regulations.



As already noted, the Project's interconnection is currently being studied per the ISO-NE NCIS and the CCIS and will be designed with the interconnection capability and capacity necessary to fully deliver the output capabilities of the Project in accordance with all procedures established by ISO-NE. The results of Vineyard Wind's preliminary investigations indicate that the Project will meet both the NCIS and CCIS. As such, the Project will be included in the ISO-NE's Settlement Market System (SMS) and will qualify for creation of certificates under Rule 2.1 and other pertinent portions of the NEPOOL-GIS Operating Rules Effective 1-1-18. Confirmation of Vineyard Wind's NEPOOL membership is provided as **Attachment 4.3-1**. Additional documentation can be provided upon request following Vineyard Wind's inclusion in the SMS.

Vineyard Wind hereby certifies that it will utilize the NEPOOL GIS as the appropriate tracking system to ensure a unit-specific accounting of the delivery of unit-specific and unit contingent energy and RECs. Vineyard Wind is prepared to take commercially reasonable measures to ensure that no other load-serving entity, province or state will claim or count the environmental attributes of energy generated by the Vineyard Wind 2, except only to the extent those entities have a legitimate claim to title and take delivery of NEPOOL GIS RECs associated with the energy generated by the Project.

4.4 *Energy Storage System Operations (if applicable)*

[REDACTED]



VINEYARD WIND

ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.1-1

REDACTED



ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.1-2

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.1-3

REDACTED



ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.1-4

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.1-5

REDACTED



ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.1-6

REDACTED



ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 4.3-1 NEPOOL Membership Confirmation

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY MARKET REGULATION

New England Power Pool
Participants Committee
Docket No. ER18-2371-000

Issued: 10/11/18

Patrick M. Gerity
Day Pitney LLP
242 Trumbull Street
Hartford, CT 06103-3499

Reference: NEPOOL Membership Updates and Terminations

On August 31, 2018, you filed, on behalf of the New England Power Pool (NEPOOL) Participants Committee, counterpart signature pages of the NEPOOL Agreement to update the NEPOOL memberships and terminations.¹

Pursuant to the authority delegated to the Director, Division of Electric Power Regulation – East, under 18 C.F.R. § 375.307, your submittal is accepted for filing, effective on September 1, 2018, as requested.

The filing was noticed on September 4, 2018, with comments, interventions and protests due on or before September 21, 2018. Pursuant to Rule 214 (18 C.F.R. § 385.214 (2018)), to the extent that any timely filed motions to intervene and any motion to intervene out-of-time were filed before the issuance date of this order, such interventions are granted.

Granting late interventions at this stage of the proceeding will not disrupt the proceeding or place additional burdens on existing parties.

This acceptance for filing shall not be construed as constituting approval of the referenced filing or of any rate, charge, classification, or any rule, regulation, or practice affecting such rate or service contained in your filing; nor shall such

¹[NEPOOL Agreement, Memb Changes 20180831, NEPOOL AGREEMENT MEMBERSHIP CHANGES, 2.201809.0.](#)

acceptance be deemed as recognition of any claimed contractual right or obligation associated therewith; and such acceptance is without prejudice to any findings or orders which have been or may hereafter be made by the Commission in any proceeding now pending or hereafter instituted by or against NEPOOL.

This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

Issued by:

Kurt M. Longo, Director
Division of Electric Power
Regulation – East



SECTION 5 OF APPENDIX A OF THE RFP FINANCIAL/LEGAL

OVERVIEW

This section demonstrates the financial viability of Vineyard Wind 2 (the “Project”), which is built on both the careful financial planning and structuring of the project itself, along with the financial strength and successful global track record of the Copenhagen Infrastructure Partners (CIP) and Avangrid Renewables’ (the “shareholder companies”) in financing, constructing, and operating offshore wind projects. CIP has \$7.5 billion of renewable energy investments under management. Avangrid Renewables is the third largest renewable energy developer in the US and has more than \$10 billion worth of operating assets. Avangrid Renewables is supported by its shareholder company Avangrid, a public company with an equity market capitalization of approximately \$15 billion.

[REDACTED]
[REDACTED]
[REDACTED] Additional detail on the shareholder companies’ financial strength and the financing plan for the Project is provided in response to the questions below.

5.1 Each bidder is required to submit information and documentation that demonstrates that a long term contract resulting from this RFP Process would either permit the bidder to finance its proposal that would otherwise not be financeable, or assist the bidder in obtaining financing of its proposal.

LONG-TERM CONTRACTS ARE ESSENTIAL TO FINANCE OFFSHORE WIND PROJECTS

Long-term contracts make it possible to finance offshore wind projects by fixing the price paid for any generated electricity for a large part of an asset’s economic life. This removes one of the largest economic uncertainties in estimating the future income of an offshore wind project, thus lowering the risk to investors and lenders, and, ultimately, ratepayers. Project development on a non-contracted basis can be extremely challenging and, in the view of the shareholder companies, is not possible for the Project. The banks and financial advisors consulting with Vineyard Wind have confirmed the importance of long-term contracts to secure project financing. [REDACTED]



Vineyard Wind has not yet executed any agreements with respect to energy, Renewable Energy Credits (RECs), or capacity for the Project. As such, a long-term contract resulting from this RFP Process would enable Vineyard Wind to obtain financing for the Project. A long-term contract with a term on the order of 20 years would further facilitate Vineyard Wind's ability to secure a financing package with a lower cost of capital, which ultimately translates into savings for Massachusetts ratepayers.

5.2 Please provide a description of the business entity structure of the bidder's organization from a financial and legal perspective, including all general and limited partners, officers, directors, managers, members and shareholders, involvement of any subsidiaries supporting the project, and the providers of equity and debt during project development. Provide an organization chart showing the relationship between the equity and debt participants and an explanation of the relationships. For jointly owned facilities, identify all owners and their respective interests, and document the Bidder's right to submit a binding proposal.

BUSINESS ENTITY STRUCTURE

Vineyard Wind LLC (Vineyard Wind), a Delaware limited liability company registered in Massachusetts, is the owner of the Project. [REDACTED]

[REDACTED] The remaining 50% of Vineyard Wind is owned by Avangrid Renewables LLC (Avangrid Renewables) (see **Figure 5.2-1**). Collectively, Vineyard Wind's three investors are referred to as the shareholder companies.

[REDACTED]

[REDACTED]

[REDACTED]



Vineyard Wind's governance structure is comprised of experienced teams that have been involved in the successful construction and operation of many offshore wind projects. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Biographical highlights of Board of Manager members, Executive Committee members, and officers are provided below. Additional detail, including resumes, is provided in **Section 12**.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The information presented below highlights Vineyard Wind's shareholder companies' financing capabilities, and the roles and responsibilities of the shareholder company affiliates supporting Vineyard Wind.



SHAREHOLDER COMPANY AND AFFILIATE ROLES AND FINANCING CAPABILITIES

Copenhagen Infrastructure Partners

CIP is a fund management company specializing in investments in the energy infrastructure sector. CIP was established in October 2012 by four senior executives from the energy industry and PensionDanmark, one of the largest labor organization pension funds in Denmark. Since its establishment, CIP has raised four infrastructure funds to support renewable technology.

[REDACTED]

[REDACTED]

[REDACTED]

To-date, CIP has secured financing for 12 projects, including the following offshore wind projects:

- ***Veja Mate, Germany***—402 MW project completed in May 2017
- ***Dolwin 3, Germany***—900 MW HVDC offshore wind transmission system completed in September 2018
- ***Beatrice, United Kingdom***—588 MW project, final turbine installed May 2019

[REDACTED]

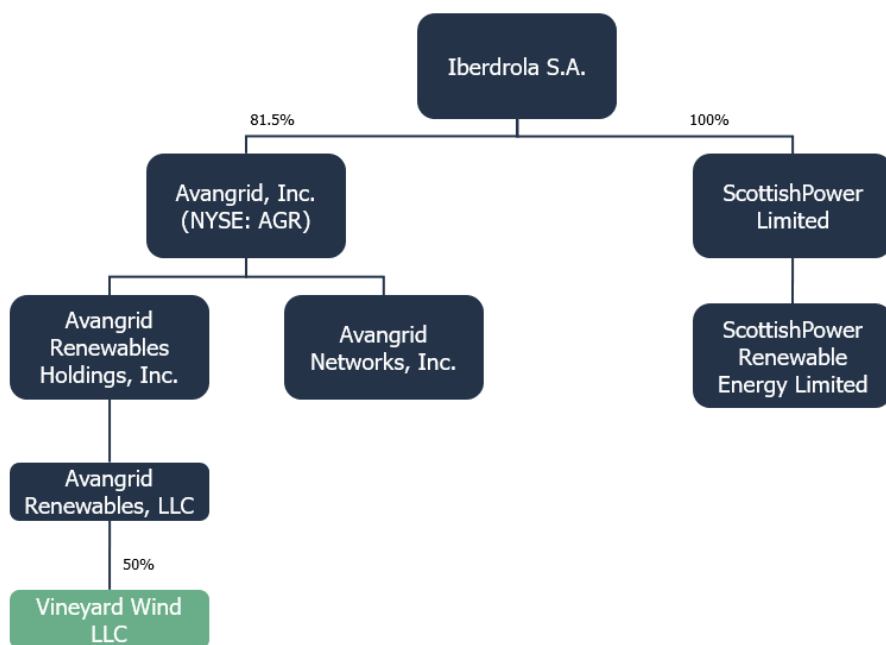
[REDACTED]



Avangrid Renewables

Avangrid Renewables is the third largest renewable energy developer in the US and has more than \$10 billion worth of operating assets and 7,100 MW of owned and controlled generation capacity, primarily wind and solar facilities, in 22 states across the US. **Figure 5.2-4** illustrates Avangrid Renewables' corporate structure, including its ultimate shareholder company, Iberdrola, in addition to the affiliates who will support Avangrid Renewables in the development and construction of the Project.

Figure 5.2-4 *Avangrid's Corporate Structure (including Vineyard Wind)*



Avangrid Inc.

Avangrid Renewables is owned by Avangrid, Inc. (Avangrid), which has more than \$32 billion in assets and operations in 24 states, and access to public debt and equity markets through its listing on the New York Stock Exchange (NYSE: AGR). Avangrid is 81.5% owned by Iberdrola, one of the world's largest wind developers, with more than 14,000 MW of installed wind capacity, and 29,000 MW of renewable energy capacity. Vineyard Wind will also be supported by personnel from Iberdrola's subsidiary ScottishPower Renewables, which is responsible for Iberdrola's offshore wind projects outside of the US and has considerable experience in the development, construction, and operation of offshore wind farms.



Avangrid Networks

Along with Avangrid Renewables, Avangrid's other business segment is Avangrid Networks Inc. (Avangrid Networks), which focuses on the transmission and distribution of electricity and natural gas primarily through eight regulated electric and natural gas utilities, serving approximately 3.2 million customers in New York and New England, as well as an unregulated business focused on transmission development.

5.3 Please provide a description of the financing plan for the project, including construction and term financing. The financing plan should address the following:

- i. Who will finance the project (or are being considered to finance the project) and the related financing mechanism or mechanisms that will be used (i.e. convertible debenture, equity or other) including repayment schedules and conversion features*

FINANCING PLAN

[REDACTED]

[REDACTED]

[REDACTED]

-
- ii. The project's existing initial financial structure and projected financial structure*

[REDACTED]

[REDACTED] During the pre-construction phase, Vineyard Wind will arrange financing for the next phases of the Project.



iii. *Expected sources of debt and equity financing*

[REDACTED]

iv. *Estimated construction costs*

[REDACTED]

v. *The projected capital structure*

[REDACTED]

[REDACTED]

vi. *Describe any agreements, both pre and post commercial operation date, entered into with respect to equity ownership in the proposed project and any other financing arrangement.*

[REDACTED]



[REDACTED]

[REDACTED] This long-term approach further ensures a high-quality Project that will provide excellent value to Massachusetts ratepayers for many years, even beyond the term of any initial PPA.

In addition, the financing plan should address the status of the above activities as well as the financing of development and permitting costs. All bidders are required to provide this information.

5.4 Provide documentation illustrating the experience of the bidder in securing financing for projects of similar size and technology. For each project previously financed provide the following information:

- i. Project name and location*
- ii. Project type and size*
- iii. Date of construction and permanent financing*
- iv. Form of debt and equity financing*
- v. Current status of the project*

BIDDER'S FINANCING EXPERIENCE

Vineyard Wind

Vineyard Wind has gained critical experience from the ongoing financing process for Vineyard Wind 1. [REDACTED]

Vineyard Wind's shareholder companies and affiliates also have significant experience financing offshore wind projects of similar size and technology, as detailed below.



[REDACTED]				
[REDACTED]				
[REDACTED]				
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

5.5 Please provide evidence that the bidder has the financial resources and financial strength to complete and operate the project as planned.

FINANCIAL STRENGTH OF THE PROPOSERS

Vineyard Wind shareholder companies are financially-sound organizations, providing the resources and financial strength to complete and operate the Project as planned. The strong financial condition of Vineyard Wind's shareholder companies is evidenced by the financial reports and available credit ratings, as set forth below and in response to **Question 5.6**.

Copenhagen Infrastructure Partners

CIP is a fund management company that currently has four funds and more than \$7.5 billion under management. The company can deploy funds in line with its investment governance processes. Credit ratings are not provided for infrastructure funds and are therefore not available. CIP fund investors are large institutional investors, such as large pension funds (e.g., PensionDanmark, PFA, European Investment Bank, Lærernes [teachers] Pension, and Oslo Penssjonforsikring). CIP funds invested in Vineyard Wind are from CI II and CI III, which are joint funds of more than \$5.5 billion. The commitments made by the limited partners to CI II and CI III are governed by limited partner agreements, which stipulate that a limited partner may not withdraw its commitment. Each of the limited partners' commitments has been verified by the leading Danish law firm, Bruun Hjejle.

Avangrid Renewables

Avangrid Renewables is supported by its shareholder company Avangrid, a public company with an equity market capitalization of approximately \$15 billion. It has credit ratings of BBB+ / Baa1 / BBB+ from S&P and Moody's and Fitch, respectively. Avangrid can raise equity capital from its majority owner, Iberdrola, or from US public equity markets. Avangrid also has access to the investment grade debt capital markets and, in May 2019, raised \$750 million through the issuance of a ten-year green bond. In addition, Avangrid's utilities access the debt capital markets directly and have approximately \$5 billion of long-term debt outstanding. The company also has a committed \$2.5 billion revolving credit facility and an active \$2 billion commercial paper program.

Iberdrola is listed on the stock exchanges in Madrid (Ibex-35), Barcelona, Bilbao, and Valencia. In New York, the company is listed in the form of an American Depositary Receipt (ADR). At the end of 2018, Iberdrola had a market capitalization of \$44.9 billion with 47,448 MW of installed generation capacity. Of this capacity, 29,177 MW is renewable resources. More than half (i.e., 16,000 MW) of Iberdrola's renewable energy capacity is wind; the remainder is hydropower and other renewable technologies.

5.6 Provide complete copies of the most recent audited financial statement and annual report for each bidder for each of the past three years; including affiliates of the bidder (if audited statements are not available, reviewed or compiled statements are to be provided). Also, provide the credit ratings from Standard & Poor's and Moody's (the senior unsecured long term debt rating or if not available, the corporate rating) of the bidder and any affiliates and partners.

AUDITED FINANCIAL STATEMENTS AND ANNUAL REPORTS

Vineyard Wind

Vineyard Wind is a privately held company and therefore does not have any credit ratings.

Copenhagen Infrastructure Partners

Credit ratings are not provided for infrastructure funds and are therefore not available for CIP-managed funds. Annual reports for CIP's affiliates are found in **Attachment 5.6-1** (CI II Annual Report 2017), **Attachment 5.6-2** (CI-II US AIV Non-QFPF Annual Report 2017), **Attachment 5.6-3** (CI-II US AIV QFPF Annual Report 2017), **Attachment 5.6-4** (CI II US AIV Non-QFPF Annual Report 2018), **Attachment 5.6-5** (CI II US AIV QFPF Annual Report 2018), **Attachment 5.6-6** (CI-III Annual Report 2017), **Attachment 5.6-7** (CI III Annual Report 2018), **Attachment 5.6-8** (CI III US AIV Non-QFPF Annual Report 2018), **Attachment 5.6-9** (CI III US AIV QFPF Annual Report 2018), **Attachment 5.6-10** (CI III Dutch AIV Annual Report 2018).

Avangrid Renewables

Avangrid Renewables' shareholder company, Avangrid, is a NYSE traded entity and its credit rating as of June 2018, is provided in **Table 5.6-1** below. Avangrid Renewables' audited annual accounts are provided in **Attachment 5.6-11** (2018), **Attachment 5.6-12** (2017), and **Attachment 5.6-13** (2016).

Table 5.6-1 Credit Ratings for Avangrid Inc. (January 2019)

Sponsor	Standard & Poor	Moody's
Avangrid Inc.	BBB+ (Stable)	Baa1 (Stable)

Avangrid Renewables ultimate shareholder company, Iberdrola, is listed on the stock exchanges in Madrid (Ibex-35), Barcelona, Bilbao, and Valencia. In New York, the company is listed in the form of an ADR. Annual reports for Iberdrola can be found in **Attachment 5.6-14** (2018), **Attachment 5.6-15** (2017), and **Attachment 5.6-16** (2016).



5.7 Please also include a list of the board of directors, officers and trustees for the past three years and any persons who the bidder knows will become officers, board members or trustees.

VINEYARD WIND BOARD MEMBERS AND OFFICERS

A list of Vineyard Wind's current officers and board members, and their year of appointment, are provided in response to **Question 5.2**.

Vineyard Wind can draw upon the considerable management resources of its shareholders in making any future board or officer appointments, however no such appointments are planned at this time.

5.8 The bidder should demonstrate its ability (and/or the ability of its credit support provider) to provide the required security, including its plan for doing so.

ABILITY TO PROVIDE SECURITY

Vineyard Wind will provide the required security by way of shareholder guaranty, bank letters of credit, or cash-on-hand security provided by the shareholder companies in the form of equity capital, as referenced in **Attachment 5.1-2** and **Attachment 5.1-3**. The security value provided will be equal to \$40,000 per MW of the PPA's maximum value.

5.9 Provide a description of any current or recent credit issues/ credit rating downgrade events regarding the bidder or affiliate entities raised by rating agencies, banks, or accounting firms.

CREDIT ISSUES AND DOWNGRADES

Vineyard Wind and affiliate entities have not experienced any recent credit issues or credit rating downgrade events, nor any other financial issues, raised by rating agencies, banks, or accounting firms.

5.10 Describe the role of the Federal Production Tax Credit or Investment Tax Credit (or other incentives) on the financing of the project.



ROLE OF FEDERAL TAX CREDITS

[REDACTED]

[REDACTED]

5.11 Bidders must disclose any litigation or disputes in the last three year period related to projects developed, owned or managed by Bidder or any of its affiliates in the United States, or related to any energy product sale agreement.

LITIGATION OR DISPUTES CONCERNING PROJECTS OR AGREEMENTS

Vineyard Wind is not currently involved in and has not been involved in over the last three years, any litigation or disputes related to projects developed, owned, or managed by Vineyard Wind except as follows.

In connection with the permitting of Vineyard Wind's first 800 MW Project, two appeals have been filed, both under administrative procedures established by the Massachusetts Wetlands Protection Act (WPA).

First, on June 10, 2019 a single abutter to the project's landing at Covell's Beach appealed a May 23, 2019 Order of Conditions issued by the Town of Barnstable Conservation Commission (BCC). The abutter filed his appeal with the Massachusetts Department of Environmental Protection (MassDEP) Southeast Regional Office. On July 18, 2019, MassDEP Southeast Regional Office issued a Superseding Order of Conditions (SOC), which affirmed the favorable decision of the BCC and authorized the construction of the Project. On August 1, 2019, the same abutter appealed MassDEP's SOC to MassDEP's Office of Appeals and Dispute Resolution (OADR). That appeal is pending.

Second, on June 27, 2019, the Edgartown Conservation Commission (ECC) issued a Denial Order of Conditions for the portions of the project located in Edgartown under the WPA. Vineyard Wind appealed the Denial Order of Conditions to the MassDEP Southeast Regional Office, and on August 5, 2019, MassDEP Southeast Regional Office issued a SOC, which reversed the unfavorable decision of the ECC and authorized construction of the Project. The appeal period for the SOC expired on August



19, 2019. As of this date, Vineyard Wind has not been notified that any appeals have been filed, however as appeals are noticed by postal service mail it is not possible to confirm whether an appeal was filed at the time this proposal was prepared for submission.

Vineyard Wind is confident that it will be able to resolve the abutter's appeal of MassDEP's SOC pertaining to Barnstable and any potential appeal of MassDEP's SOC pertaining to Edgartown favorably. In addition, and as a fail-safe, in July 2019, Vineyard Wind filed an application for a Certificate of Environmental Impact and Public Interest with the Energy Facilities Siting Board (EFSB). If Vineyard Wind's application is granted, the EFSB will issue a final approval that is the equivalent of and will substitute for the Barnstable and Edgartown Orders of Conditions, as well as any other outstanding non-final permits required by the Project under state or local law.

Vineyard Wind notes that no appeals are pending on other state and local permits issued for the Project, including but not limited to approvals by the Secretary of the Office of Energy and Environmental Affairs under the Massachusetts Environmental Policy Act; the Massachusetts Department of Public Utilities; the EFSB; the Cape Cod Commission; the Martha's Vineyard Commission; the Massachusetts Natural Heritage and Endangered Species Program; the Nantucket Conservation Commission; and MassDEP (specifically, a Section 401 Water Quality Certificate and a draft Chapter 91 License). To the best of CIP's knowledge as a fund management company, no current, past, or potential future material litigation, arbitration, or regulatory action, exists against any of CIP's investment professionals regarding professional matters, the General Partner, any partnership managed by CIP or an affiliate, CIP itself, or any affiliate of CIP.

Avangrid Renewables is part of a large corporate entity and, consequently, its affiliates are involved in litigation and disputes from time to time in the ordinary course of business. Information regarding any material litigation and disputes involving affiliates of Avangrid Renewables over the past three years can be found in the annual reports and related financial information referenced in the response to **Question 5.6** and in publicly filed periodic reports by Avangrid.

5.12 What is the expected operating life of the proposed project? What is the depreciation period for all substantial physical aspects of the bid, including generation facilities, delivery facilities to move power to the grid, and mandatory and voluntary transmission system upgrades?

OPERATING LIFE AND DEPRECIATION

All major Project components have useful lives in excess of the term of the proposed PPA. For example, the minimum useful life of the WTGs is 25 years. The generator lead lines are expected to have even longer functional lives, but they may be decommissioned at the time of the Project's decommissioning as required by the Bureau of Ocean Energy Management regulations.

Regarding depreciation, all substantial physical aspects of the Project will be depreciated in accordance with Internal Revenue Service regulations and guidelines.



5.13 Has the bidder already obtained financing, or a commitment of financing, for the project? If financing has not been obtained, explain how obtaining a long-term agreement as proposed will help you in obtaining financing for the proposed project, in obtaining more favorable terms for the financing of the proposed project, or in supporting the future capital investment.

FINANCING COMMITMENT

Vineyard Wind has not yet obtained financing or a commitment of financing for construction of the Project. As detailed in response to **Questions 5.3.i** through **5.3.vi**, Vineyard Wind's shareholder companies are providing substantial capital, in the form of equity, to fund all development activities in connection with the Project, including property rights acquisition, scientific surveys and studies to support permitting and design, grid interconnection, permitting, and contracting. This arrangement will continue until construction commences. Vineyard Wind's shareholder companies' commitment to provide the equity investments needed to finance the Project is predicated on executing long-term contracts for the Project's output, provided that certain additional conditions are met (see **Attachments 5.1-2** and **5.1-3**).

Obtaining a long-term contract from this RFP Process, as discussed in response to **Question 5.1**, will allow Vineyard Wind to secure financing for construction of the Project. Offshore wind projects are very capital-intensive infrastructure projects and it has become the industry standard to secure long-term contracts with a guaranteed price for the power and environmental attributes ahead of financing.

Long-term contracts are a prerequisite for obtaining construction financing because they make a project bankable. They do this by ensuring certainty with respect to the revenue stream that will be available once a project is operational. Long-term contracts therefore remove one of the largest economic uncertainties in estimating the future income of an offshore wind project, thus lowering the risk to investors and lenders, and, ultimately, ratepayers. As already noted, all previous offshore wind projects financed by Vineyard Wind's shareholder companies, or their affiliates, have involved the provision of a long-term contract.

5.14 State whether the bidder or its affiliates have executed agreements with respect to energy, RECs and/or capacity for the proposed project (including any agreements that have been terminated) and provide information regarding the associated term and quantities, and whether bidder has been alleged to have defaulted under or breached any such agreement. State whether the bidder or its affiliates have submitted proposals to other buyers, the status of consideration of such proposals, and the impact of such proposal(s), if they result in an executed contract or contracts, on the proposal(s) submitted in response to this RFP.

AGREEMENTS FOR ENERGY, RECS, AND/OR CAPACITY

Vineyard Wind has not executed any agreements with respect to energy, RECs, or capacity for the Project.



5.15 List all of the Bidder's affiliated entities and joint ventures transacting business in the energy sector.

AFFILIATED ENTITIES AND JOINT VENTURES

Vineyard Wind's shareholder companies and their affiliates, including those described in response to **Question 5.2**, regularly conduct business in the energy sector. **Attachment 5.15-1** provides details for all of CI II affiliate companies; **Attachment 5.15-2** provides details for all of CI III affiliate companies; **Attachment 5.15-3** provides details for all Avangrid Renewables affiliate companies; and **Attachment 5.15-4** provides details for all of Iberdrola's subsidiary companies.

5.16 Has Bidder, or any affiliate of Bidder, in the last five years, (a) consented to the appointment of, or been taken in possession by, a receiver, trustee, custodian or liquidator of a substantial part of its assets, (b) filed a bankruptcy petition in any bankruptcy court proceeding, (c) answered, consented or sought relief under any bankruptcy or similar law or failed to obtain a dismissal of an involuntary petition, (d) admitted in writing of its inability to pay its debts when due, (e) made a general assignment for the benefit of creditors, (f) been the subject of an involuntary proceeding seeking to adjudicate that Party bankrupt or insolvent, (g) sought reorganization, arrangement, adjustment, or composition of it or its debt under any law relating to bankruptcy, insolvency or reorganization or relief of debtors?

BANKRUPTCY AND REORGANIZATION

In the last five years, neither Vineyard Wind nor any affiliate has:

- (a) Consented to the appointment of, or was taken in possession by, a receiver, trustee, custodian or liquidator of a substantial part of its assets;
- (b) Filed a bankruptcy petition in any bankruptcy court proceeding;
- (c) Answered, consented, or sought relief under any bankruptcy or similar law, or failed to obtain a dismissal of an involuntary petition;
- (d) Admitted in writing of its inability to pay its debts when due;
- (e) Made a general assignment for the benefit of creditors;
- (f) Was the subject of an involuntary proceeding seeking to adjudicate that party bankrupt or insolvent; or
- (g) Sought reorganization, arrangement, adjustment, or composition of it or its debt under any law relating to bankruptcy, insolvency or reorganization or relief of debtors.



5.17 Briefly describe any known conflicts of interest between Bidder or an affiliate of Bidder and any Distribution Company, or any affiliates of the foregoing.

CONFLICTS OF INTEREST

Vineyard Wind, Vineyard Wind's shareholder companies, and their affiliates do not have any known conflicts of interest with Fitchburg Gas and Electric Light Company d/b/a Unitil, Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, or NSTAR Electric Company d/b/a Eversource Energy (collectively, the "Distribution Companies"), or any affiliates of the foregoing.

5.18 Describe any litigation, disputes, claims or complaints involving the Bidder or an affiliate of Bidder, against any Distribution Company or any affiliate of any Distribution Company.

LITIGATION OR DISPUTES CONCERNING ANY DISTRIBUTION COMPANY

Neither Vineyard Wind, CIP, CIP affiliates, and Avangrid Group companies are currently involved in any litigation, disputes, claims, or complaints against the Distribution Companies or any affiliate thereof.

5.19 Describe any litigation, disputes, claims or complaints, or events of default or other failure to satisfy contract obligations, or failure to deliver products, involving Bidder or an affiliate of Bidder, and relating to the purchase or sale of energy, capacity or renewable energy certificates or products.

LITIGATION OR DISPUTES CONCERNING SALE OF ENERGY, RECS, OR CAPACITY

Vineyard Wind, its shareholder companies, and affiliates have not been implicated in any material litigation, disputes, claims, complaints, events of default, or other material failure to satisfy contract obligations, or material failure to deliver products involving and relating to the purchase or sale of energy, capacity or RECs or other electricity products.

5.20 Confirm that neither Bidder nor any directors, employees or agents of Bidder, nor any affiliate of Bidder are currently under investigation by any governmental agency, and that none of the above have in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction involving conspiracy, collusion or other impropriety with respect to bidding on any contract, or have been the subject of any debarment action (detail any exceptions).



STATEMENT CONCERNING GOVERNMENTAL INVESTIGATIONS

Neither Vineyard Wind, nor any of its directors, employees, agents, or affiliates have been investigated by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction involving conspiracy, collusion, or other impropriety with respect to offering on any contract and have not been the subject of any debarment action.

Neither CIP, its directors and employees, nor funds managed by CIP, have been investigated by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction involving conspiracy, collusion or other impropriety with respect to offering on any contract, or have been the subject of any debarment action.

Avangrid Renewables is part of a large corporate entity and, consequently, the shareholder company and their directors, employees, agents, and respective affiliates have been involved in regulatory investigations by governmental authorities from time to time in the ordinary course of business. Any such regulatory investigations will not have a material effect on that shareholder company's ability to perform on the contracts described in this proposal. The shareholder company, nor any of their directors, employees, agents, or affiliates have been convicted or found liable for any act prohibited by state or federal law in any jurisdiction involving conspiracy, collusion, or other impropriety with respect to offering on any contract, nor been the subject of any debarment action in the last four years.

5.21 Identify all regulatory and other approvals needed by Bidder to execute a binding sale agreement.

REQUIRED REGULATORY AND OTHER APPROVALS

The PPA contains conditions that must be met, including regulatory approvals and transmission approvals, prior to the agreement taking effect. Such approvals consist of the Regulatory Approval and any Related Transmission Approvals, as each term is defined in the proposed form of PPA and are referred to in Section 8 of the PPA. Vineyard Wind does not condition its execution of a binding sale agreement on any other regulatory or other approval other than that of its Members and Board of Managers in accordance with the provisions of Vineyard Wind's limited liability company agreement, which Vineyard Wind will seek prior to its execution of any such sale agreement.

5.22 Describe how the project will conform to FERC's applicable regulatory requirements, including, but not limited to, FERC requirements relating to allocation of transmission capacity and open access, the justness and reasonableness of rates, the potential for undue preference or discrimination, and affiliate dealings, if any. Describe how your proposed approach is consistent with FERC precedent and ratemaking principles.



CONFORMANCE WITH FERC REGULATORY REQUIREMENTS

Generation

Vineyard Wind will ensure it has all the necessary Federal Energy Regulatory Commission (FERC) authorizations to supply power at wholesale in connection with this proposal. Vineyard Wind will obtain market-based rate authority from FERC under Section 205 of the Federal Power Act (FPA) as necessary to sell power at wholesale pursuant to its PPAs with the electric distribution companies (EDCs). Along with its market-based rate authorization, Vineyard Wind will also obtain the blanket authorizations and waivers from FERC that are customarily granted to entities with market-based rate authority. Vineyard Wind will also obtain self-certification with FERC as an exempt wholesale generator (EWG), under FERC's regulations under the Public Utility Holding Company Act of 2005. Vineyard Wind's co-owner, Avangrid Renewables has obtained market-based rate authority and EWG status for more than 56 affiliated generation project companies with a combined generating capacity of over 5,700 MW in its ordinary course of business, and expects no complications in obtaining market-based rate authority and EWG status for Vineyard Wind well before its generation project is initially energized.

[REDACTED]

[REDACTED] The Vineyard Wind transmission facilities are radial in nature and serve to transmit electric energy from remotely-located generation facilities to a POI with transmission facilities that are part of the ISO-NE pool transmission facilities (PTF).

Vineyard Wind will register the project with ISO-NE and will be fully qualified to participate in the energy, capacity and ancillary services markets under the ISO-NE Tariff.

Finally, Vineyard Wind will register (directly or via its agent) with the North American Electric Reliability Corporation (NERC) as a Generator Owner and Generator Operator with regard to the facilities and will comply with any and all applicable NERC Reliability Standards, maintenance, testing, and reporting requirements set forth by NERC and/or Northeast Power Coordinating Council (NPCC) as applicable to the project.

Transmission

Vineyard Wind will assume the full market risk for the construction and operation of all transmission facilities required to interconnect the Project to the ISO-NE PTF, has no captive customers, and the transmission capacity on these facilities will be solely and exclusively used by Vineyard Wind to interconnect and deliver electricity generated at the proposed offshore wind facility to the ISO-NE PTF transmission system at [REDACTED]



5.23 Describe and document any and all direct and indirect affiliations and affiliate relationships, contractual, financial or otherwise in the past three years between the bidder and one or more of the Distribution Companies and their affiliates, including all relationships in which one of the Distribution Companies or their affiliates has a financial or voting interest (direct or indirect) in the bidder or the bidder's proposed project. These relationships include:

- *Corporate or other joint arrangements, joint ventures, joint operations whether control exists or not;*
- *Minority ownership (50% or less investee);*
- *Joint development agreements;*
- *Project agreements;*
- *Operating segments that are consolidated as part of the financial reporting process;*
- *Related parties with common ownership;*
- *Credit, debenture, and financing arrangements, whether a convertible equity feature is present or not;*
- *Wholly owned subsidiaries; and*
- *Commercial (including real property) relationships with any Distribution Company*

DISTRIBUTION COMPANY AFFILIATIONS

Vineyard Wind

In 2018, Vineyard Wind executed an arms-length PPA with Massachusetts Electric Company and Nantucket Electric Company (each d/b/a National Grid) in Massachusetts to purchase a portion of the energy and renewable energy credits generated by two 400 MW phases of Vineyard Wind's first offshore wind project. The PPAs are active and Vineyard Wind is performing its obligations under the PPAs. The onshore facilities to which these two 400 MW phases of Vineyard Wind's project will interconnect are owned, operated, and maintained by, among others, New England Electric Transmission Corporation, New England Hydro-Transmission Electric Company, Inc., and New England Hydro-Transmission Corporation, which are affiliates of Massachusetts Electric Company and Nantucket Electric Company. Additionally, New England Power Company (an affiliate of Massachusetts Electric Company and Nantucket Electric Company) is an asset owner of certain AC transmission network facilities that will require upgrades for these two 400 MW phases of Vineyard Wind's project.

In the view of Vineyard Wind, the existence of and performance by the parties under the PPAs and in connection with the related interconnection/transmission arrangements are unrelated to the Project that is the subject of the Proposal and creates no conflict of interest for Vineyard Wind or National Grid.

Copenhagen Infrastructure Partners

Over the past three years, CIP and its affiliates have not had any indirect affiliations or affiliate relationships, financial or otherwise with the Distribution Companies or any affiliate thereof.

***Avangrid Renewables***

Avangrid Renewables submitted four responses to the Massachusetts Section 83D Request for Proposals (RFP) issued on March 31, 2017, by the Distribution Companies. One of those bids, “Bid A” included a proposal for delivery over a new transmission project (the “Northeast Renewable Energy Link”). GridAmerica Holdings, Inc., a subsidiary of National Grid USA (GridAmerica) was to be the sponsor of the Northeast Renewable Energy Link included with Bid “A”. None of the Avangrid Renewables bids were selected, and there is no ongoing commercial relationship between Avangrid Renewables and GridAmerica/National Grid as a result of the proposal. In the view of Vineyard Wind, the prior bid by Avangrid Renewables and GridAmerica is unrelated to the Project that is the subject of this proposal and creates no conflict of interest for Vineyard Wind or National Grid.

Avangrid Networks through its subsidiary Central Maine Power Company, also participated in the Section 83D RFP, submitting five bids. One of the bids, a joint bid with Hydro-Québec involving a new transmission project (“New England Clean Energy Connect”) to be built by Central Maine Power Company, was selected through the RFP. In the view of Vineyard Wind, Central Maine Power Company’s continued development of New England Clean Energy Connect as predicated by its winning bid with Hydro-Québec is unrelated to the Project that is the subject of this proposal and creates no conflict of interest for Vineyard Wind or National Grid.

Avangrid Networks has an indirect interest of approximately 19.973% in New York TransCo, LLC. Grid NY LLC, an affiliate of Massachusetts Electric Company and Nantucket Electric Company (subsidiaries of National Grid), also owns an interest in New York TransCo, LLC. In the view of Vineyard Wind, the indirect interest owned by Avangrid Networks is unrelated to the Project that is the subject of this proposal and creates no conflict of interest for Vineyard Wind or National Grid.

Finally, project company subsidiaries of Avangrid Renewables for its Hardscrabble (New York), Maple Ridge (New York) and Hoosac (Massachusetts) wind farms are party to various interconnection, service, facilities, lease, easement, and similar agreements entered into on an arms-length or tariff basis as part of the ordinary course of siting, constructing, and interconnecting onshore wind farms within the service territories of National Grid subsidiaries, including New England Power, Massachusetts Electric Company, and Niagara Mohawk. In the view of Vineyard Wind, the existence of, and performance by, the parties under these agreements are unrelated to the Project that is the subject of this proposal and create no conflict of interest for Vineyard Wind or National Grid.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.1-1

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 3 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.1-2

REDACTED



VINEYARD WIND

ATTACHMENT TO:
SECTION 3 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.1-3
REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-1 CI-II Annual Report 2017

Copenhagen Infrastructure II K/S
Nørregade 21
1165 Copenhagen K
Central Business Registration No
36 39 30 92

Annual report 2017

The Annual General Meeting adopted the annual report on 29.05.2018

Chairman of the General Meeting

Name: Mogens Thorninger

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Fund details

Fund

Copenhagen Infrastructure II K/S

Nørregade 21

1165 Copenhagen K

Central Business Registration No: 36 39 30 92

Founded: 30.09.2014

Registered in: Copenhagen

Financial year: 1 January 2017 - 31 December 2017

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure II GP ApS

Fund Manager

Copenhagen Infrastructure Partners II P/S

Approved Manager of Alternative Investment Funds (FSA number: 23014)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by General Partner on the annual report

The General Partner has today considered and approved the annual report of Copenhagen Infrastructure II K/S for the financial year 1 January 2017 - 31 December 2017.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2017 and of the results of its operations and the cash flows for the financial year 1 January 2017 - 31 December 2017.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 15.05.2018

On behalf of Copenhagen Infrastructure II GP ApS

Mogens Thorninger

Torben Carlsen

Independent auditor's report

To the shareholders of Copenhagen Infrastructure II K/S

Opinion

We have audited the financial statements of Copenhagen Infrastructure II K/S for the financial year 01.01.2017 - 31.12.2017, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2017 and of the results of its operations for the financial year 01.01.2017 - 31.12.2017 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 15.05.2018

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56

Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) 30131

Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) 35823

Management commentary

	<u>2017</u> <u>DKK'000</u>	<u>2016</u> <u>DKK'000</u>	<u>2015</u> <u>DKK'000</u>
Financial highlights			
Key figures			
Profit/loss from ordinary activities (EBIT)	613,220	480,955	15,692
Profit/loss for the year	610,528	472,463	18,645
Equity	7,029,535	5,448,234	2,978,645
Balance sheet total	7,173,240	5,470,212	2,985,338
Ratios			
Liquidity ratio (%)	125.00	1.225.00	218.00
Solvency ratio (%)	98.00	99.60	99.78
Return on equity (%)	10.00	11.00	1.00

Primary activity

Copenhagen Infrastructure II K/S (CI II) was established in September 2014 and is managed by Copenhagen Infrastructure Partners II P/S (CIP). The General Partner of CI II is Copenhagen Infrastructure II GP ApS.

Investments

End of 2017, CI II had completed six investments, Brite, Veja Mate, Beatrice, Kent, Fluvanna I and Bearkat I.

Brite

CI II has acquired 100% of the UK biomass power plant project Brite. Brite will be a 42.3 MW waste wood-fired biomass power plant, located at Templeborough, in Rotherham, in South Yorkshire, Central England. Brite is currently under construction.

Veja Mate

CI II has provided two tranches of mezzanine debt to finance the construction of the German offshore wind power project Veja Mate. The mezzanine tranche of EUR 100m was converted to Equity in March 2018.

Veja Mate is now an operating 400 MW offshore wind farm, located in the German North Sea, approx. 94 km from the shore on water depths around 40 meters. Construction was completed in May 2017 and contractual COD was in January 2018.

Beatrice

CI II has in total acquired 17.5% of the UK offshore wind project, Beatrice. Beatrice is located in Outer Moray Firth, Scotland. Beatrice is currently under construction.

Management commentary

Kent

CI II has invested in a UK biomass power plant project, Kent. Kent will be a 27.8 MW virgin wood fired plant located in Kent, UK. Kent is currently under construction.

Fluvanna

CI II has provided a mezzanine debt facility to finance the construction of a US onshore wind project, Fluvanna I. Fluvanna I is now an operating 155MW onshore wind farm located in Texas. Fluvanna reached COD in December 2017.

Bearkat

CI II has invested in the construction of a US onshore wind project, Bearkat I. Bearkat I is now an operating 196.7 MW onshore wind farm located in Texas. Bearkat reached COD in December 2017.

Development in activities and finances

Income from investments in 2017 amounts to DKK 662.6m.

Net Income for 2017 amounts to a gain of DKK 610.5m, which is in accordance with the expectations. The result reflects income from investments, partly offset by management fee and transaction costs expensed, during the period.

Limited Partners' paid-in capital to the Fund at the end of 2017 amounted to DKK 5,927.8m, equalling 52% of the committed capital of DKK 11,459.1m. Total Limited Partners' capital amounted to DKK 7,030m reflecting the Limited Partners' paid-in capital plus accumulated net income since Fund initiation.

Uncertainty relating to recognition and measurement

Copenhagen Infrastructure II K/S develops and invests in infrastructure projects where transferability and cash flows are affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the Fund Manager and the General Partner on the balance sheet date.

Management commentary

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial year covered by the financial statements, there have been no changes in the matters below:

- The Fund's Investment strategy;
- The number of shares in the Alternative Investment Fund, which, due to their illiquid nature, are subject to special measures;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

Outlook

The outlook for the Limited Partnership depends on the results of the investments.

The number of investments are expected to increase during 2018.

There are no specific return expectations for the Limited Partnership's financial performance for 2018 as part of the investment portfolio still will be under construction.

Corporate social responsibility

Environmental, Social, and Corporate Governance, ESG (including HSE) and CSR, are part of CIP's Ethical Policy and an integral part of CIP's entire investment process. The Ethical Policy guides CIP in its capacity as Fund Manager throughout the investment process i.e. when CIP originate/screen/assess potential investments, select and propose investments, monitor and manage Investments, and propose divestments. CIP's Ethical Policy is based on main principles of the UN Principles for Responsible Investment (www.unpri.org/). The Ethical Policy outlines ESG principles, which shall apply to CIP, and which CIP shall endeavor to ensure are observed by the project companies in which the Fund holds investments. ESG is a core focus of CIP. The investment strategy of the Fund focuses on greenfield and renewable energy projects, and, as such, the Fund is expected to have a positive ESG impact on both job creation and climate (CO₂).

Management commentary

Corporate social responsibility (Continued)

The ESG principles outline minimum standards and restrictions in some areas (e.g. related to HSE) and set high standards in others (e.g. related to CSR, business conduct and disclosure). The ESG principles are summarised below.

Environmental principles concerning

- Obligations to identify and assess environmental consequences and issues of an investment, and to properly observe relevant law or regulation; and
- Minimisation of the environmental consequences related to the construction and ongoing operations of infrastructure assets in accordance with good industry practice.

Social principles concerning

- Identification and assessment of relevant social and human rights issues of an investment;
- Acknowledgement and adherence to the fundamental employees' rights by the investment project, including significant suppliers. A focus on HSE (Health Safety and Environment) and local labour laws are an important part of this; and
- No Investment in the manufacture of weapons, which in the course of normal intended use would breach fundamental humanitarian principles.

Governance principles concerning

- No corruption and/or bribery shall take place or be carried out directly or indirectly by any of the parties involved in an Investment;
- Active ownership of an investment shall be exercised, including exercise of voting rights;
- Governmental and community relations shall be promoted to the extent relevant;
- Appropriate disclosure on environmental, social and governance issues shall be promoted;
- Effective risk management shall be promoted; and
- Laws and regulations regarding, e.g. environmental, human rights and labour rights set out by relevant authorities, shall be complied with by all parties, including by significant suppliers, involved in an Investment.

Statement of comprehensive income

	<u>Notes</u>	<u>2017 DKK'000</u>	<u>2016 DKK'000</u>
Interest income		132,369	77,230
Realised losses		0	(2,281)
Net change in unrealised gains/(losses) from financial assets and liabilities at fair value		707,082	639,643
Net foreign currency losses		<u>(176,820)</u>	<u>(174,807)</u>
Operating income		<u>662,631</u>	<u>539,785</u>
Administrative expenses	3	<u>(49,411)</u>	<u>(58,830)</u>
Operating expenses		<u>(49,411)</u>	<u>(58,830)</u>
Operating profit (EBIT)		<u>613,220</u>	<u>480,955</u>
Financial income	4	3,841	1,390
Financial expenses	5	<u>(6,534)</u>	<u>(9,881)</u>
Profit for the year		<u>610,528</u>	<u>472,463</u>
Other comprehensive income		<u>0</u>	<u>0</u>
Comprehensive income		<u><u>610,528</u></u>	<u><u>472,463</u></u>

Balance sheet at 31 December 2017

	Notes	2017 DKK'000	2016 DKK'000
Investments	6	4,869,073	4,007,997
Receivables from investments	6	2,124,415	1,192,992
Investments		6,993,488	5,200,989
Fixed assets		6,993,488	5,200,989
Other short-term receivables		14,742	21,862
Receivables		14,742	21,862
Cash		165,010	247,361
Current assets		179,752	269,223
Assets		7,173,240	5,470,212

Balance sheet at 31 December 2017

	Notes	2017 DKK'000	2016 DKK'000
Limited partnership capital	7	5,927,899	4,957,125
Retained earnings		1,101,636	491,109
Equity		7,029,535	5,448,234
Other payables	8	143,705	21,978
Current liabilities other than provisions		143,705	21,978
Liabilities other than provisions		143,705	21,978
Equity and liabilities		7,173,240	5,470,212

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity 1 January 2017	4,957,125	491,109	5,448,234
Contribution from limited partners	970,773	-	970,773
Distribution to limited partners	-	-	-
Profit for the year	-	610,528	610,528
Equity 31 December 2017	5,927,899	1,101,636	7,029,535

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity 1 January 2016	2,960,000	18,645	2,978,645
Contribution from limited partners	2,175,072	-	2,175,072
Distribution to limited partners	(177,947)	-	(177,947)
Profit for the year	-	472,463	472,463
Equity 31 December 2016	4,957,125	491,109	5,448,234

Cash flow statement for 2017

	Notes	2017 DKK'000	2016 DKK'000
Operating profit		613,220	480,955
Income from investments		(662,631)	(539,785)
Working capital changes	9	128,848	(5,844)
Cash flows from ordinary activities		79,437	(64,674)
Financial income	4	3,841	1,390
Financial expenses	5	(6,534)	(9,881)
Cash flows from operating activities		(2,693)	(8,491)
Acquisition of investments	6	(277,428)	(1,051,898)
Receivables from investments	6	(852,440)	(934,554)
Distributions from receivables from investments	6	-	295,976
Cash flows from investing activities		(1,129,869)	(1,690,476)
Contribution from Limited Partners		970,773	2,175,072
Distributions to Limited Partners		-	(177,947)
Cash flows from financing activities		970,773	1,997,125
Increase/decrease in cash		(82,351)	233,485
Cash beginning of year		247,361	13,877
Cash end of year		165,010	247,361

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class C enterprises (large).

Copenhagen Infrastructure II K/S is a Limited Partnership based in Denmark.

The accounting policies applied to these financial statements are consistent with those applied last year.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. Management provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The principal accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI II has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

”An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both”.

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 15 of the financial statements.
- 3) The Fund’s investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2017 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations, including IFRS 9 in particular, have not yet entered into force. The General Partner believes that they will not impact significantly on the financial statements for the coming financial years.

Other amended Standards and Interpretations includes IFRS 15 regarding recognition of revenue with effect for financial beginning 1 January 2018 as well as IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that they will not have significantly impact on the financial statements as well as they haven’t been implemented before time.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund’s assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the “functional currency”). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund’s functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the one in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of portfolio investments.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year are recycled to the effect that, in net terms, profit for the year is affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial income and expenses

Financial income and expenses comprise interest income and various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partner's taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit and loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Both type of investment are measured, on initial recognition, at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Guidelines and accepted valuation techniques, including benchmarking, DCF or other relevant method, which is considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 12.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Cash

Cash comprise cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Notes

1. Accounting policies (continued)

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to Limited Partners.

Cash comprise cash and short-term securities with an insignificant price risk less short-term bank debt.

Financial highlights

Financial highlights are defined and calculated in accordance with “Recommendations & Ratios 2015” issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The enterprise's financial strength
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The enterprise's financial strength.
Return on equity (%)	=	$\frac{\text{Profit for the year} \times 100}{\text{Average equity}}$	The enterprise's profitability.

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. The valuation and hence fair value of the long-term receivables are, furthermore, affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty.

Notes

2. Significant accounting estimates, assumptions and uncertainties (continued)

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. The uncertainty is, furthermore, affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments are described in note 12 to the financial statements.

3. Administrative expenses

The Fund has no employees.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager serves as fund manager for Copenhagen Infrastructure II K/S, CI II US AIV Non-QFPF K/S and CI II US AIV QFPF K/S.

No carried interest is paid out by the AIF during the financial period.

Notes

3. Administrative expenses (continued)

	2017 DKK'000	2016 DKK'000
Fee to auditors appointed by the Company in general meeting		
Statutory audit services	447	526
Other assurance engagements	93	93
Tax services	297	644
Other services	1.144	34
	<u>1.981</u>	<u>1.297</u>

4. Financial income

Currency exchange rate gains	3,831	1,323
Interest income from assets not measured at fair value through profit or loss	10	67
Financial income	<u>3,841</u>	<u>1,390</u>

5. Financial expenses

Other interest, currency loss etc	(6,529)	(9,875)
General Partner fee	(5)	(6)
Interest expenses for financial liabilities	<u>(6,534)</u>	<u>(9,881)</u>

Notes

	Capitalized development projects before FID* DKK'000	Investments DKK'000	Receivables from investments DKK'000
6. Investments			
Fair value 31.12.2016	16,774	3,991,223	1,192,992
Acquisitions and development costs (net)	42,639	234,789	852,440
Distributions			
Value adjustment	(4,581)	588,228	78,984
Fair value 31.12.2017	54,832	4,814,241	2,124,416
	Capitalized development projects before FID* DKK'000	Investments DKK'000	Receivables from investments DKK'000
Investments			
Fair value 31.12.2015	4,105	2,364,803	601,820
Acquisitions and development costs (net)	14,950	1,036,948	934,554
Distributions	-	-	(295,976)
Value adjustment	(2,281)	589,472	(47,406)
Fair value 31.12.2016	16,774	3,991,223	1,192,992

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Notes

6. Investments (continued)

Investment	Corporate form	Registered in	Equity interest %
CI Beatrice II	Ltd.	United Kingdom	99.80
CI Brite (UK) Holdings	Ltd.	United Kingdom	99.80
CI-II VM HoldCo	K/S	Copenhagen	99.80
CI-II Holdings GP	ApS	Copenhagen	100.00
CI II Fluvanna B	K/S	Copenhagen	99.80
CI Procurement	Inc.	United States	99.80
CI-II US Project Services	Inc.	United States	100.00
CI-II NY	Inc.	United States	100.00
CI Beatrice II Facility - (CI II)	Ltd.	United Kingdom	99.80
CI-II Changfang	K/S	Copenhagen	99.80
CI-II Fufang	K/S	Copenhagen	99.80
CI-II Xidao	K/S	Copenhagen	99.80
Copenhagen infrastructure - Taiwan GP	ApS	Copenhagen	100.00
CI-II Canada Holding	K/S	Copenhagen	99.80

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of Fund.

The methods applied by the Fund to measure investments are evident from note 12 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

Notes

7. Limited partnership capital

The limited partnership capital has not been divided into classes.

	2017 DKK'000	2016 DKK'000
8. Other payables		
Other payables	143,705	21,978

The carrying amount of payables relates to legal fees, auditor's fees, travel costs etc. The amount recognised is equal to the fair value of the liabilities.

9. Working capital changes

Change in receivables	7,121	21,129
Change in payables	121,727	(15,285)
	128,848	5,844

10. Financial instruments

Categories of financial instruments:

	2017 DKK'000	2016 DKK'000
Investments	4,869,073	4,007,997
Receivables from investments	2,124,415	1,192,992
Financial assets measured at fair value through profit or loss	6,993,488	5,200,989
Other short-term receivables	14,742	21,862
Loans and receivables	14,742	21,862
Other payables	143,705	21,978
Financial liabilities measured at amortised cost	143,705	21,978

All financial liabilities are due for payment within 12 months.

Notes

11. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited partners and invests in both greenfield and operating infrastructure assets.

The Fund's risk management processes includes identification, measurement, monitoring, reporting and mitigation of the identified risks to minimize the potential negative effects at fund level.

Key financial risk factors and exposure in regards to the financial statements as of 2017 can be categorised as follows:

Financial Risk Factors

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	143,705	0	0	143,705
31.12.2017	143,705	0	0	143,705

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	21,978	0	0	21,978
31.12.2016	21,978	0	0	21,978

The cash position in the Fund is bigger than the payables.

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of GBP 244m.

The liquidity risk is considered insignificant. No indication of the limited partners ability to contribute the remaining fund commitment occurs.

Notes

11. Financial risk management (continued)

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loans provided to the infrastructure projects.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables as of the balance sheet date.

Likewise there is no impairment of receivables i.e. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects of which the Fund have provided loans are currently under construction. The construction phases progress as planned and no significant delays for completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty as of 31 December 2017.

Interest rate risk

The Fund has no external debt as of the balance sheet date, and therefore no interest rate risk connected to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including draw downs and distributions, are made in investment specific currencies, consequently, the limited partner is not exposed to currency risk through the fund.

Commodity and power prices

The Fund's indirect power price exposure is mitigated via power price agreements and/or instruments in the project's capital structure. The Fund's indirect outright power price exposure are considered as low.

When the Fund has an indirect outright power price and commodity price exposure changes in such risk factors impact the fair value of the individual investment.

Notes

12. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequent if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistent over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investment has been estimated by applying methods that best reflect the risks, and the stage of each investment.

In general, the fair value is determined in accordance with IPEV valuation guidelines and accepted valuation techniques, including DCF models, benchmarking or other relevant methods. For projects which is before the state of COD (Commissioning Operating Date) cost is however considered as best estimate for fair value.

The valuation of investments and receivables from investments are based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material input are not based on observable market data (Level 3)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Notes

12. Financial instruments measured at fair value (continued)

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable inputs. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prizes.

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2017				
Unlisted shares, investments	0	0	4,869,073	4,869,073
Receivables from investments	0	0	2,124,415	2,124,415
Financial assets measured at fair value through profit or loss	0	0	6,993,488	6,993,488

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2016				
Unlisted shares, investments	0	0	4,007,997	4,007,997
Receivables from investments	0	0	1,192,992	1,192,992
Financial assets measured at fair value through profit or loss	0	0	5,200,989	5,200,989

The discount rate used for valuation of investments and receivables from investments after COD is considered the most material unobservable input, and the applied interval for discount rate is between 6-9 % (2016: Non since no project were after COD)

Sensitivity analysis

The fair value of the Fund's investments is affected by development in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for Investments in Veja Mate, Fluvanna and Bearkat I is increased by 1 percentage point, the fair value of the investments will be reduced by 222 mio. DKK, which will reduce the NAV of the fond with the same amount. A reduction with 1 percentage point will increase the fair value of the investments with 248 mio. DKK, and also have the same effect on the NAV of the fond. Due to the nature of the investments the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analysis has been made for investments under construction.

Notes

12. Financial instruments measured at fair value (continued)

The applied discount rate is considered the most material unobservable input due to the nature of the investments.

Please refer to note 6 for a specification of fair value investments.

13. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

	<u>2017</u> <u>DKK'000</u>	<u>2016</u> <u>DKK'000</u>
Related party transactions		
The General Partner is receiving a fee for its liability towards CI II as per the article of association		
Payment to the General Partner	<u>5</u>	<u>6</u>
Copenhagen Infrastructure Partners II P/S (the Fund Manager) is considered related parties of the Fund due to direct or indirect control and transactions		
Management fee	<u>34,632</u>	<u>30,599</u>

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar in connection with loans. As shown in note 6, loans are only provided to companies in which the Fund holds the majority of shares.

	<u>2017</u> <u>DKK'000</u>	<u>2016</u> <u>DKK'000</u>
Comitted loan capital	3,224,500	3,224,500
Contributions	<u>1,785,532</u>	<u>933,092</u>
Outstanding commitment	<u>1,439,968</u>	<u>2,291,408</u>

There are no other key relationships, which are considered material for the financial statements.

Notes

14. Contingent liabilities

The Fund has no guarantees or contingent liabilities, but has an outstanding commitment of GBP 244m.

15. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

PensionDanmark Pensionsforsikringsaktieselskab, Langelinie Allé 43, 2100 Copenhagen

Lægernes Pensionskasse, Dirch Passers Allé 76, 2000 Frederiksberg

Pensionskassen for Børne- og Ungdomspædagoger, Østerfælled Torv 3, 2100 Copenhagen

Juristernes og Økonomernes Pensionskasse, Dirch Passers Allé 76, 2000 Frederiksberg

Lærernes Pension, Forsikringsaktieselskab, Tuborg Boulevard 3, 2900 Hellerup

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, Bronning Eufemias Gate 10, 0191 Oslo.

16. Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

17. Authorisation of the annual report for issue

At the meeting held on 15.05.2018 the General Partner authorised this annual report for issue on 29.05.2018.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 29.05.2018.



ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-2 CI-II US AIV Non-QFPF Annual Report 2017

CI II US AIV Non-QFPF K/S

Nørregade 21

1165 Copenhagen K

Central Business Registration No

37 78 94 10

Annual report 2017

The Annual General Meeting adopted the annual report on 29.05.2018

Chairman of the General Meeting

Name: Mogens Thorninger

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Fund details

Fund

CI II US AIV Non-QFPF K/S

Nørregade 21

1165 Copenhagen K

Central Business Registration No: 37 78 94 10

Founded: 13.06.2016

Registered in: Copenhagen

Financial year: 1 January 2017 - 31 December 2017

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure II GP ApS

Fund Manager

Copenhagen Infrastructure Partners II P/S

Approved Manager of Alternative Investment Funds (FSA number: 23014)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by General Partner on the annual report

The General Partner has today considered and approved the annual report of CI II US AIV Non-QFPP K/S for the financial year 1 January 2017 – 31 December 2017.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2017 and of the results of its operations and the cash flows for the financial year 1 January 2017 – 31 December 2017.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 15.05.2018

On behalf of Copenhagen Infrastructure II GP ApS

Mogens Thorninger

Torben Carlsen

Independent auditor's report

To the shareholders of CI II US AIV Non-QFPF K/S

Opinion

We have audited the financial statements of CI II US AIV Non-QFPF K/S for the financial year 01.01.2017 - 31.12.2017, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2017 and of the results of its operations for the financial year 01.01.2017 - 31.12.2017 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 15.05.2018

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56

Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131

Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

	<u>2017</u> <u>DKK'000</u>	<u>2016</u> <u>DKK'000</u>
Financial highlights		
Key figures		
Profit/loss from ordinary activities (EBIT)	69,319	(2,067)
Profit/loss for the year	62,643	(305)
Equity	408,522	49,327
Balance sheet total	428,255	74,160
Ratios		
Liquidity ratio (%)	379.77	114.94
Solvency ratio (%)	95.39	66.51
Return on equity (%)	27.36	(1.24)

Primary activity

CI II US AIV Non-QFPF K/S (CI II) was established in June 2016 and is managed by Copenhagen Infrastructure Partners II P/S (CIP). The General Partner of CI II US AIV Non-QFPF K/S is Copenhagen Infrastructure II GP ApS.

Investments

End of 2017, CI II has one investment, which has reached financial investment decision.

Bearkat

CI II has invested in the construction of a US onshore wind project, Bearkat I. Bearkat is now an operating 196.7 MW onshore wind farm located in Texas. Bearkat reached COD in December 2017.

Development in activities and finances

Income from investments in 2017 amounts to DKK 72.0m.

Net Income for 2017 amounts to a profit of DKK 62.6m, which is in accordance with the expectations. The result reflects income from investments, partly offset by management fee and transaction costs expensed, during the period.

Limited Partners' paid-in capital to the Fund at the end of 2017 amounted to DKK 346,2m, equalling 34.2% of the committed capital of DKK 1,011.6m.. Total Limited Partners' capital amounted to DKK 408.5m reflecting the Limited Partners' paid-in capital plus accumulated net profit since Fund initiation.

Management commentary (continued)

Uncertainty relating to recognition and measurement

Copenhagen Infrastructure II K/S develops and invests in infrastructure projects where transferability and cash flows are affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the Fund Manager and the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial year covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

No events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

The outlook for the Limited Partnership is expected to be positive.

The number of investments is expected to increase during 2018.

Statement of comprehensive income

	<u>Notes</u>	<u>2017 DKK'000</u>	<u>2016 DKK'000</u>
Net change in unrealised gains/(losses) from financial assets and liabilities at fair value		91,855	-
Net foreign currency losses		<u>(19,900)</u>	<u>-</u>
Operating income		<u>71,955</u>	<u>-</u>
Administrative expenses	3	<u>(2,635)</u>	<u>(2,067)</u>
Operating expenses		<u>(2,635)</u>	<u>(2,067)</u>
Operating profit/loss (EBIT)		<u>69,319</u>	<u>(2,067)</u>
Financial items		<u>(6,676)</u>	<u>1,762</u>
Profit/loss for the year		<u>62,643</u>	<u>(305)</u>
Other comprehensive income		<u>0</u>	<u>0</u>
Comprehensive income		<u><u>62,643</u></u>	<u><u>(305)</u></u>

Balance sheet at 31 December 2017

	<u>Notes</u>	<u>2017 DKK'000</u>	<u>2016 DKK'000</u>
Equity investments	4	<u>353,315</u>	<u>45,618</u>
Investments		<u>353,315</u>	<u>45,618</u>
 Fixed assets		 <u>353,315</u>	 <u>45,618</u>
Other short-term receivables		42,059	1,569
Prepayments		<u>-</u>	<u>53</u>
Receivables		<u>42,059</u>	<u>1,622</u>
 Cash		 <u>32,881</u>	 <u>26,921</u>
 Current assets		 <u>74,940</u>	 <u>28,542</u>
 Assets		 <u><u>428,255</u></u>	 <u><u>74,160</u></u>

Balance sheet at 31 December 2017

	Notes	2017 DKK'000	2016 DKK'000
Limited partnership capital	5	346,184	49,632
Retained earnings		62,338	(305)
Equity		408,522	49,327
Other payables	6	19,733	24,833
Current liabilities other than provisions		19,733	24,833
Liabilities other than provisions		19,733	24,833
Equity and liabilities		428,255	74,160

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity 1 January 2017	49,632	(305)	49,327
Contribution from limited partners	296,552	-	296,552
Distribution to limited partners	-	-	-
Profit for the year	-	62,643	62,643
Equity 31 December 2017	346,184	62,338	(408,522)

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from limited partners	49,632	-	49,632
Profit/loss for the year	-	(305)	(305)
Equity 31 December 2016	49,632	(305)	49,327

Cash flow statement for 2017

	<u>Notes</u>	<u>2017 DKK'000</u>	<u>2016 DKK'000</u>
Operating profit/(loss)		69,319	(2,067)
Income from investments		(71,955)	-
Working capital changes	7	<u>(45,537)</u>	<u>23,212</u>
Cash flows from ordinary activities		<u>(48,173)</u>	<u>21,145</u>
Financial items		<u>(6,676)</u>	<u>1,762</u>
Cash flows from operating activities		<u>(6,676)</u>	<u>1,762</u>
Acquisition of equity investments	4	<u>(235,742)</u>	<u>(45,618)</u>
Cash flows from investing activities		<u>(235,742)</u>	<u>(45,618)</u>
Contribution from Limited Partners		<u>296,552</u>	<u>49,632</u>
Cash flows from financing activities		<u>296,552</u>	<u>49,632</u>
Increase/decrease in cash		5,960	26,921
Cash beginning of year		<u>26,921</u>	<u>-</u>
Cash end of year		<u><u>32,881</u></u>	<u><u>26,921</u></u>

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises.

CI II US AIV Non-QFPF K/S is a Limited Partnership based in Denmark.

The accounting policies applied to these financial statements are consistent with those applied last year.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the equity investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The principal accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI II US AIV Non-QFPP K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

”An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both”.

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 13 to the financial statements.
- 3) The Fund’s investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2017 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations, including IFRS 9 in particular, have not yet entered into force. The General Partner believes that they will not impact significantly on the financial statements for the coming financial years.

Other amended Standards and Interpretations includes IFRS 15 regarding recognition of revenue with effect for financial years beginning 1 January 2018 as well as IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that they will not have significant impact on the financial statements as well as they haven’t been implemented before time.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund’s assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the “functional currency”). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund’s functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the one in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Income from investments

Income from investments consists of unrealised fair value adjustments.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments.

Financial items

Financial items comprise interest income and various expenses, and net capital gain/loss on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partner's taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments

Financial assets and liabilities are recognised at fair value through profit and loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, equity investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments in infrastructure companies (projects) and are measured, on initial recognition, at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, Invest Europe valuation guidelines and accepted valuation techniques, including benchmarking, DCF or other relevant method, which is considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 10.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Prepayments

Prepayments comprise incurred cost relating to subsequent financial years. Prepayments are measured at cost.

Cash

Cash comprise cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Notes

1. Accounting policies (continued)

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and related costs as well as the raising of loans, instalments on interest-bearing debt, and payment of dividend.

Cash comprise cash and short-term securities with an insignificant price risk less short-term bank debt.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios 2015" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The enterprise's financial strength
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The enterprise's financial strength
Return on equity (%)	=	$\frac{\text{Profit for the year} \times 100}{\text{Average equity}}$	The enterprise's profitability

Notes

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments), the market price of which depends both on entity-specific affairs and market conditions, including to a certain extent power prices, commodity prices, exchange rates and construction risk within the different investments. The valuation and hence fair value of equity investments may also be affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments and the fair value of investments are subject to estimation and uncertainty.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments are described in note 10 to the financial statements.

3. Administrative expenses

The Fund has no employees.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

Notes

3. Administrative expenses (continued)

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager serves as fund manager for Copenhagen Infrastructure II K/S, CI II US AIV Non-QFPF K/S and CI II US AIV QFPF K/S.

No carried interest is paid out by the AIF during the financial period.

	Capitalized development projects before FID* DKK'000	Equity investments DKK'000
4. Investments		
Fair value 31.12.2016	26,337	19,281
Acquisition and development costs (net)	37,767	197,974
Value adjustment	(2,371)	74,326
Fair value 31.12.2017	61,733	291,582

	Capitalized development projects before FID* DKK'000	Equity investments DKK'000
Investments		
Fair value 13.06.2016	-	-
Acquisition and development costs (net)	26,337	19,281
Fair value 31.12.2016	26,337	19,281

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Notes

4. Investments (continued)

<u>Investment</u>	<u>Corporate form</u>	<u>Registered in</u>	<u>Equity interest %</u>
CI-II Bearkat Non-QFPF	Inc.	United States	100
CI-II Bearkat II Non-QFPF	Inc.	United States	100
CI Alice II	Inc.	United States	100
CI-II Blue Cloud Non-QFPF	Inc.	United States	100
CI II Mitchell Non-QFPF	Inc.	United States	100
CI II Fluvanna Non-QFPF	Inc.	United States	100
CI-II Bearkat III Non-QFPF	Inc.	United States	100

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of Fund.

The methods applied by the Fund to measure investments are evident from note 10 to the financial statements

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

5. Limited partnership capital

The limited partnership capital has not been divided into classes.

Notes

	2017 DKK'000	2016 DKK'000
6. Other payables		
Other payables	19,733	24,833

The carrying amount of payables relates to Investments, legal fees, auditor's fees, travel costs etc. The amount recognised is equal to the fair value of the liabilities.

7. Working capital changes

Change in receivables	(40,437)	(1,622)
Change in payables	(5,100)	24,833
	(45,537)	23,211

8. Financial instruments

Categories of financial instruments:

Equity investments	353,315	45,618
Financial assets measured at fair value through profit or loss	353,315	45,618
Other short-term receivables	42,059	1,569
Prepayments	-	53
Receivables at amortised cost	42,059	1,622
Other payables	19,733	24,833
Financial liabilities measured at amortised cost	19,733	24,833

All financial liabilities are due for payment within 12 months.

Notes

9. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited partners and invests in infrastructure projects.

The Fund's risk management processes includes identification, measurement, monitoring, reporting and mitigation of the identified risks to minimize the potential negative effects at fund level.

Key financial risk factors and exposure in regards to the financial statements as of 2017 can be categorised as follows:

Financial Risk Factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	19,733	0	0	19,733
31.12.2017	19,733	0	0	19,733

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	24,833	0	0	24,833
31.12.2016	24,833	0	0	24,833

The current assets of the Fund are bigger than the payables.

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 24m.

This liquidity risk is currently related to the limited partners ability to contribute the remaining fund commitment. The liquidity risk is considered highly unlikely to materialise.

Credit risks

The Fund is not exposed to significant credit risk as of 31 December 2017.

Notes

9. Financial risk management (continued)

Interest rate risk

The Fund has no external debt as of the balance sheet date, and therefore no interest rate risk connected to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all investments, including draw downs and distributions, are made in investment specific currencies. No hedging is made at fund level.

Commodity and power prices

The Fund's market price exposure is limited as it is significant mitigated through fixed price agreements, hedges and capital structure protection. However, major changes in certain market prices may to some extent impact certain investments. Though, the overall market price exposure are considered as low.

When the Fund has an market price and/or commodity price exposure changes in such risk factors impact the fair value of the individual investment.

10. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequent if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistent over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each equity investment has been estimated by applying methods that best reflect the risks, and the stage of each investment.

In general, the fair value is determined in accordance with Invest Europe valuation guidelines and accepted valuation techniques, including DCF models, benchmarking or other relevant method.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material input are not based on observable market data (Level 3)

Notes

10. Financial instruments measured at fair value (continued)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prizes.

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2017				
Unlisted shares, investments			353,315	353,315
Financial assets measured at fair value through profit or loss			353,315	353,315
2016				
Unlisted shares, investments	0	0	45,618	45,618
Financial assets measured at fair value through profit or loss	0	0	45,618	45,618

The discount rate used for valuation of investments after COD is considered the most material unobservable input, and the applied interval for discount rate is between 7-10 % (2016: None since no project were after COD)

Sensitivity analysis

The fair value of the Fund's investments is affected by development in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for Investment in Bearkat is increased by 1 percentage point, the fair value of the investment will be reduced by 20 mio. DKK, which will reduce the NAV of the fond with the same amount. A reduction with 1 percentage point will increase the fair value of the investment with 24 mio. DKK, and also have the same effect on the NAV of the fond. Due to the nature of the investment the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analysis has been made for investments under construction.

Notes

10. Financial instruments measured at fair value (continued)

The applied discount rate is considered the most material unobservable input due to the nature of the investments.

Please refer to note 4 for a specification of fair value investments.

11. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

	2017 DKK'000	2016 DKK'000
Related party transactions		
The General Partner is receiving a fee for its liability towards CI II as per the article of association		
Payment to the General Partner	0	0
Copenhagen Infrastructure Partners II P/S (the Fund Manager) is considered related parties of the Fund due to direct or indirect control and transactions		
Management fee (6 months period for 2016)	3,807	569

There are no other key relationships, which are considered material for the financial statements.

12. Contingent liabilities

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 24m.

13. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, Dronning Eufemias Gate 10, 0191 Oslo
 European Investment Bank, Boulevard Konrad Adenauer 98-100, L-2950 Luxembourg
 PFA Pension, Forsikringsaktieselskab, Sundkrogsgade 4, 2100 Copenhagen
 Kapitalforeningen Nykredit Alpha afdeling Alternativer, Kalvebod Brygge 1, 1560 Copenhagen
 Nordea Liv & Pension, Livsforsikringsselskab A/S, Klausdalsbrovej 615, 2750 Ballerup
 SEB Pensionsforsikring A/S, Bernstorffsgade 50, 1577 Copenhagen

Notes

14. Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

15. Authorisation of the annual report for issue

At the meeting held on 15.05.2018 the General Partner authorised this annual report for issue on 29.05.2018.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 29.05.2018.



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.6-3 CI-II US AIV QFPF Annual Report 2017

CI II US AIV QFPF K/S
Nørregade 21
1165 Copenhagen K
Central Business Registration No
37 78 93 72

Annual report 2017

The Annual General Meeting adopted the annual report on 29.05.2018

Chairman of the General Meeting

Name: Mogens Thorninger

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Fund details

Fund

CI II US AIV QFPE K/S

Nørregade 21

1165 Copenhagen K

Central Business Registration No: 37 78 93 72

Founded: 13.06.2016

Registered in: Copenhagen

Financial year: 1 January 2017 - 31 December 2017

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure II GP ApS

Fund Manager

Copenhagen Infrastructure Partners II P/S

Approved Manager of Alternative Investment Funds (FSA number: 23014)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by General Partner on the annual report

The General Partner has today considered and approved the annual report of CI II US AIV QFPF K/S for the financial year 01 January 2017 – 31 December 2017.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2017 and of the results of its operations and the cash flows for the financial year 01 January 2017 – 31 December 2017.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 15.05.2018

On behalf of Copenhagen Infrastructure II GP ApS

Mogens Thorninger

Torben Carlsen

Independent auditor's report

To the shareholders of CI II US AIV QFPF K/S

Opinion

We have audited the financial statements of CI II US AIV QFPF K/S for the financial year 01.01.2017 - 31.12.2017, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2017 and of the results of its operations for the financial year 01.01.2017 - 31.12.2017 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 15.05.2018

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56

Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) 30131

Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) 35823

Management commentary

	2017 DKK'000	2016 DKK'000
Financial highlights		
Key figures		
Profit/loss from ordinary activities (EBIT)	150,174	(1,898)
Profit/loss for the year	137,009	(587)
Equity	884,210	106,521
Balance sheet total	926,404	122,730
Ratios		
Liquidity ratio (%)	385.80	146.22
Solvency ratio (%)	95.45	86.79
Return on equity (%)	27.66	(1.10)

Primary activity

CI II US AIV QFPF K/S (CI II) was established in June 2016 and is managed by Copenhagen Infrastructure Partners II P/S (CIP). The General Partner of CI II is Copenhagen Infrastructure II GP ApS.

Investments

End of 2017, CI II has one investment, which has reached financial investment decision.

Bearkat

CI II has invested in the construction of a US onshore wind project, Bearkat I. Bearkat is now an operating 196.7 MW onshore wind farm located in Texas. Bearkat reached COD in December 2017.

Development in activities and finances

Income from investments in 2017 amounts to DKK 154.7 m.

Net Income for 2017 amounts to a profit of DKK 137m, which is in accordance with the expectations. The result reflects income from investments, partly offset by management fee and transaction costs expensed, during the period.

Limited Partners' paid-in capital to the Fund at the end of 2017 amounted to DKK 747.8m, equalling 34.7% of the committed capital of DKK 2,118.4m. Total Limited Partners' capital amounted to DKK 884.2m reflecting the Limited Partners' paid-in capital plus accumulated net loss since Fund initiation.

Management commentary (continued)

Uncertainty relating to recognition and measurement

Copenhagen Infrastructure II K/S develops and invests in infrastructure projects where transferability and cash flows are affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the Fund Manager and the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial year covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

No events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

The outlook for the Limited Partnership is expected to be positive.

The number of investments is expected to increase during 2018.

Statement of comprehensive income

	<u>Notes</u>	<u>2017 DKK'000</u>	<u>2016 DKK'000</u>
Net change in unrealised gains/(losses) from financial assets and liabilities at fair value		197,704	-
Net foreign currency gains/(losses)		<u>(43,050)</u>	<u>2,546</u>
Operating income		<u>154,654</u>	<u>2,546</u>
Administrative expenses	3	<u>(4,480)</u>	<u>(4,444)</u>
Operating expenses		<u>(4,480)</u>	<u>(4,444)</u>
Operating profit/(loss) (EBIT)		<u>150,174</u>	<u>(1,898)</u>
Financial items		<u>(13,165)</u>	<u>1,312</u>
Profit/(loss) for the year		<u>137,009</u>	<u>(587)</u>
Other comprehensive income		<u>0</u>	<u>0</u>
Comprehensive income		<u><u>137,009</u></u>	<u><u>(587)</u></u>

Balance sheet at 31 December 2017

	Notes	2017 DKK'000	2016 DKK'000
Equity investments	4	763,618	99,030
Investments		763,618	99,030
Fixed assets		763,618	99,030
Other short-term receivables		136,836	33
Prepayments		-	115
Receivables		136,836	148
Cash		25,950	23,552
Current assets		162,786	23,700
Assets		926,404	122,730

Balance sheet at 31 December 2017

	Notes	2017 DKK'000	2016 DKK'000
Limited partnership capital	5	747,788	107,108
Retained earnings		136,422	(587)
Equity		884,210	106,521
Other payables	6	42,194	16,209
Current liabilities other than provisions		42,194	16,209
Liabilities other than provisions		42,194	16,209
Equity and liabilities		926,404	122,730

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity 1 January 2017	107,108	(587)	106,521
Contribution from limited partners	640,680	-	640,680
Distribution to limited partners	-	-	-
Profit/(loss) for the year		137,009	137,009
Equity 31 December 2017	747,788	136,422	884,210

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from limited partners	107,108		107,108
Profit/(loss) for the year		(587)	(587)
Equity 31 December 2016	107,108	(587)	106,521

Cash flow statement for 2017

	Notes	2017 DKK'000	2016 DKK'000
Operating profit/(loss)		150,174	(4,444)
Income from investments		(154,654)	(2,546)
Working capital changes	7	(110,702)	16,061
Cash flows from ordinary activities		(115,182)	11,617
Financial items		(13,165)	1,312
Cash flows from operating activities		(13,165)	1,312
Acquisition of equity investments	4	(509,934)	(96,484)
Cash flows from investing activities		(509,934)	(96,484)
Contribution from Limited Partners		640,680	107,108
Cash flows from financing activities		640,680	107,108
Increase/decrease in cash		2,398	23,552
Cash beginning of year		23,552	-
Cash end of year		25,950	23,552

Note overview

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises.

CI II US AIV QFPF K/S is a Limited Partnership based in Denmark.

The accounting policies applied to these financial statements are consistent with those applied last year.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the equity investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The principal accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI II US AIV QFPF K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

”An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both”.

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 13 to the financial statements.
- 3) The Fund’s investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2017 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations, including IFRS 9 in particular, have not yet entered into force. The General Partner believes that they will not impact significantly on the financial statements for the coming financial years.

Other amended Standards and Interpretations includes IFRS 15 regarding recognition of revenue with effect for financial years beginning 1 January 2018 as well as IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that they will not have significant impact on the financial statements as well as they haven’t been implemented before time.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund’s assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the “functional currency”). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund’s functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the one in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Income from investments

Income from investments consists of unrealised fair value adjustments.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments.

Financial items

Financial items comprise interest income and various expenses, and net capital gain/loss on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partner's taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments

Financial assets and liabilities are recognised at fair value through profit and loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, equity investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments in infrastructure companies (projects) and are measured, on initial recognition, at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, Invest Europe valuation guidelines and accepted valuation techniques, including benchmarking, DCF or other relevant method, which is considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 10.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Cash

Cash comprise cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Notes

1. Accounting policies (continued)

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and related costs as well as the raising of loans, instalments on interest-bearing debt, and payment of dividend.

Cash comprise cash and short-term securities with an insignificant price risk less short-term bank debt.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios 2015" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The enterprise's financial strength
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The enterprise's financial strength
Return on equity (%)	=	$\frac{\text{Profit for the year} \times 100}{\text{Average equity}}$	The enterprise's profitability

Notes

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments), the market price of which depends both on entity-specific affairs and market conditions, including to a certain extent power prices, commodity prices, exchange rates and construction risk within the different investments. The valuation and hence fair value of equity investments may also be affected by changes in the risk-free interest rate other than the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments and the fair value of investments are subject to estimation and uncertainty.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments are described in note 10 to the financial statements.

3. Administrative expenses

The Fund has no employees.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

Notes

3. Administrative expenses (continued)

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager serves as fund manager for Copenhagen Infrastructure II K/S, CI II US AIV Non-QFPF K/S and CI II US AIV QFPF K/S.

No carried interest is paid out by the AIF during the financial period.

	Capitalized development projects before FID* DKK'000	Equity investments DKK'000
Fair value 31.12.2016	57,319	41,711
Acquisition and development costs	80,645	429,289
Value adjustment	(5,130)	159,784
Fair value 31.12.2017	132,834	630,784

	Capitalized development projects before FID* DKK'000	Equity investments DKK'000
Fair value 13.06.2016	-	-
Acquisition and development costs	57,319	39,165
Value adjustment	-	2,546
Fair value 31.12.2016	57,319	41,711

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Notes

4. Investments (continued)

<u>Investment</u>	<u>Corporate form</u>	<u>Registered in</u>	<u>Equity interest %</u>
Offshore Wind	LLC	United States	100
CI-II Bearkat QFPF	LLC	United States	100
CI-II Bearkat II QFPF	LLC	United States	100
CI-II Blue Cloud QFPF	LLC	United States	100
CI-II Mitchell QFPF	LLC	United States	100
CI II Fluvanna QFPF	LLC	United States	100
CI-II Bearkat III QFPF	LLC	United States	100

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of Fund.

The methods applied by the Fund to measure investments are evident from note 10 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

5. Limited partnership capital

The limited partnership capital has not been divided into classes.

Notes

	2017 DKK'000	2016 DKK'000
6. Other payables		
Other payables	42,194	16,209

The carrying amount of payables relates to Investments, legal fees, auditor's fees, travel costs etc. The amount recognised is equal to the fair value of the liabilities.

7. Working capital changes

Change in receivables	(136,688)	148
Change in payables	25,986	(16,209)
	(110,702)	(16,061)

8. Financial instruments

Categories of financial instruments:

Equity investments	763,618	99,030
Financial assets measured at fair value through profit or loss	763,618	99,030
Other short-term receivables	136,836	33
Prepayments	-	115
Receivables at amortised cost	136,836	148
Other payables	42,194	16,209
Financial liabilities measured at amortised cost	42,194	16,209

All financial liabilities are due for payment within 12 months.

Notes

9. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited partners and invests in infrastructure projects.

The Fund's risk management processes includes identification, measurement, monitoring, reporting and mitigation of the identified risks to minimize the potential negative effects at fund level.

Key financial risk factors and exposure in regards to the financial statements as of 2017 can be categorised as follows:

Financial Risk Factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	42,194	0	0	42,194
31.12.2017	42,194	0	0	42,194

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	16,209	0	0	16,209
31.12.2016	16,209	0	0	16,209

The current assets of the Fund are bigger than the payables.

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 52m.

This liquidity risk is currently related to the limited partners ability to contribute the remaining fund commitment. The liquidity risk is considered highly unlikely to materialise.

Credit risks

The Fund is not exposed to any significant credit risk as of 31 December 2017.

Interest rate risk

The Fund has no external debt as of the balance sheet date, and therefore no interest rate risk connected to the liabilities.

Notes

9. Financial risk management (continued)

Currency risk

The Fund is denominated in DKK. However, all investments, including draw downs and distributions, are made in investment specific currencies. No hedging is made at fund level.

Commodity and power prices

The Fund's market price exposure is limited as it is significant mitigated through fixed price agreements, hedges and capital structure protection. However, major changes in certain market prices may to some extent impact certain investments. Though, the overall market price exposure are considered as low.

When the Fund has an market price and/or commodity price exposure changes in such risk factors impact the fair value of the individual investment.

10. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequent if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistent over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each equity investment has been estimated by applying methods that best reflect the risks, and the stage of each investment.

In general, the fair value is determined in accordance with Invest Europe valuation guidelines and accepted valuation techniques, including DCF models, benchmarking or other relevant method.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material input are not based on observable market data (Level 3)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Notes

10. Financial instruments measured at fair value (continued)

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prizes.

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2017				
Equity investments			763,618	763,618
Financial assets measured at fair value through profit or loss			763,618	763,618
2016				
Equity investments	0	0	99,030	99,030
Financial assets measured at fair value through profit or loss	0	0	99,030	99,030

The discount rate used for valuation of investments after COD is considered the most material unobservable input, and the applied interval for discount rate is between 7-10 % (2016: Non since no project were after COD)

Sensitivity analysis

The fair value of the Fund's investments is affected by development in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for Investment in Bearkat is increased by 1 percentage point, the fair value of the investment will be reduced by 44 mio. DKK, which will reduce the NAV of the fond with the same amount. A reduction with 1 percentage point will increase the fair value of the investment with 51 mio. DKK, and also have the same effect on the NAV of the fond. Due to the nature of the investment the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analysis has been made for investments under construction.

The applied discount rate is considered the most material unobservable input due to the nature of the investments.

Please refer to note 4 for a specification of fair value investments.

Notes

11. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

	<u>2017</u> <u>DKK'000</u>	<u>2016</u> <u>DKK'000</u>
Related party transactions		
The General Partner is receiving a fee for its liability towards CI II as per the article of association		
Payment to the General Partner	<u>0</u>	<u>0</u>
Copenhagen Infrastructure Partners II P/S (the Fund Manager) is considered related parties of the Fund due to direct or indirect control and transactions		
Management fee (6 months period for 2016)	<u>6,843</u>	<u>4,123</u>

There are no other key relationships, which are considered material for the financial statements.

12. Contingent liabilities

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 52m.

13. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

PensionDanmark Pensionsforsikringsaktieselskab, Langelinie Allé 43, 2100 Copenhagen
 Lægernes Pensionskasse, Dirch Passers Allé 76, 2000 Frederiksberg
 Pensionskassen for Børne- og Ungdomspædagoger, Østerfælled Torv 3, 2100 Copenhagen
 Juristernes og Økonomernes Pensionskasse, Dirch Passers Allé 76, 2000 Frederiksberg
 Lærernes Pension, Forsikringsaktieselskab, Tuborg Boulevard 3, 2900 Hellerup
 Danske Civil- og Akademiingeniørers Pensions-kasse, Dirch Passers Allé 76, 2000 Frederiksberg

Notes

14. Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

15. Authorisation of the annual report for issue

At the meeting held on 15.05.2018 the General Partner authorised this annual report for issue on 29.05.2018.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 29.05.2018.



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

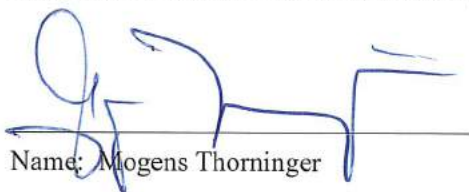
ATTACHMENT 5.6-4 CI-II US AIV Non-QFPF Annual Report 2018

CI II US AIV Non-QFPF K/S
Nørregade 21
1165 Copenhagen K
Central Business Registration No
37 78 94 10

Annual report 2018

The Annual General Meeting adopted the annual report on 27.05.2019

Chairman of the General Meeting



Name: Mogens Thorninger

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Fund details

Fund

CI II US AIV Non-QFPF K/S

Nørregade 21

1165 Copenhagen K

Business Registration No: 37 78 94 10

Founded: 13.06.2016

Registered in: Copenhagen

Financial year: 1 January 2018 - 31 December 2018

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure II GP ApS

Fund Manager

Copenhagen Infrastructure Partners II P/S

Approved Manager of Alternative Investment Funds (FSA number: 23014)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by the General Partner on the annual report

The General Partner has today considered and approved the annual report of CI II US AIV Non-QFPF K/S for the financial year 1 January 2018 – 31 December 2018.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

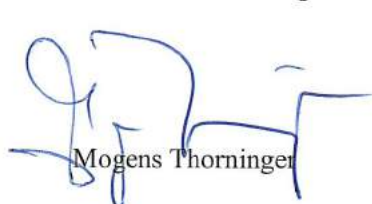
In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2018 and of the results of its operations and the cash flows for the financial year 1 January 2018 – 31 December 2018.

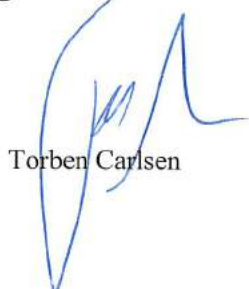
We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 13.05.2019

On behalf of Copenhagen Infrastructure II GP ApS


Mogens Thorning


Torben Carlsen

Independent auditor's report

To the shareholders of CI II US AIV Non-QFPF K/S

Opinion

We have audited the financial statements of CI II US AIV Non-QFPF K/S for the financial year 01.01.2018 - 31.12.2018, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2018 and of the results of its operations for the financial year 01.01.2018 - 31.12.2018 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of the General Partner's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

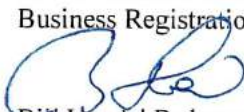
Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 13.05.2019

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56



Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131



Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

	2018 DKK'000	2017 DKK'000	2016 DKK'000
Financial highlights			
Key figures			
Operating profit/(loss) (EBIT)	45,499	69,319	(2,067)
Profit/(loss) for the year	46,287	62,643	(305)
Equity	584,067	408,522	49,327
Assets total	605,823	428,255	74,160
Ratios			
Liquidity ratio (%)	588.93	379.77	114.94
Solvency ratio (%)	96.41	95.39	66.51
Return on equity (%)	9.33	27.36	(1.24)

Primary activity

CI II US AIV Non-QFPF K/S (CI II) was established in June 2016 and is managed by Copenhagen Infrastructure Partners II P/S (CIP II P/S). The General Partner of CI II is Copenhagen Infrastructure II GP ApS. End of 2018, the Limited Partners had committed DKK 1,012m to CI II for infrastructure investments in North America.

Investments

End of 2018, CI II has two investments, which have reached financial investment decision.

Bearkat

CI II has invested in the construction of a US onshore wind project, Bearkat I. Bearkat is now an operating 196.7 MW onshore wind farm located in Texas. Bearkat reached COD in December 2017.

Blue Cloud

CI II has invested in the construction of a US onshore wind project, Blue Cloud. Blue Cloud reached COD in December 2018.

Development in activities and finances

Income from investments in 2018 amounts to DKK 48.5m.

Net Income for 2018 amounts to a profit of DKK 46.3m, which is in accordance with the expectations. The result reflects income from investments, partly offset by management fee and transaction costs expensed, during the period.

Limited Partners' paid-in capital to the Fund at the end of 2018 amounted to DKK 527m, equalling 52.2% of the committed capital of DKK 1,012m. Accumulated distributions to Limited Partner amounted to DKK 52m and accumulated net income amounted to DKK 109m since fund initiation. Hereafter total Limited Partners' capital end of 2018 amounted to DKK 584m.

Management commentary (continued)

Uncertainty relating to recognition and measurement

CI II develops and invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows may to a certain extent still be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial year covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

Bearkat II

CI II has in February 2019 invested in the construction of a US onshore wind project, Bearkat II. Bearkat II is currently under construction.

Mitchell

CI II has in March 2019 invested in the construction of a US Solar portfolio project. Mitchell is currently under construction.

No events besides from above have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

Outlook

Expectations for the Limited Partnership are positive.

The number of investments is expected to increase during 2019.

Statement of comprehensive income

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2017 DKK'000</u>
Interest income		288	0
Net increase/(decrease) in unrealised gains/(losses) from financial assets and liabilities at fair value		32,885	91,855
Net foreign exchange gains/(losses)		<u>15,358</u>	<u>(19,900)</u>
Operating income		<u>48,531</u>	<u>71,955</u>
Administrative expenses	3	<u>(3,032)</u>	<u>(2,636)</u>
Operating expenses		<u>(3,032)</u>	<u>(2,636)</u>
Operating profit/(loss) (EBIT)		<u>45,499</u>	<u>69,319</u>
Financial income	4	3,200	5,704
Financial expenses	5	<u>(2,412)</u>	<u>(12,380)</u>
Profit/(loss) for the year		<u>46,287</u>	<u>62,643</u>
Other comprehensive income		<u>0</u>	<u>0</u>
Comprehensive income		<u><u>46,287</u></u>	<u><u>62,643</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2017 DKK'000</u>
Equity investments	6	342,689	353,315
Receivables from investments	6	135,005	0
Investments		<u>477,694</u>	<u>353,315</u>
 Fixed assets		 <u>477,694</u>	 <u>353,315</u>
 Other short-term receivables		 38,882	 42,059
Receivables		<u>38,882</u>	<u>42,059</u>
 Cash		 <u>89,247</u>	 <u>32,881</u>
 Current assets		 <u>128,129</u>	 <u>74,940</u>
 Assets		 <u><u>605,823</u></u>	 <u><u>428,255</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2017 DKK'000</u>
Limited partnership capital	7	527,566	346,184
Retained earnings		56,501	62,338
Equity		<u>584,067</u>	<u>408,522</u>
Other payables	8	21,756	19,733
Current liabilities other than provisions		<u>21,756</u>	<u>19,733</u>
Liabilities other than provisions		<u>21,756</u>	<u>19,733</u>
Equity and liabilities		<u><u>605,823</u></u>	<u><u>428,255</u></u>

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity at 1 January 2018	346,184	62,338	408,522
Contribution from Limited Partners	181,382	-	181,382
Distribution to Limited Partners	-	(52,224)	(52,224)
Profit/(loss) for the year	-	46,387	46,387
Equity at 31 December 2018	527,566	56,501	584,067

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity at 1 January 2017	49,632	(305)	49,327
Contribution from Limited Partners	296,552	-	296,522
Profit/(loss) for the year	-	62,643	62,643
Equity at 31 December 2017	346,184	62,338	408,522

Cash flow statement for 2018

	Notes	2018 DKK'000	2017 DKK'000
Operating profit/(loss)		45,499	69,319
Income from investments		(48,531)	(71,955)
Working capital changes	9	5,300	(45,537)
Cash flows from ordinary activities		2,268	(48,173)
Financial income	4	3,200	5,704
Financial expenses	5	(2,412)	(12,380)
Cash flows from operating activities		788	(6,676)
Acquisition of equity investments	6	(135,372)	(235,743)
Receivables from investments	6	(135,109)	0
Distributions from investments	6	194,633	0
Cash flows from investing activities		(75,848)	(235,743)
Contribution from Limited Partners		181,382	296,552
Distributions to Limited Partners		(52,224)	0
Cash flows from financing activities		129,158	296,552
Increase/decrease in cash		56,366	5,960
Cash beginning of year		32,881	26,921
Cash end of year		89,247	32,881

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises with certain provisions from class C.

CI II US AIV Non-QFPF K/S is a Limited Partnership based in Denmark.

The accounting policies applied to these financial statements are consistent with those applied last year.

There have been lesser reclassifications of the comparative figures in the fiscal year without significantly affecting the equity or profit for the year.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General Partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The most significant accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI II US AIV Non-QFPF K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

"An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both".

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 13 to the financial statements.
- 3) The Fund's investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All of the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2018 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations have not entered into force. This includes in particular IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that IFRS 16 will not impact significantly on the financial statements for the coming financial years as the Fund has not entered into significant leases.

The General Partner further believes that other amended Standards and Interpretations, which have not entered into force, will not have any significant impact on the financial statements, and they will not be adopted early.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the "functional currency"). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund's functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the rate in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of portfolio investments or receivables.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year were recycled to the effect that, in net terms, profit for the year was affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial income and expenses

Financial income and expenses comprise interest income and various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partner's taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit and loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Furthermore, investments consist of capitalised development costs, which increase the fair value of the investments. On initial recognition, both types of investment are measured at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Valuation Guidelines and generally accepted valuation techniques, including benchmarking, DCF or other relevant methods, which are considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 12.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Cash

Cash comprise cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Notes

1. Accounting policies (continued)

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to the Limited Partners.

Cash comprises cash and short-term securities with an insignificant price risk less short-term bank loans.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The entity's financial strength.
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The entity's financial strength.
Return on equity (%)	=	$\frac{\text{Profit for the year} \times 100}{\text{Average equity}}$	The entity's profitability.

Notes

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. Furthermore, the valuation and hence fair value of the long-term receivables are affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty. For further information about the financial risks related to the investments, please refer to note 11.

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. Furthermore, the uncertainty is affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments and receivables are described in note 12 to the financial statements.

3. Administrative expenses

The Fund has no employees.

Administrative expenses include management fee and investment advisory fee for the period to Copenhagen Infrastructure Partners II P/S, in accordance with the LPA and management agreement. For further information about management fee and investment advisory fee, please refer to note 13.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

Notes

3. Administrative expenses (continued)

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager serves as fund manager for Copenhagen Infrastructure II K/S, CI II US AIV Non-QFPF K/S and CI II US AIV QFPF K/S.

In accordance with section 61 (5 and 6) of the Alternative Investment Fund Managers etc. Act, information regarding salaries paid to employees of the investment manager is disclosed in the Annual Report for 2018 for Copenhagen Infrastructure Partners II P/S, Business Reg. No. 35 68 27 75.

No carried interest is paid out by the AIF during the financial period.

	2018 DKK'000	2017 DKK'000
4. Financial income		
Foreign exchange gains	2,780	5,486
Interest income from assets not measured at fair value through profit or loss	420	218
Financial income	3,200	5,704
5. Financial expenses		
Other interest, foreign exchange loss etc	(2,405)	(12,380)
General Partner Fee	(7)	0
Financial expense for financial liabilities	(2,412)	(12,380)

	Capitalised development projects before FID* DKK'000	Investments DKK'000	Receivables from investments DKK'000
6. Investments			
Fair value at 31 December 2017	61,733	291,581	-
Acquisitions and development costs (net)	(51,931)	187,303	135,109
Distributions	-	(194,633)	-
Value adjustment	178	48,458	(104)
Fair value at 31 December 2018	9,980	332,709	135,005

Notes

6. Investments (continued)

	Capitalised development projects before FID*	Investments
	DKK'000	DKK'000
Investments		
Fair value at 31 December 2016	26,337	19,281
Acquisitions and development costs (net)	37,767	197,974
Value adjustment	(2,371)	74,327
Fair value at 31 December 2017	61,733	291,582

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Investment	Corporate form	Registered in	Equity interest %
CI-II Bearkat Non-QFPF	Inc.	United States	100
CI-II Bearkat II Non-QFPF	Inc.	United States	100
CI Alice II	Inc.	United States	100
CI-II Blue Cloud Non-QFPF	Inc.	United States	100
CI II Mitchell Non-QFPF	Inc.	United States	100
CI II Fluvanna Non-QFPF	Inc.	United States	100
CI-II Bearkat III Non-QFPF	Inc.	United States	100

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of Fund.

The methods applied by the Fund to measure investments are evident from note 10 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

Notes

7. Limited partnership capital

The limited partnership capital has not been divided into classes.

	2018 DKK'000	2017 DKK'000
8. Other payables		
Other payables	21,756	19,733

The carrying amount of payables relates to investments, legal fees, auditor's fees, travel costs etc.

The amount recognised is equal to the fair value of the liabilities.

	2018 DKK'000	2017 DKK'000
9. Working capital changes		
Change in receivables	3,177	(40,437)
Change in payables	2,123	(5,100)
	5,300	(45,537)

10. Financial instruments

Categories of financial instruments:

Investments	342,689	353,315
Receivables from investments	135,005	0
Financial assets measured at fair value through profit or loss	447,694	353,315
Other short-term receivables	38,882	42,059
Receivables at amortised cost	38,882	42,059
Other payables	21,756	19,733
Financial liabilities measured at amortised cost	21,756	19,733

All financial liabilities are due for payment within 12 months.

Notes

11. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited partners and invests in infrastructure projects.

The Fund's risk management processes includes identification, measurement, monitoring, reporting and mitigation of the identified risks to minimise the potential negative effects at fund level.

Key financial risk factors and exposure regarding the financial statements for 2018 can be categorised as follows:

Financial risk factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	21,756	0	0	21,756
31 December 2018	21,756	0	0	21,756

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	19,733	0	0	19,733
31 December 2017	19,733	0	0	19,733

The current assets of the Fund exceed payables.

The Fund has no contingent liabilities, but has an outstanding investment commitment of USD 2.8m. Furthermore, the Fund has outstanding guarantees for the investments of USD 11m.

The liquidity risk is considered insignificant. No indication of the Limited Partners' inability to contribute the remaining fund commitment exists.

Notes

11. Financial risk management (continued)

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loans provided to the infrastructure projects.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables at the balance sheet date.

Likewise, there is no impairment of receivables e.g. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects to which the Fund has provided loans are currently under construction. The construction phases progress as planned and no significant delays in completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty at 31 December 2018.

Interest rate risk

The Fund has no external debt as of the balance sheet date, and therefore no interest rate risk connected to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including draw downs and distributions, take place in investment-specific currencies. Consequently, the Limited Partners are not exposed to currency risk through the Fund. No hedging is made at fund level.

Commodity and power prices

The Fund's indirect power price exposure is mitigated via power price agreements and/or instruments in the project's capital structure. The Fund's indirect outright power price exposure are considered as low.

When the Fund has an indirect outright power price and commodity price exposure changes in such risk factors impact the fair value of the individual investment.

Notes

12. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequent if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistent over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investment has been estimated by applying methods that best reflect the risks, and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

In general, the fair value is determined in accordance with IPEV Valuation Guidelines and generally accepted valuation techniques, including DCF models, benchmarking or other relevant methods. However, for projects which are before financial close, cost, including capitalised development costs, is considered the best estimate for fair value. The valuation approach incorporates all of the factors that market participants would take into account in pricing a transaction, such as cash flows, discount rates and yield curves assumptions.

The valuation of investments and receivables from investments are based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material input are not based on observable market data (Level 3)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable inputs. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prices.

Notes

12. Financial instruments measured at fair value (continued)

	Level 1	Level 2	Level 3	Total
	<u>DKK'000</u>	<u>DKK'000</u>	<u>DKK'000</u>	<u>DKK'000</u>
2018				
Unlisted shares, investments			342,689	342,689
Receivables from investments	<u>0</u>	<u>0</u>	<u>135,005</u>	<u>135,005</u>
Financial assets measured at fair value through profit or loss	<u>0</u>	<u>0</u>	<u>477,694</u>	<u>477,694</u>
	Level 1	Level 2	Level 3	Total
	<u>DKK'000</u>	<u>DKK'000</u>	<u>DKK'000</u>	<u>DKK'000</u>
2017				
Unlisted shares, investments	<u>0</u>	<u>0</u>	<u>353,315</u>	<u>353,315</u>
Financial assets measured at fair value through profit or loss	<u>0</u>	<u>0</u>	<u>353,315</u>	<u>353,315</u>

The discount rate used to value investments and receivables from investments after COD is considered the most material unobservable input, and the applied range for the discount rate is between 7-11% (2017: 7-10%).

Sensitivity analysis

The fair value of the Fund's investments is affected by development in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for investments are increased by 1 percentage point, the fair value of the investments will be reduced by approximately DKK 28-38m, which will reduce the NAV of the Fund with the same amount.

A reduction by 1 percentage point will increase the fair value of the investments by approximately DKK 25-35m, and also have the same effect on the NAV of the Fund. Due to the nature of the investments the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analyses have been made for investments under construction.

The applied discount rate is considered the most material unobservable input due to the nature of the investments.

Please refer to note 6 for a specification of fair value investments.

Notes

13. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

	2018 DKK'000	2017 DKK'000
Related party transactions		
The General Partner receives a fee for its liability towards CI II as per the Articles of Association		
Payment to the General Partner	<u>7</u>	<u>0</u>
Copenhagen Infrastructure Partners II P/S (the Fund Manager) is considered a related party of the Fund due to direct or indirect control and transactions		
Management fee	<u>3,450</u>	<u>3,807</u>

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar collateral in connection with loans. As shown in note 6, loans are only provided to entities in which the Fund holds the majority of shares.

	2018 DKK'000
Committed loan capital	135,109
Contributions	<u>135,109</u>
Outstanding commitment	<u>0</u>

There are no other key relationships, which are considered material to the financial statements.

14. Contingent liabilities

The Fund has no contingent liabilities, but has an outstanding investment commitment of USD 2.8m. Furthermore, the Fund has outstanding guarantees for the investments of USD 11m.

Notes

15. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, Dronning Eufemias Gate 10, 0191 Oslo

European Investment Bank, Boulevard Konrad Adenauer 98-100, L-2950 Luxembourg

PFA Pension, Forsikringsaktieselskab, Sundkrogsgade 4, 2100 Copenhagen

Kapitalforeningen Nykredit Alpha afdeling Alternativer, Kalvebod Brygge 1, 1560 Copenhagen

Nordea Liv & Pension, Livsforsikringsselskab A/S, Klausdalsbrovej 615, 2750 Ballerup

SEB Pensionsforsikring A/S, Bernstorffsgade 50, 1577 Copenhagen

16. Events after the balance sheet date

Bearkat II

CI II has in February 2019 invested in the construction of a US onshore wind project, Bearkat II. Bearkat II is currently under construction.

Mitchell

CI II has in March 2019 invested in the construction of a US Solar portfolio project. Mitchell is currently under construction.

No events besides from above have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

17. Authorisation of the annual report for issue

At the meeting held on 13 May 2019 the General Partner authorised this annual report for issue on 27 May 2019.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 27 May 2019.



ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

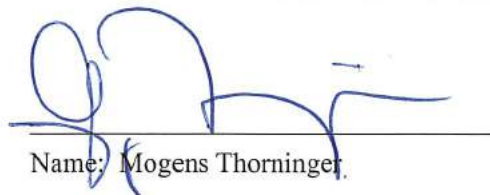
ATTACHMENT 5.6-5 CI-II US AIV QFPF Annual Report 2018

CI II US AIV QFPF K/S
Nørregade 21
1165 Copenhagen K
Central Business Registration No
37 78 93 72

Annual report 2018

The Annual General Meeting adopted the annual report on 27.05.2019

Chairman of the General Meeting



Name: Mogens Thorning

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Fund details

Fund

CI II US AIV QFPF K/S

Nørregade 21

1165 Copenhagen K

Business Registration No: 37 78 93 72

Founded: 13.06.2016

Registered in: Copenhagen

Financial year: 1 January 2018 - 31 December 2018

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure II GP ApS

Fund Manager

Copenhagen Infrastructure Partners II P/S

Approved Manager of Alternative Investment Funds (FSA number: 23014)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by the General Partner on the annual report

The General Partner has today considered and approved the annual report of CI II US AIV QFPF K/S for the financial year 1 January 2018 – 31 December 2018.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2018 and of the results of its operations and the cash flows for the financial year 1 January 2018 – 31 December 2018.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

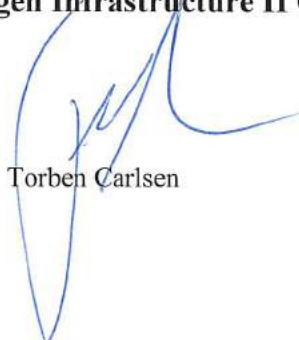
We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 13.05.2019

On behalf of Copenhagen Infrastructure II GP ApS



Mogens Thorninger



Torben Carlsen

Independent auditor's report

To the shareholders of CI II US AIV QFPF K/S

Opinion

We have audited the financial statements of CI II US AIV QFPF K/S for the financial year 01.01.2018 - 31.12.2018, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2018 and of the results of its operations for the financial year 01.01.2018 - 31.12.2018 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of the General Partner's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 13.05.2019

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56



Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131



Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

	2018 DKK'000	2017 DKK'000	2016 DKK'000
Financial highlights			
Key figures			
Operating profit/(loss) (EBIT)	103,195	150,174	(1,898)
Profit/(loss) for the year	104,499	137,009	(587)
Equity	1,264,484	884,210	106,521
Assets total	1,264,959	926,404	122,730
Ratios			
Liquidity ratio (%)	48,995.16	385.80	146.22
Solvency ratio (%)	99.96	95.45	86.79
Return on equity (%)	9.73	27.66	(1.10)

Primary activity

CI II US AIV QFPF K/S (CI II) was established in June 2016 and is managed by Copenhagen Infrastructure Partners II P/S (CIP II P/S). The General Partner of CI II is Copenhagen Infrastructure II GP ApS. End of 2018, the Limited Partners had committed DKK 2,188m to CI II for infrastructure investments in North America.

Investments

End of 2018, CI II has two investments, which have reached financial investment decision.

Bearkat

CI II has invested in the construction of a US onshore wind project, Bearkat I. Bearkat is now an operating 196.7 MW onshore wind farm located in Texas. Bearkat reached COD in December 2017.

Blue Cloud

CI II has invested in the construction of a US onshore wind project, Blue Cloud. Blue Cloud reached COD in December 2018.

Development in activities and finances

Income from investments in 2018 amounts to DKK 105.4m.

Net Income for 2018 amounts to a profit of DKK 104.5m, which is in accordance with the expectations. The result reflects income from investments, partly offset by management fee and transaction costs expensed, during the period.

Limited Partners' paid-in capital to the Fund at the end of 2018 amounted to DKK 1,139m, equalling 52% of the committed capital of DKK 2,188m. Accumulated distributions to Limited Partners amounted to DKK 115m and accumulated net income amounted to DKK 240m since fund initiation. Hereafter total Limited Partners' capital end of 2018 amounted to DKK 1,264m.

Management commentary (continued)

Uncertainty relating to recognition and measurement

CI II develops and invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows may to a certain extent still be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial year covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

Bearkat II

CI II has in February 2019 invested in the construction of a US onshore wind project, Bearkat II. Bearkat II is currently under construction.

Mitchell

CI II has in March 2019 invested in the construction of a US Solar portfolio project. Mitchell is currently under construction.

No events besides from above have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

Outlook

Expectations for the Limited Partnership are positive.

The number of investments is expected to increase during 2019.

Statement of comprehensive income

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2017 DKK'000</u>
Interest income		623	0
Net increase/(decrease) in unrealised gains/(losses) from financial assets and liabilities at fair value		70,789	197,704
Net foreign exchange gains/(losses)		<u>33,974</u>	<u>(43,050)</u>
Operating income		<u>105,386</u>	<u>154,654</u>
Administrative expenses	3	<u>(2,191)</u>	<u>(4,480)</u>
Operating expenses		<u>(2,191)</u>	<u>(4,480)</u>
Operating profit/(loss) (EBIT)		<u>103,195</u>	<u>150,174</u>
Financial income	4	7,759	4,417
Financial expense	5	<u>(6,455)</u>	<u>(17,582)</u>
Profit/(loss) for the year		<u>104,499</u>	<u>137,009</u>
Other comprehensive income		<u>0</u>	<u>0</u>
Comprehensive income		<u><u>104,499</u></u>	<u><u>137,009</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2017 DKK'000</u>
Equity investments	6	740,153	763,618
Receivables from investments	6	292,078	0
Investments		<u>1,032,231</u>	<u>763,618</u>
 Fixed assets		 <u>1,032,231</u>	 <u>763,618</u>
 Other short-term receivables		 62,937	 136,836
Receivables		<u>62,937</u>	<u>136,836</u>
 Cash		 <u>169,791</u>	 <u>25,950</u>
 Current assets		 <u>232,728</u>	 <u>162,786</u>
 Assets		 <u><u>1,264,959</u></u>	 <u><u>926,404</u></u>

Balance sheet at 31 December 2018

	Notes	2018 DKK'000	2017 DKK'000
Limited partnership capital	7	1,139,015	747,788
Retained earnings		<u>125,469</u>	<u>136,422</u>
Equity		<u>1,264,484</u>	<u>884,210</u>
Other payables	8	<u>475</u>	<u>42,194</u>
Current liabilities other than provisions		<u>475</u>	<u>42,194</u>
Liabilities other than provisions		<u>475</u>	<u>42,194</u>
Equity and liabilities		<u>1,264,959</u>	<u>926,404</u>

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity at 1 January 2018	747,788	136,422	884,210
Contribution from Limited Partners	391,227	-	391,227
Distribution to Limited Partners	-	(115,452)	(115,452)
Profit/(loss) for the year		104,499	104,499
Equity at 31 December 2018	1,139,015	125,469	1,264,484

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity at 1 January 2017	107,108	(587)	106,521
Contribution from Limited Partners	640,680	-	640,680
Profit/(loss) for the year	-	137,009	137,009
Equity at 31 December 2017	747,788	136,422	884,210

Cash flow statement for 2018

	Notes	2018 DKK'000	2017 DKK'000
Operating profit/(loss)		103,195	150,174
Income from investments		(105,386)	(154,654)
Working capital changes	9	<u>32,180</u>	<u>(110,702)</u>
Cash flows from ordinary activities		<u>29,989</u>	<u>(115,182)</u>
Financial income	4	7,758	4,417
Financial expense	5	<u>(6,455)</u>	<u>(17,582)</u>
Cash flows from operating activities		<u>1,303</u>	<u>(13,165)</u>
Acquisition of equity investments	6	(291,976)	(509,934)
Receivables from investments	6	(292,303)	0
Distributions from investments	6	<u>421,052</u>	<u>0</u>
Cash flows from investing activities		<u>(163,227)</u>	<u>(509,934)</u>
Contribution from Limited Partners		391,227	640,680
Distributions to Limited Partners		<u>(115,452)</u>	<u>0</u>
Cash flows from financing activities		<u>275,775</u>	<u>640,680</u>
Increase/decrease in cash		143,840	2,399
Cash beginning of year		<u>25,951</u>	<u>23,552</u>
Cash end of year		<u>169,791</u>	<u>25,951</u>

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class C enterprises.

CI II US AIV QFPF K/S is a Limited Partnership based in Denmark.

The accounting policies applied to these financial statements are consistent with those applied last year.

There have been lesser reclassifications of the comparative figures in the fiscal year without significantly affecting the equity or profit for the year.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General Partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The most significant accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI II US AIV QPFP K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

"An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both".

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 13 to the financial statements.
- 3) The Fund's investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All of the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2018 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations have not entered into force. This includes in particular IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that IFRS 16 will not impact significantly on the financial statements for the coming financial years as the Fund has not entered into significant leases.

The General Partner further believes that other amended Standards and Interpretations, which have not entered into force, will not have any significant impact on the financial statements, and they will not be adopted early.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the "functional currency"). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund's functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the rate in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of portfolio investments or receivables.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year were recycled to the effect that, in net terms, profit for the year was affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial income and expenses

Financial income and expenses comprise interest income and various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partner's taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit or loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Furthermore, investments consist of capitalised development costs, which increases the fair value of the investments. On initial recognition, both types of investment are measured at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Valuation Guidelines and generally accepted valuation techniques, including benchmarking, DCF or other relevant methods, which are considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 12.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Cash

Cash comprises cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Notes

1. Accounting policies (continued)

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to the Limited Partners.

Cash comprises cash and short-term securities with an insignificant price risk less short-term bank loans.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The entity's financial strength.
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The entity's financial strength.
Return on equity (%)	=	$\frac{\text{Profit for the year} \times 100}{\text{Average equity}}$	The entity's profitability.

Notes

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. Furthermore, the valuation and hence fair value of the long-term receivables are affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty. For further information about the financial risks related to the investments, please refer to note 11.

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. Furthermore, the uncertainty is affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments are described in note 12 to the financial statements.

3. Administrative expenses

The Fund has no employees.

Administrative expenses include management fee and investment advisory fee for the period to Copenhagen Infrastructure Partners II P/S, in accordance with the LPA and management agreement. For further information about management fee and investment advisory fee, please refer to note 13.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

Notes

3. Administrative expenses (continued)

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager serves as fund manager for Copenhagen Infrastructure II K/S, CI II US AIV Non-QFPF K/S and CI II US AIV QFPF K/S.

In accordance with section 61 (5 and 6) of the Alternative Investment Fund Managers etc. Act, information regarding salaries paid to employees of the investment manager is disclosed in the Annual Report for 2018 for Copenhagen Infrastructure Partners II P/S, Business Reg. No. 35 68 27 75.

No carried interest is paid out by the AIF during the financial period.

	2018 DKK'000	2017 DKK'000
4. Financial income		
Foreign exchange gains	7,126	4,183
Interest income from assets not measured at fair value through profit or loss	632	234
Financial income	7,758	4,417
5. Financial expense		
Other interest, foreign exchange loss etc	(6,448)	(17,582)
General Partner Fee	(7)	0
Financial expense for financial liabilities	(6,455)	(17,582)

	Capitalised development projects before FID* Investments DKK'000	Receivables from investments DKK'000
6. Investments		
Fair value at 31 December 2017	132,834	630,784
Acquisitions and development costs (net)	(111,597)	403,573
Distributions	-	(421,052)
Value adjustment	386	105,225
Fair value at 31 December 2018	21,623	718,530
		292,078

Notes

6. Investments (continued)

	Capitalised development projects before FID*	Investments
	DKK'000	DKK'000
Investments		
Fair value at 31 December 2016	57,319	41,711
Acquisitions and development costs (net)	80,645	429,289
Value adjustment	(5,130)	159,784
Fair value at 31 December 2017	132,834	630,784

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Investment	Corporate form	Registered in	Equity interest %	Profit/(loss) DKK'000	Equity DKK'000
Offshore Wind	LLC	United States	100	-	-
CI-II Bearkat QFPF	LLC	United States	100	-	-
CI-II Bearkat II QFPF	LLC	United States	100	-	-
CI-II Blue Cloud QFPF	LLC	United States	100	-	-
CI-II Mitchell QFPF	LLC	United States	100	-	-
CI II Fluvanna QFPF	LLC	United States	100	-	-
CI-II Bearkat III QFPF	LLC	United States	100	-	-

No values in equity and profit/loss have been stated for entities for which no audited financial disclosures are available. Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of the Fund.

The methods applied by the Fund to measure investments are evident from note 12 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects.

Notes

6. Investments (continued)

There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

7. Limited partnership capital

The limited partnership capital has not been divided into classes.

	2018 DKK'000	2017 DKK'000
8. Other payables		
Other payables	475	42,194

The carrying amount of payables relates to investments, legal fees, auditor's fees, travel costs, etc. The amount recognised is equal to the fair value of the liabilities.

9. Working capital changes

Change in receivables	73,900	(136,688)
Change in payables	(41,720)	25,986
	32,180	(110,702)

10. Financial instruments

Categories of financial instruments:

Investments	740,153	763,618
Receivables from investments	292,078	0
Financial assets measured at fair value through profit or loss	1,032,231	763,618
Other short-term receivables	62,936	136,836
Receivables at amortised cost	62,936	136,836
Other payables	475	42,194
Financial liabilities measured at amortised cost	475	42,194

All financial liabilities are due for payment within 12 months.

Notes

11. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited Partners and invests in infrastructure projects.

The Fund's risk management processes includes identification, measurement, monitoring, reporting and mitigation of the identified risks to minimise the potential negative effects at fund level.

Key financial risk factors and exposure regarding to the financial statements for 2018 can be categorised as follows:

Financial risk factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	475	0	0	475
31 December 2018	475	0	0	475

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	42,194	0	0	42,194
31 December 2017	42,194	0	0	42,194

The current assets of the Fund exceed payables.

The Fund has no contingent liabilities, but has an outstanding investment commitment of USD 6.1m. Furthermore, the Fund has outstanding guarantees for the investments of USD 23.9m.

The liquidity risk is considered insignificant. No indication of the Limited Partners' inability to contribute the remaining fund commitment exists.

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loans provided to the infrastructure projects.

Notes

11. Financial risk management (continued)

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables at the balance sheet date.

Likewise, there is no impairment of receivables e.g. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects to which the Fund has provided loans are currently under construction. The construction phases progress as planned and no significant delays in completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty at 31 December 2018.

Interest rate risk

The Fund has no external debt at the balance sheet date, and therefore no interest rate risk is related to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including draw downs and distributions, take place in investment-specific currencies. Consequently, the Limited Partners are not exposed to currency risk through the Fund. No hedging is made at fund level.

Commodity and power prices

The Fund's indirect power price exposure is mitigated via power price agreements and/or instruments in the project's capital structure. The Fund's indirect outright power price exposure are considered as low.

When the Fund has an indirect outright power price and commodity price exposure changes in such risk factors impact the fair value of the individual investment.

12. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequently if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistently over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investments has been estimated by applying methods that best reflect the risks, and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

Notes

12. Financial instruments measured at fair value (continued)

In general, the fair value is determined in accordance with IPEV Valuation Guidelines and generally accepted valuation techniques, including DCF models, benchmarking or other relevant methods. However, for projects which are before financial close, cost, including capitalised development costs, is considered the best estimate for fair value. The valuation approach incorporates all of the factors that market participants would take into account in pricing a transaction, such as cash flows, discount rates and yield curves assumptions.

The valuation of investments and receivables from investments are based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material inputs are not based on observable market data (Level 3)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable inputs. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prices.

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2018				
Unlisted shares, investments			740,153	740,153
Receivables from investments	0	0	292,078	292,078
Financial assets measured at fair value through profit or loss	0	0	1,032,231	1,032,231

Notes

12. Financial instruments measured at fair value (continued)

	Level 1 DKK'000	Level 2 DKK'000	Level 3 DKK'000	Total DKK'000
2017				
Unlisted shares, investments	0	0	763,618	763,618
Financial assets measured at fair value through profit or loss	0	0	763,618	763,618

The discount rate used for value investments and receivables from investments after COD is considered the most material unobservable input, and the applied range for discount rate is between 7-11% (2017: 7-10%).

Sensitivity analysis

The fair value of the Fund's investments is affected by developments in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for investments are increased by 1 percentage point, the fair value of the investments will be reduced by approximately DKK 65-75m, which will reduce the NAV of the Fund with the same amount.

A reduction by 1 percentage point will increase the fair value of the investments by approximately DKK 60-70m, and also have the same effect on the NAV of the Fund. Due to the nature of the investment the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analyses have been made for investments under construction.

The applied discount rate is considered the most material unobservable input due to the nature of the investments.

Please refer to note 6 for a specification of fair value investments.

Notes

13. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

	2018 DKK'000	2017 DKK'000
Related party transactions		
The General Partner receives a fee for its liability towards CI II as per the Articles of Association		
Payment to the General Partner	<u>7</u>	<u>0</u>
Copenhagen Infrastructure Partners II P/S (the Fund Manager) is considered a related party of the Fund due to direct or indirect control and transactions		
Management fee	<u>6,254</u>	<u>6,843</u>

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar collateral in connection with loans. As shown in note 6, loans are only provided to entities in which the Fund holds the majority of shares.

	2018 DKK'000
Committed loan capital	292,303
Contributions	<u>292,303</u>
Outstanding commitment	<u>0</u>

There are no other key relationships, which are considered material to the financial statements.

14. Contingent liabilities

The Fund has no contingent liabilities, but has an outstanding investment commitment of USD 6.1m. Furthermore, the Fund has outstanding guarantees for the investments of USD 23.9m.

Notes

15. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

PensionDanmark Pensionsforsikringsaktieselskab, Langelinie Allé 43, 2100 Copenhagen

Lægernes Pensionskasse, Dirch Passers Allé 76, 2000 Frederiksberg

Pensionskassen for Børne- og Ungdomspædagoger, Østerfælled Torv 3, 2100 Copenhagen

Juristernes og Økonomernes Pensionskasse, Dirch Passers Allé 76, 2000 Frederiksberg

Lærernes Pension, Forsikringsaktieselskab, Tuborg Boulevard 3, 2900 Hellerup

Danske Civil- og Akademiingeniørers Pensions-kasse, Dirch Passers Allé 76, 2000 Frederiksberg

16. Events after the balance sheet date

Bearkat II

CI II has in February 2019 invested in the construction of a US onshore wind project, Bearkat II. Bearkat II is currently under construction.

Mitchell

CI II has in March 2019 invested in the construction of a US Solar portfolio project. Mitchell is currently under construction.

No events besides from above have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

17. Authorisation of the annual report for issue

At the meeting held on 13 May 2019 the General Partner authorised this annual report for issue on 27 May 2019.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 27 May 2019.



ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-6 CI-III Annual Report 2016-2017

Copenhagen Infrastructure III K/S
Nørregade 21
1165 Copenhagen K
Business Registration No
38 27 81 50

Annual report 2016/17

The Annual General Meeting adopted the annual report on 29.05.2018

Chairman of the General Meeting

Name: Mogens Thorninger

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Fund details

Fund

Copenhagen Infrastructure III K/S

Nørregade 21

1165 Copenhagen K

Central Business Registration No: 38 27 81 50

Founded: 21.12.2016

Registered in: Copenhagen

Financial year: 21 December 2016 - 31 December 2017

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure III GP ApS

Fund Manager

Copenhagen Infrastructure Partners P/S

Approved Manager of Alternative Investment Funds (FSA number: 23104)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by General Partner on the annual report

The General Partner has today considered and approved the annual report of Copenhagen Infrastructure III K/S for the financial year 21 December 2016 – 31 December 2017.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2017 and of the results of its operations and the cash flows for the financial year 21 December 2016 – 31 December 2017.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 15.05.2018

On behalf of Copenhagen Infrastructure III GP ApS

Mogens Thorninger

Torben Carlsen

Independent auditor's report

To the shareholders of Copenhagen Infrastructure III K/S

Opinion

We have audited the financial statements of Copenhagen Infrastructure III K/S for the financial year 21.12.2016 - 31.12.2017, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2017 and of the results of its operations for the financial year 21.12.2016 - 31.12.2017 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 15.05.2018

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56

Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) 30131

Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) 35823

Management commentary

2016/17
DKK'000

Financial highlights

Key figures

Profit/loss from ordinary activities (EBIT)	(113,436)
Profit/loss for the year	(115,942)
Equity	(47,037)
Balance sheet total	270,873

Ratios

Solvency ratio (%)	N.M.
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Primary activity

Copenhagen Infrastructure III K/S (CI III) was established in December 2016 with first close in March 2017 and is managed by Copenhagen Infrastructure Partners P/S (CIP). The General Partner of CI III is Copenhagen Infrastructure III GP ApS.

Investments

No investment projects have yet reached financial close.

Development in activities and finances

The origination and investment activities for CI-III are progressing in accordance with expectations. Financial close on some projects are expected during 2018.

Uncertainty relating to recognition and measurement

CI III invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows to a certain extent still may be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Management commentary (continued)

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial period covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

No events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

The outlook for the Limited Partnership is expected to be positive.

Statement of comprehensive income

	Notes	2016/17 DKK'000
Net foreign currency losses		<u>(4,960)</u>
Operating income		<u>(4,960)</u>
Administrative expenses	3	<u>(108,476)</u>
Operating expenses		<u>(108,476)</u>
Operating profit (EBIT)		<u>(113,436)</u>
Financial income	4	153
Financial expenses	5	<u>(2,659)</u>
Profit for the year		<u>(115,942)</u>
Other comprehensive income		<u>0</u>
Comprehensive income		<u><u>(115,942)</u></u>

Balance sheet at 31 December 2017

	<u>Notes</u>	<u>2017 DKK'000</u>
Equity investments	6	190,648
Receivables from investments	6	<u>44,331</u>
Investments		<u>234,979</u>
 Fixed assets		 <u>234,979</u>
 Other short-term receivables		 <u>9,295</u>
Receivables		<u>9,295</u>
 Cash		 <u>26,600</u>
 Current assets		 <u>35,895</u>
 Assets		 <u><u>270,873</u></u>

Balance sheet at 31 December 2017

	<u>Notes</u>	<u>2017 DKK'000</u>
Limited partnership capital	7	68,905
Retained earnings		<u>(115,942)</u>
Equity		<u>(47,037)</u>
Credit facility		276,576
Other payables	8	<u>41,335</u>
Current liabilities other than provisions		<u>317,910</u>
Liabilities other than provisions		<u>317,910</u>
Equity and liabilities		<u><u>270,873</u></u>

Statement of changes in equity for 2017

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from limited partners	68,905	0	68,905
Profit/(loss) for the year	0	(115,942)	(115,942)
Equity end of year	68,905	(115,942)	(47,037)

Cash flow statement for 2016/17

	<u>Notes</u>	<u>2016/17 DKK'000</u>
Operating profit/(loss)		(113,436)
Income from investments		4,960
Working capital changes	9	<u>32,040</u>
Cash flows from ordinary activities		<u>(76,436)</u>
Financial items	4, 5	<u>(2,506)</u>
Cash flows from operating activities		<u>(2,506)</u>
Acquisition of investments	6	(191,940)
Receivables from investments	6	<u>(47,999)</u>
Cash flows from investing activities		<u>(239,939)</u>
Credit facility		276,576
Contribution from Limited Partners		<u>68,905</u>
Cash flows from financing activities		<u>345,481</u>
Increase/decrease in cash		26,600
Cash beginning of year		<u>0</u>
Cash end of year		<u><u>26,600</u></u>

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises.

Copenhagen Infrastructure III K/S is a Limited Partnership based in Denmark.

This is the Fund's first financial year and comprise the period 21 December 2016 – 31 December 2017, and hence no comparative figures have been presented.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the equity investments and receivables from investment entities, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

The principal accounting policies are set out overleaf.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. Management provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

Report on the omission of preparation of consolidated financial statements

CI III K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

"An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both".

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

Notes

1. Accounting policies (continued)

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 13 to the financial statements.
- 3) The Fund's investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2017 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations, including IFRS 9 in particular, have not yet entered into force. The General Partner believes that they will not impact significantly on the financial statements for the coming financial years.

Other amended Standards and Interpretations includes IFRS 15 regarding recognition of revenue with effect for financial years beginning 1 January 2018 as well as IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that they will not have significant impact on the financial statements as well as they haven't been implemented before time.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

Notes

1. Accounting policies (continued)

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the “functional currency”). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund’s functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the one in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund’s rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Interest income and Net change in unrealised gains from financial assets and liabilities at fair value

Interest income and Net change in unrealised gains from financial assets and liabilities at fair value consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of investments.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year are recycled to the effect that, in net terms, profit for the year is affected by the difference between the selling price and the fair value at the beginning of the financial year.

Notes

1. Accounting policies (continued)

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments.

Financial income and expenses

Financial income and expenses comprise interest income and various expenses, and net capital gain/loss on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partner's taxable income.

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit and loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Both type of investment are measured, on initial recognition, at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

Notes

1. Accounting policies (continued)

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, Invest Europe Investor Reporting Guidelines and accepted valuation techniques, including benchmarking, DCF or other relevant method, which is considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 12.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Cash

Cash comprise cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to Limited Partners.

Cash comprise cash and short-term securities with an insignificant price risk less short-term bank debt.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios 2015" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The enterprise's financial strength.

Notes

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. The valuation and hence fair value of the long-term receivables are, furthermore, affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments and receivables are described in note 12 to the financial statements.

3. Administrative expenses

The Fund has no employees.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

Notes

3. Administrative expenses (continued)

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager only serves as fund manager for Copenhagen Infrastructure III K/S.

No carried interest is paid out by the AIF during the financial period.

	2017 DKK'000
4. Financial income	
Currency exchange rate gains	153
Financial income	153
 Realised financial income	 152
 5. Financial expenses	
Other interest, currency loss etc.	(2,651)
General Partner fee	(8)
Interest expenses for financial liabilities	(2,659)
 Realised financial expenses	 (2,598)

Notes

	Capitalized development projects before FID* DKK'000	Investments DKK'000	Receivables from investments DKK'000
6. Investments			
Fair value 21.12.2016	-	-	-
Acquisitions and development costs	195,611	-	44,328
Value adjustment	(4,963)	-	3
Fair value 31.12.2017	190,648	-	44,331

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

<u>Investment</u>	<u>Corporate form</u>	<u>Registered in</u>	<u>Equity interest %</u>
CI III Non-QFPF			
Blocker	K/S	Copenhagen	99.90
CI III Changfang	K/S	Copenhagen	99.47
CI III Fufang	K/S	Copenhagen	99.47
CI III Xidao	K/S	Copenhagen	99.47
Gbay	K/S	Copenhagen	99.47
CI III Geo Holding	P/S	Copenhagen	99.47
CI III Star of the South	K/S	Copenhagen	99.47
CI III Taiwan GP	ApS	Copenhagen	100.00

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of Fund.

The methods applied by the Fund to measure investments are evident from note 12 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc. repaid by the investments, except that distributions from current operating activities of

Notes

6. Investments (continued)

the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

7. Limited partnership capital

The limited partnership capital has not been divided into classes.

2017
DKK'000

8. Other payables

Other payables	41,335
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The carrying amount of payables relates to legal fees, auditor's fees, travel costs etc. The amount recognised is equal to the fair value of the liabilities.

9. Working capital changes

Change in receivables	(9,295)
Change in payables	41,335
	32,040

10. Financial instruments

Categories of financial instruments:

Investments	190,648
Receivables from investments	44,331
Financial assets measured at fair value through profit or loss	234,979

Other short-term receivables	9,295
Loans and receivables	9,295

Credit facility	276,576
Other payables	41,335
Financial liabilities measured at amortised cost	317,910

All financial liabilities are due for payment within 12 months.

Notes

11. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited partners and invests in infrastructure projects.

The Fund's risk management processes includes identification, measurement, monitoring, reporting and mitigation of the identified risks to minimize the potential negative effects at fund level.

Key financial risk factors and exposure in regards to the financial statements as of 2017 can be categorised as follows:

Financial Risk Factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Credit facility	276,576	0	0	276,576
Other payables	41,335	0	0	41,335
31.12.2017	317,910	0	0	317,910

Payables including the credit facility is bigger than the cash position of the Fund because the investments have temporarily been financed by the credit facility in stead of drawn downs from the Limited Partners.

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 39m and AUD 12.1m. The liquidity risk is considered insignificant. No indication of the limited partners ability to contribute the remaining fund commitment occurs.

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loan provided to the infrastructure project.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables as of the balance sheet date.

Likewise there is no impairment of receivables i.e. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements.

The Fund is not exposed to any significant credit risk as of 31 December 2017.

Notes

11. Financial risk management (continued)

Interest rate risk

The Fund has only a temporarily credit facility as of the balance sheet date, and therefore no interest rate risk connected to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all investments, including draw downs and distributions, are made in investment specific currencies. No hedging is made at fund level.

12. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequent if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistent over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investment has been estimated by applying methods that best reflect the risks, and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

In general, the fair value is determined in accordance with Invest Europe Investor Reporting Guidelines and accepted valuation techniques, including DCF models, benchmarking or other relevant method. For projects which is before the state of COD (Commissioning Operating Date) cost is however considered as best estimate for fair value.

The valuation of investments and receivables from investments are based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material input are not based on observable market data (Level 3)

Notes

12. Financial instruments measured at fair value (continued)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prizes.

None of the investments are after COD and are hence not measured based on valuation techniques which require unobservable inputs. As a part of the valuation process, it has, however, been assessed if changes in power prices, inflation rates, technical availability or discount rate should lead to an impairment compared to the estimated internal rate in the business models. The assessment did not give rise to any comments.

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2017				
Unlisted shares, investments	0	0	190,648	190,648
Receivables from investments	0	0	44,331	44,331
Financial assets measured at fair value through profit or loss	0	0	234,979	234,979

Sensitivity analysis

The fair value of the Fund's investments is affected by development in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments. Due to that no investments are after COD no sensitivity analysis have been made. As a result of the investments is currently being under construction, the fair value is estimated as cost, for which reason no discount rate interval is disclosed.

Please refer to note 6 for a specification of fair value investments.

Notes

13. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

2017
DKK'000

Related party transactions

The General Partner is receiving a fee for its liability towards CI III as per the article of association

Payment to the General Partner

8

Copenhagen Infrastructure Partners P/S (the Fund Manager) are considered related parties of the Fund due to direct or indirect control and transactions

Management fee (21 December 2016 to 31 December 2017)

85,425

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar in connection with loans.

There are no other key relationships, which are considered material for the financial statements.

14. Contingent liabilities

The Fund has no guarantees or contingent liabilities, but has an outstanding commitment of USD 39m and AUD 12.1m.

15. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, Dronning Eufemias Gate 10, 0191 Oslo

DNB Livsforsikring AS, Solheimsgaten 7C, 5058 Bergen

PBU Invest Holding P/S, Tuborg Boulevard 3, 2900 Hellerup

Lærernes Pension Forsikringsaktieselskab, Tuborg Boulevard 3, 2900 Hellerup

Lægernes Pension, Dirch Passers Allé 76, 2000 Frederiksberg

PFA Pension, Forsikringsaktieselskab, Sundkrogsgade 4, 2100 Copenhagen

PensionDanmark Pensionsforsikringsaktieselskab, Langelinie Allé 43, 2100 Copenhagen

Notes

16. Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

17. Authorisation of the annual report for issue

At the meeting held on 15.05.2018 the General Partner authorised this annual report for issue on 29.05.2018.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 29.05.2018.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

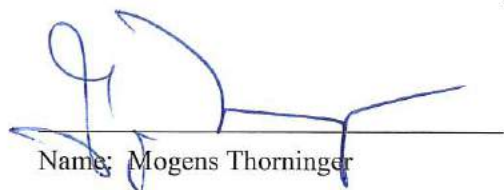
ATTACHMENT 5.6-7 CI-III Annual Report 2018

Copenhagen Infrastructure III K/S
Nørregade 21
1165 Copenhagen K
Business Registration No
38 27 81 50

Annual report 2018

The Annual General Meeting adopted the annual report on 27.05.2019

Chairman of the General Meeting



Name: Mogens Thorninger

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Fund details

Fund

Copenhagen Infrastructure III K/S

Nørregade 21

1165 Copenhagen K

Business Registration No: 38 27 81 50

Founded: 21.12.2016

Registered in: Copenhagen

Financial year: 1 January 2018 - 31 December 2018

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure III GP ApS

Fund Manager

Copenhagen Infrastructure Partners P/S

Approved Manager of Alternative Investment Funds (FSA number: 23104)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by the General Partner on the annual report

The General Partner has today considered and approved the annual report of Copenhagen Infrastructure III K/S for the financial year 1 January 2018 – 31 December 2018.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

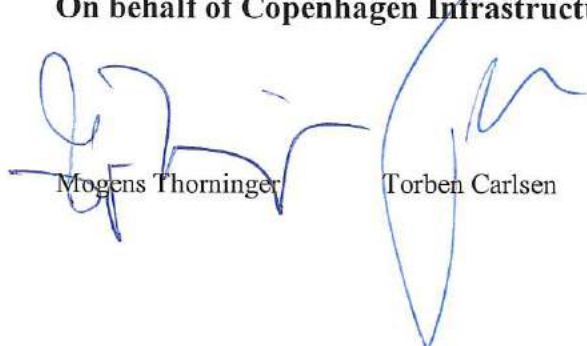
In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2018 and of the results of its operations and the cash flows for the financial year 1 January 2018 – 31 December 2018.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 13.05.2019

On behalf of Copenhagen Infrastructure III GP ApS



Mogens Thorninger Torben Carlsen

Independent auditor's report

To the shareholders of Copenhagen Infrastructure III K/S

Opinion

We have audited the financial statements of Copenhagen Infrastructure III K/S for the financial year 01.01.2018 - 31.12.2018, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2018 and of the results of its operations for the financial year 01.01.2018 - 31.12.2018 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of the General Partner's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

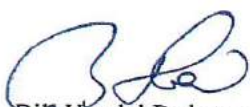
Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 13.05.2019

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56



Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131



Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

	2018 DKK'000	2016/17 DKK'000
Financial highlights		
Key figures		
Operating profit/(loss) (EBIT)	(63,265)	(113,436)
Profit/(loss) for the year	(58,683)	(115,942)
Equity	1,094,987	(47,037)
Assets total	1,158,961	270,873
Ratios		
Liquidity ratio (%)	405.95	11.29
Solvency ratio (%)	94.48	N/A
Return on equity (%)	(11.20)	N/A

Primary activity

Copenhagen Infrastructure III K/S (CI III) was established in December 2016 and is managed by Copenhagen Infrastructure Partners P/S (CIP P/S). The General Partner of CI III is Copenhagen Infrastructure III GP ApS.

At fund close on 23 March 2018, the Limited Partners had committed DKK 20,211.6m to CI III for infrastructure investments in primarily North America, Northwestern Europe and Asia Pacific.

Investments

No investment projects have yet reached financial close.

Development in activities and finances

The origination and investment activities for CI III are progressing in accordance with expectations. Financial close on some projects is expected during 2019.

Uncertainty relating to recognition and measurement

CI III invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows may to a certain extent still be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Management commentary (continued)

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial period covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

Lostock

CI III has in March 2019 invested in a UK waste-to-energy plant, Lostock. Lostock will be a 60 MW waste-to-energy plant located in Lostock, UK. Lostock is currently under construction.

No other events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

Expectations for the Limited Partnership are positive.

Statement of comprehensive income

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2016/17 DKK'000</u>
Interest income		5,350	0
Realised gains/(losses)		85,769	0
Net increase/(decrease) in unrealised gains/(losses) from financial assets and liabilities at fair value		(85,769)	0
Net foreign exchange gains/(losses)		<u>9,651</u>	<u>(4,960)</u>
Operating income		<u>15,001</u>	<u>(4,960)</u>
Administrative expenses	3	<u>(78,266)</u>	<u>(108,476)</u>
Operating expenses		<u>(78,266)</u>	<u>(108,476)</u>
Operating profit/(loss) (EBIT)		<u>(63,265)</u>	<u>(113,436)</u>
Financial income	4	14,861	153
Financial expenses	5	<u>(10,279)</u>	<u>(2,659)</u>
Profit/(loss) for the year		<u>(58,683)</u>	<u>(115,942)</u>
Other comprehensive income		<u>0</u>	<u>0</u>
Comprehensive income		<u>(58,683)</u>	<u>(115,942)</u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>	<u>2017 DKK'000</u>
Equity investments	6	760,774	190,648
Receivables from investments	6	138,483	44,331
Investments		<u>899,257</u>	<u>234,979</u>
 Fixed assets		 <u>899,257</u>	 <u>234,979</u>
 Other short-term receivables		216,500	9,295
Prepayments		19	0
Receivables		<u>216,519</u>	<u>9,295</u>
 Cash		<u>43,185</u>	<u>26,600</u>
 Current assets		 <u>259,704</u>	 <u>35,895</u>
 Assets		 <u><u>1,158,961</u></u>	 <u><u>270,873</u></u>

Balance sheet at 31 December 2018

	Notes	2018 DKK'000	2017 DKK'000
Limited partnership capital	7	1,269,612	68,905
Retained earnings		(174,625)	(115,942)
Equity		1,094,987	(47,037)
Credit facility		540	276,576
Other payables	8	63,434	41,335
Current liabilities other than provisions		63,974	317,910
Liabilities other than provisions		63,974	317,910
Equity and liabilities		1,158,961	270,873

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Equity at 1 January 2018	68,905	(115,942)	(47,037)
Contribution from Limited Partners	1,200,707	-	1,200,707
Profit/(loss) for the year	-	(58,683)	(58,683)
Equity at 31 December 2018	1,269,612	(174,625)	1,094,987

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from Limited Partners	68,905	-	68,905
Profit/(loss) for the year	-	(115,942)	(115,942)
Equity at 31 December 2017	68,905	(115,942)	(47,037)

Cash flow statement for 2018

	Notes	2018 DKK'000	2016/17 DKK'000
Operating profit/(loss)		(63,265)	(113,436)
Income from investments		(15,001)	4,960
Working capital changes	9	(185,106)	32,040
Cash flows from ordinary activities		(263,372)	(76,436)
Financial income and expenses	4, 5	4,582	(2,506)
Cash flows from operating activities		4,582	(2,506)
Acquisition of investments	6	(645,609)	(191,940)
Receivables from investments	6	(89,456)	(47,999)
Distributions from investments	6	85,769	0
Cash flows from investing activities		(649,296)	(239,939)
Credit facility		(276,036)	276,576
Contribution from Limited Partners		1,200,707	68,905
Cash flows from financing activities		924,671	345,481
Increase/decrease in cash		16,585	26,600
Cash beginning of year		26,600	0
Cash end of year		43,185	26,600

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises with certain provisions from class C.

Copenhagen Infrastructure III K/S is a Limited Partnership based in Denmark.

The accounting policies applied to these financial statements are consistent with those applied last year.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General Partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The most significant accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

Copenhagen Infrastructure III K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

"An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both".

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 13 to the financial statements.
- 3) The Fund's investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All of the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2018 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations have not entered into force. This includes in particular IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that IFRS 16 will not impact significantly on the financial statements for the coming financial years as the Fund has not entered into significant leases.

The General Partner further believes that other amended Standards and Interpretations, which have not entered into force, will not have any significant impact on the financial statements, and they will not be adopted early.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner make a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the "functional currency"). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund's functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the rate in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of portfolio investments or receivables.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year were recycled to the effect that, in net terms, profit for the year was affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial income and expenses

Financial income and expenses comprise interest income and various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partners' taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit or loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Furthermore, investments consist of capitalised development costs, which increase the fair value of the investments. On initial recognition, both types of investment are measured at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Valuation Guidelines and generally accepted valuation techniques, including benchmarking, DCF or other relevant methods, which are considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 12.

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Prepayments

Prepayments comprise incurred costs relating to subsequent financial years. Prepayments are measured at cost.

Cash

Cash comprises cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Notes

1. Accounting policies (continued)

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to the Limited Partners.

Cash comprises cash and short-term securities with an insignificant price risk less short-term bank loans.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The entity's financial strength.
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The entity's financial strength.
Return on equity (%)	=	$\frac{\text{Profit for the year} \times 100}{\text{Average equity}}$	The entity's profitability.

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. Furthermore, the valuation and hence fair value of the long-term receivables are affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty. For further information about the financial risks related to the investments, please refer to note 11.

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. Furthermore, the uncertainty is affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

Notes

2. Significant accounting estimates, assumptions and uncertainties (continued)

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments and receivables are described in note 12 to the financial statements.

3. Administrative expenses

The Fund has no employees.

Administrative expenses include management fee and investment advisory fee for the period to Copenhagen Infrastructure Partners P/S, in accordance with the LPA and management agreement. For further information about management fee and investment advisory fee, please refer to note 13.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager only serves as fund manager for Copenhagen Infrastructure III K/S, CI III US AIV QPFF K/S, CI III US AIV Non-QPFF K/S, CI III Dutch AIV K/S and CI III Swiss AIV K/S.

In accordance with section 61 (5 and 6) of the Alternative Investment Fund Managers etc. Act, information regarding salaries paid to employees of the investment manager is disclosed in the Annual Report for 2018 for Copenhagen Infrastructure Partners P/S, Business Reg. No. 37 99 40 06.

No carried interest is paid out by the AIF during the financial period.

Notes

	2018 DKK'000	2016/17 DKK'000
4. Financial income		
Foreign exchange gains	12,467	153
Interest income from assets not measured at fair value through profit or loss	2,394	0
Financial income	14,861	153
 Realised financial income	 6,822	 152
 5. Financial expenses		
Other interest, foreign exchange loss etc	(10,271)	(2,651)
General Partner fee	(8)	(8)
Interest expenses for financial liabilities	(10,279)	(2,659)
 Realised financial expenses	 (10,279)	 (2,598)

	Capitalised development projects before FID*	Investments	Receivables from investments
	DKK'000	DKK'000	DKK'000
6. Investments			
Fair value at 31 December 2017	190,648	-	44,331
Acquisitions and development costs (net)	259,569	385,644	89,437
Distributions	-	(85,769)	-
Value adjustment	15,523	(4,841)	4,715
Fair value at 31 December 2018	465,740	295,034	138,483

Notes

6. Investments (continued)

	Capitalised development projects before FID*	Investments	Receivables from investments
	DKK'000	DKK'000	DKK'000
Investments			
Fair value at 21 December 2016	-	-	-
Acquisitions and development costs (net)	195,611	-	44,328
Value adjustment	(4,963)	-	3
Fair value at 31 December 2017	190,648	-	44,331

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Investment	Corporate form	Registered in	Equity interest %
CI III Changfang	K/S	Copenhagen	96.41
CI III Fufang	K/S	Copenhagen	99.46
CI III Xidao	K/S	Copenhagen	96.41
Gbay	K/S	Copenhagen	96.41
CI III Geo Holding	P/S	Copenhagen	96.41
CI III Star of the South	K/S	Copenhagen	96.41
CI III Taiwan GP	ApS	Copenhagen	100.00
CI III Zhong Neng	K/S	Copenhagen	96.41
CI Biomass Management	Ltd.	United Kingdom	33.30
CI III Aba	K/S	Copenhagen	96.41
CI III UK Holding	K/S	Copenhagen	96.51
CI III Australia GP	ApS	Copenhagen	100.00
CI III PQE Holding	P/S	Copenhagen	97.13
CI Procurement	Inc.	United States	96.51

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of the Fund.

The methods applied by the Fund to measure investments are evident from note 12 to the financial statements.

Notes

6. Investments (continued)

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

7. Limited partnership capital

The limited partnership capital has not been divided into classes.

	2018 DKK'000	2017 DKK'000
8. Other payables		
Other payables	63,434	41,335

The carrying amount of payables relates to payments received from Limited Partners on behalf of related funds, legal fees, auditor's fees, travel costs, etc. The amount recognised is equal to the fair value of the liabilities.

9. Working capital changes

Change in receivables	(207,205)	(9,295)
Change in payables	22,099	41,335
	(185,106)	32,040

10. Financial instruments

Categories of financial instruments:

Investments	760,774	190,648
Receivables from investments	138,483	44,331
Financial assets measured at fair value through profit or loss	899,257	234,979
Other short-term receivables	216,500	9,295
Loans and receivables	216,500	9,295
Credit facility	540	276,576
Other payables	63,434	41,335
Financial liabilities measured at amortised cost	63,974	317,910

All financial liabilities are due for payment within 12 months.

Notes

11. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited Partners and invests in infrastructure projects.

The Fund's risk management processes include identification, measurement, monitoring, reporting and mitigation of the identified risks to minimise the potential negative effects at fund level.

Key financial risk factors and exposure regarding the financial statements for 2018 can be categorised as follows:

Financial risk factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Credit facility	540	0	0	540
Other payables	63,434	0	0	63,434
31 December 2018	63,974	0	0	63,974

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Credit facility	276,576	0	0	276,576
Other payables	41,335	0	0	41,335
31 December 2017	317,910	0	0	317,910

The current assets of the Fund exceed payables.

The Fund has no contingent liabilities, but has an outstanding commitment of AUD 15.4m. Furthermore, the Fund has outstanding guarantees for the investments of USD 75.9m and EUR 58.2m and an outstanding letter of credit of USD 14.6m.

The liquidity risk is considered insignificant. No indication of the Limited Partners' inability to contribute the remaining fund commitment exists.

Notes

11. Financial risk management (continued)

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loans provided to the infrastructure projects.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables at the balance sheet date.

Likewise, there is no impairment of receivables e.g. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects to which the Fund has provided loans are currently under construction. The construction phases progress as planned and no significant delays in completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty at 31 December 2018.

Interest rate risk

The Fund has only a temporary credit facility at the balance sheet date, and therefore no interest rate risk is related to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including drawdowns and distributions, take place in investment-specific currencies. Consequently, the Limited Partners are not exposed to currency risk through the Fund. No hedging is made at fund level.

12. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequently if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistently over time and across investments.

Notes

12. Financial instruments measured at fair value (continued)

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investments has been estimated by applying methods that best reflect the risks and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

In general, the fair value is determined in accordance with IPEV Valuation Guidelines and generally accepted valuation techniques, including DCF models, benchmarking or other relevant method. However, for projects which are before financial close, cost, including capitalised development costs, is considered the best estimate for fair value.

The valuation of investments and receivables from investments is based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material inputs are not based on observable market data (Level 3)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prices.

Notes

12. Financial instruments measured at fair value (continued)

None of the investments have reached financial close and are hence not measured based on valuation techniques which require unobservable inputs. As part of the valuation process, it has been assessed, however, if changes in power prices, inflation rates, technical availability or discount rate should lead to impairment compared to the estimated internal rate in the business models. The assessment did not give rise to any comments.

	Level 1	Level 2	Level 3	Total
	DKK'000	DKK'000	DKK'000	DKK'000
2018				
Unlisted shares, investments	0	0	760,774	760,774
Receivables from investments	0	0	138,483	138,483
Financial assets measured at fair value through profit or loss	0	0	899,257	899,257
2017				
Unlisted shares, investments	0	0	190,648	190,648
Receivables from investments	0	0	44,331	44,331
Financial assets measured at fair value through profit or loss	0	0	234,979	234,979

Sensitivity analysis

The fair value of the Fund's investments is affected by developments in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments. Since no investments are after financial close, no sensitivity analyses have been made. As a result of the investments currently being under construction, no discount rate range is disclosed.

Please refer to note 6 for a specification of fair value investments.

Notes

13. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

	2018 DKK'000	2016/17 DKK'000
Related party transactions		
The General Partner receives a fee for its liability towards CI III as per the Articles of Association		
Payment to the General Partner	<u>8</u>	<u>8</u>
Copenhagen Infrastructure Partners P/S (the Fund Manager) is considered a related party of the Fund due to direct or indirect control and transactions		
Management fee	<u>59,602</u>	<u>85,425</u>

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar collateral in connection with loans. As shown in note 6, loans are only provided to entities in which the Fund holds the majority of shares.

	2018 DKK'000	2017 DKK'000
Committed loan capital	2,613,646	2,613,555
Contributions	<u>121,213</u>	<u>37,219</u>
Outstanding commitment	<u>2,492,433</u>	<u>2,576,336</u>

There are no other key relationships, which are considered material to the financial statements.

14. Contingent liabilities

The Fund has no contingent liabilities, but has an outstanding commitment of AUD 15.4m. Furthermore, the Fund has outstanding guarantees for the investments of USD 75.9m and EUR 58.2m and an outstanding letter of credit of USD 14.6m.

Notes

15. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, Dronning Eufemias Gate 10, 0191 Oslo

Lægernes Pension, Dirch Passers Allé 76, 2000 Frederiksberg

PensionDanmark Pensionsforsikringsaktieselskab, Langelinie Allé 43, 2100 Copenhagen

16. Events after the balance sheet date

Lostock

CI III has in March 2019 invested in a UK waste-to-energy plant, Lostock. Lostock will be a 60 MW waste-to-energy plant located in Lostock, UK. Lostock is currently under construction.

No other events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

17. Authorisation of the annual report for issue

At the meeting held on 13 May 2019 the General Partner authorised this annual report for issue on 27 May 2019.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 27 May 2019.

18. Disclaimer

The domicile of the Fund is Denmark. The Representative of the Fund in Switzerland is OpenFunds Investment Services AG, with its registered office at Seefeldstrasse 35, CH-8008 Zurich, Tel +41 44 500 31 08, www.open-funds.ch. The Paying Agent in Switzerland is Società Bancaria Ticinese SA, Piazza Collegiata 3, 6501 Bellinzona, Tel. +41 (0) 91 821 51 21, Fax. +41 (0) 91 825 66 18, www.bancaria.ch. The distribution of Shares of the Fund in Switzerland must be made exclusively to Qualified Investors. The place of performance and jurisdiction for the Shares of the Fund distributed in Switzerland is at the registered office of the Representative. Publications to Swiss investors in respect of the Shares of the Fund are effected by the Representative.

Swiss Representative

OpenFunds Investment Services AG

Seefeldstrasse 35, CH-8008 Zurich Tel: +41 44 500 31 08

Website: www.open-funds.ch

Notes

18. Disclaimer (continued)

Swiss Paying Agent

Società Bancaria Ticinese SA

Piazza Collegiata 3

Tel: +41 (0) 91 821 51 21

Fax: + 41 (0) 91 825 66 18

Website: www.bancaria.ch



ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-8 CI-III US AIV Non-QFPF Annual Report 2018

CI III US AIV Non-QFPF K/S

Nørregade 21

1165 Copenhagen K

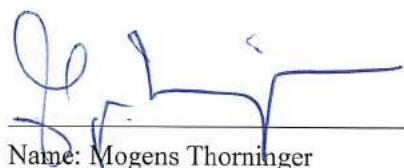
Business Registration No

39 65 89 25

Annual report 11.06.2018-31.12.2018

The Annual General Meeting adopted the annual report on 27.05.2019

Chairman of the General Meeting



Name: Mogens Thorninger

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Fund details

Fund

CI III US AIV Non-QFPF K/S

Nørregade 21

1165 Copenhagen K

Business Registration No: 39 65 89 25

Founded: 11.06.2018

Registered in: Copenhagen

Financial year: 11 June 2018 - 31 December 2018

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure III GP ApS

Fund Manager

Copenhagen Infrastructure Partners P/S

Approved Manager of Alternative Investment Funds (FSA number: 23104)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by the General Partner on the annual report

The General Partner has today considered and approved the annual report of CI III US AIV Non-QFPF K/S for the financial year 11 June 2018 - 31 December 2018.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2018 and of the results of its operations and the cash flows for the financial year 11 June 2018 - 31 December 2018.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 13.05.2019

On behalf of Copenhagen Infrastructure III GP ApS



Mogens Thorninger



Torben Carlsen

Independent auditor's report

To the shareholders of CI III US AIV Non-QFPF K/S

Opinion

We have audited the financial statements of CI III US AIV Non-QFPF K/S for the financial year 11.06.2018 - 31.12.2018, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2018 and of the results of its operations for the financial year 11.06.2018 - 31.12.2018 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of the General Partner's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 13.05.2019

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56



Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131



Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

2018
DKK'000

Financial highlights

Key figures

Operating profit/(loss) (EBIT)	(46,942)
Profit/(loss) for the year	(46,949)
Equity	291,641
Assets total	353,468

Ratios

Solvency ratio (%)	82.51
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Primary activity

CI III US AIV Non-QFPF K/S (CI III) was established in June 2018 and is managed by Copenhagen Infrastructure Partners P/S (CIP P/S). The General Partner of CI III US AIV Non-QFPF is Copenhagen Infrastructure III GP ApS.

At fund close on 23 March 2018, the Limited Partners had committed DKK 2,272m to CI III US AIV Non-QFPF K/S for infrastructure investments in primarily North America.

Investments

End of 2018, CI III had completed two investments, Sage I-III and Misae.

Sage I-III

CI III has invested in a US solar project, Sage I-III. Sage I-III will be a 57.6 MWac solar plant located in Rich County, Utah, US. Sage I-III is currently under construction.

Misae

CI III has invested in a US solar project, Misae. Misae will be a 240 MWac solar plant located in Childress County, Texas, US. Misae is currently under construction.

Development in activities and finances

The origination and investment activities for CI III US AIV Non-QFPF K/S are progressing in accordance with expectations. Financial close on some projects is expected during 2019.

Management commentary (continued)

Uncertainty relating to recognition and measurement

CI III US AIV Non-QFPP K/S invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows may to a certain extent still be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial period covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

No events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

Expectations for the Limited Partnership are positive.

Statement of comprehensive income

	<u>Notes</u>	<u>2018</u> <u>DKK'000</u>
Interest income		65
Net foreign exchange gains/(losses)		<u>2,267</u>
Operating income		<u>2,332</u>
Administrative expenses	3	<u>(49,274)</u>
Operating expenses		<u>(49,274)</u>
Operating profit/(loss) (EBIT)		<u>(46,942)</u>
Financial expenses	4	<u>(7)</u>
Profit/(loss) for the year		<u>(46,949)</u>
Other comprehensive income		<u>0</u>
Comprehensive income		<u><u>(46,949)</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Equity investments	5	284,734
Receivables from investments	5	<u>68,734</u>
Investments		<u>353,468</u>
 Fixed assets		 <u>353,468</u>
 Assets		 <u><u>353,468</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Limited partnership capital	6	338,590
Retained earnings		<u>(46,949)</u>
Equity		<u>291,641</u>
Other payables	7	<u>61,827</u>
Current liabilities other than provisions		<u>61,827</u>
Liabilities other than provisions		<u>61,827</u>
Equity and liabilities		<u><u>353,468</u></u>

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from Limited Partners	338,590	-	338,590
Profit/(loss) for the year	-	(46,949)	(46,949)
Equity at 31 December 2018	338,590	(46,949)	291,641

Cash flow statement for 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Operating profit/(loss)		(46,942)
Income from investments		(2,332)
Working capital changes	8	<u>61,827</u>
Cash flows from ordinary activities		<u>12,553</u>
Financial expenses	4	<u>(7)</u>
Cash flows from operating activities		<u>(7)</u>
Acquisition of investments	5	(282,467)
Receivables from investments	5	<u>(68,669)</u>
Cash flows from investing activities		<u>(351,136)</u>
Contribution from Limited Partners		<u>338,590</u>
Cash flows from financing activities		<u>338,590</u>
Increase/decrease in cash		0
Cash beginning of year		<u>0</u>
Cash end of year		<u>0</u>

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises with certain provisions from class C.

CI III US AIV Non-QFPF K/S is a Limited Partnership based in Denmark.

This is the Fund's first financial year and comprise the period 11 June 2018 – 31 December 2018, and hence no comparative figures have been presented.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General Partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The most significant accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI III US AIV Non-QFPF K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

"An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both".

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 12 to the financial statements.
- 3) The Fund's investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All of the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2018 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations have not entered into force. This includes in particular IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that IFRS 16 will not impact significantly on the financial statements for the coming financial years as the Fund has not entered into significant leases.

The General Partner further believes that other amended Standards and Interpretations, which have not entered into force, will not have any significant impact on the financial statements, and they will not be adopted early.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the "functional currency"). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund's functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the rate in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of investments or receivables.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year were recycled to the effect that, in net terms, profit for the year was affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial expenses

Financial expenses comprise various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partners' taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit or loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Furthermore, investments consist of capitalised development costs, which increase the fair value of the investments. On initial recognition, both types of investment are measured at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Valuation Guidelines and generally accepted valuation techniques, including benchmarking, DCF or other relevant methods, which are considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 11.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Notes

1. Accounting policies (continued)

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to the Limited Partners.

Cash comprises cash and short-term securities with an insignificant price risk less short-term bank loans.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The entity's financial strength.

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. Furthermore, the valuation and hence fair value of the long-term receivables are affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty. For further information about the financial risks related to the investments, please refer to note 10.

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. Furthermore, the uncertainty is affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments and receivables are described in note 11 to the financial statements.

Notes

3. Administrative expenses

The Fund has no employees.

Administrative expenses include management fee and investment advisory fee for the period to Copenhagen Infrastructure Partners P/S, in accordance with the LPA and management agreement. For further information about management fee and investment advisory fee, please refer to note 12.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager only serves as fund manager for Copenhagen Infrastructure III K/S, CI III US AIV QFPF K/S, CI III US AIV Non-QFPF K/S, CI III Dutch AIV K/S and CI III Swiss AIV K/S.

In accordance with section 61 (5 and 6) of the Alternative Investment Fund Managers etc. Act, information regarding salaries paid to employees of the investment manager is disclosed in the Annual Report for 2018 for Copenhagen Infrastructure Partners P/S, Business Reg. No. 37 99 40 06.

No carried interest is paid out by the AIF during the financial period.

Notes

	2018 DKK'000
4. Financial expenses	
Other interest, foreign exchange loss etc	(3)
General Partner fee	(4)
Interest expenses for financial liabilities	(7)
Realised financial expenses	(7)

	Capitalised development projects before FID* Investments DKK'000	DKK'000	Receivables from investments DKK'000
5. Investments			
Fair value at 11 June 2018	-	-	-
Acquisitions and development costs (net)	101,093	181,374	68,669
Value adjustment	850	1,417	65
Fair value at 31 December 2018	101,943	182,791	68,734

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Investment	Corporate form	Registered in	Equity interest %
CI III Non-QFPF Blocker	K/S	Copenhagen	99.90

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of the Fund.

The methods applied by the Fund to measure investments are evident from note 11 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

Notes

5. Investments (continued)

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

6. Limited Partnership capital

The Limited Partnership capital has not been divided into classes.

2018
DKK'000

7. Other payables

Other payables	<u>61,827</u>
----------------	---------------

The carrying amount of payables relates to investments, legal fees, auditor's fees, travel costs, etc.
The amount recognised is equal to the fair value of the liabilities.

8. Working capital changes

Change in payables	<u>61,827</u>
	<u>61,827</u>

9. Financial instruments

Categories of financial instruments:

Investments	284,734
-------------	---------

Receivables from investments	<u>68,734</u>
------------------------------	---------------

Financial assets measured at fair value through profit or loss	<u>353,468</u>
---	-----------------------

Other payables	<u>61,827</u>
----------------	---------------

Financial liabilities measured at amortised cost	<u>61,827</u>
---	----------------------

All financial liabilities are due for payment within 12 months.

Notes

10. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited Partners and invests in infrastructure projects.

The Fund's risk management processes include identification, measurement, monitoring, reporting and mitigation of the identified risks to minimise the potential negative effects at fund level.

Key financial risk factors and exposure regarding the financial statements for 2018 can be categorised as follows:

Financial risk factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	61,827	0	0	61,827
31 December 2018	61,827	0	0	61,827

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 208.1m .

The liquidity risk is considered insignificant. No indication of the Limited Partners' inability to contribute the remaining fund commitment exists.

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loans provided to the infrastructure projects.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables at the balance sheet date.

Likewise there is no impairment of receivables e.g. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects to which the Fund has provided loans are currently under construction. The construction phases progress as planned and no significant delays in completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty at 31 December 2018.

Notes

10. Financial risk management (continued)

Interest rate risk

The Fund has no external debt at the balance date, and therefore no interest rate risk is related to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including drawdowns and distributions, are made in investment-specific currencies. Consequently, the Limited Partners are not exposed to currency risk through the Fund. No hedging is made at fund level.

11. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequently if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistently over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investments has been estimated by applying methods that best reflect the risks, and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

In general, the fair value is determined in accordance with IPEV Valuation Guidelines and generally accepted valuation techniques, including DCF models, benchmarking or other relevant method. However, for projects which are before financial close, cost, including capitalised development costs, is considered the best estimate for fair value.

The valuation of investments and receivables from investments is based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material inputs are not based on observable market data (Level 3)

Notes

11. Financial instruments measured at fair value (continued)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prices.

	Level 1 DKK'000	Level 2 DKK'000	Level 3 DKK'000	Total DKK'000
2018				
Unlisted shares, investments	0	0	284,734	284,734
Receivables from investments	0	0	68,734	68,734
Financial assets measured at fair value through profit or loss	0	0	353,468	353,468

Sensitivity analysis

The fair value of the Fund's investments is affected by developments in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for investment are increased by 1 percentage point, the fair value of the investments will be reduced by approximately DKK 170-190m, which will reduce the NAV of the Fund by the same amount.

A reduction by 1 percentage point will increase the fair value of the investments by approximately DKK 330-350m, and also have the same effect on the NAV of the Fund. Due to the nature of the investments the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analyses have been made for investments under construction.

Please refer to note 5 for a specification of fair value investments.

Notes

12. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

2018
DKK'000

Related party transactions

The General Partner receives a fee for its liability towards
CI III US AIV Non-QFPF K/S as per the Articles of Association

Payment to the General Partner

4

Copenhagen Infrastructure Partners P/S (the Fund Manager) is considered
a related party of the Fund due to direct or indirect control and transactions

Management fee (11 June – 31 December 2018)

39,066

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar collateral in connection with loans. As shown in note 5, loans are only provided to entities in which the Fund holds the majority of shares.

2018
DKK'000

Committed loan capital

1,212,313

Contributions

68,669

Outstanding commitment

1,143,644

There are no other key relationships, which are considered material to the financial statements.

13. Contingent liabilities

The Fund has no guarantees or contingent liabilities, but has an outstanding commitment of USD 208.1m.

Notes

14. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, Dronning Eufemias Gate 10, 0191 Oslo

DNB Livsforsikring AS, Solheimsgaten 7C, 5058 Bergen

Lind Invest ApS, Værkmestergade 25, 14. 8000 Aarhus C

European Investment Bank 98-100 Boulevard Konrad Adenauer, L-2950 Luxembourg

R+V Lebensversicher-ung AG, Raiffeisensplatz 1, 65189 Wiesbaden

Danica Pensionsforsikring A/S, Holmens Kanal 2, 1060 Copenhagen

CI III Lux Feeder Fund, c/o Intertrust Fund Management, S.à.r.l. 6 rue Eugène Ruppert, L-2453 Luxembourg

15. Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

16. Authorisation of the annual report for issue

At the meeting held on 13 May 2019 the General Partner authorised this annual report for issue on 27 May 2019.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 27 May 2019.



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.6-9 CI-III US AIV QFPF Annual Report 2018

CI III US AIV QFPF K/S

Nørregade 21

1165 Copenhagen K

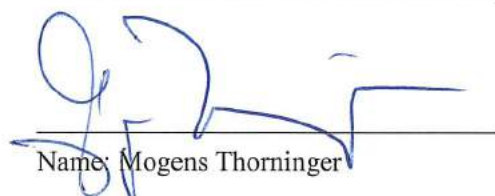
Business Registration No

39 65 89 17

Annual report 11.06.2018-31.12.2018

The Annual General Meeting adopted the annual report on 27.05.2019

Chairman of the General Meeting



Name: Mogens Thorninger

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Fund details

Fund

CI III US AIV QFPF K/S

Nørregade 21

1165 Copenhagen K

Business Registration No: 39 65 89 17

Founded: 11.06.2018

Registered in: Copenhagen

Financial year: 11 June 2018 - 31 December 2018

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure III GP ApS

Fund Manager

Copenhagen Infrastructure Partners P/S

Approved Manager of Alternative Investment Funds (FSA number: 23104)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by the General Partner on the annual report

The General Partner has today considered and approved the annual report of CI III US AIV QFPF K/S for the financial year 11 June 2018 - 31 December 2018.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

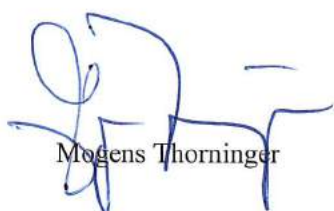
In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2018 and of the results of its operations and the cash flows for the financial year 11 June 2018 - 31 December 2018.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

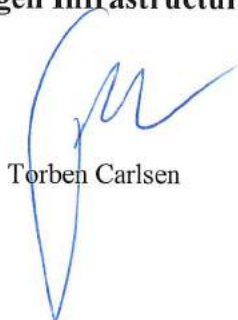
We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 13.05.2019

On behalf of Copenhagen Infrastructure III GP ApS



Mogens Thorninger



Torben Carlsen

Independent auditor's report

To the shareholders of CI III US AIV QPFF K/S

Opinion

We have audited the financial statements of CI III US AIV QPFF K/S for the financial year 11.06.2018 - 31.12.2018, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2018 and of the results of its operations for the financial year 11.06.2018 - 31.12.2018 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of the General Partner's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 13.05.2019

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56



Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131



Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

2018
DKK'000

Financial highlights

Key figures

Operating profit/(loss) (EBIT)	(57,439)
Profit/(loss) for the year	(57,447)
Equity	356,850
Assets total	432,502

Ratios

Solvency ratio (%)	82.51
--------------------	-------

Primary activity

CI III US AIV QFPF K/S (CI III) was established in June 2018 and is managed by Copenhagen Infrastructure Partners P/S (CIP P/S). The General Partner of CI III US AIV QFPF K/S is Copenhagen Infrastructure III GP ApS.

At fund close on 23 March 2018, the Limited Partners had committed DKK 2,781m to CI III US AIV QFPF K/S for infrastructure investments in primarily North America.

Investments

End of 2018, CI III had completed two investments, Sage I-III and Misae.

Sage I-III

CI III has invested in a US solar project, Sage I-III. Sage I-III will be a 57.6 MWac solar plant located in Rich County, Utah, US. Sage I-III is currently under construction.

Misae

CI III has invested in a US solar project, Misae. Misae will be a 240 MWac solar plant located in Childress County, Texas, US. Misae is currently under construction.

Development in activities and finances

The origination and investment activities for CI III US AIV QFPF K/S are progressing in accordance with expectations. Financial close on some projects is expected during 2019.

Management commentary (continued)

Uncertainty relating to recognition and measurement

CI III US AIV QFPF K/S invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows may to a certain extent still be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial period covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

No events have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

Expectations for the Limited Partnership are positive.

Statement of comprehensive income

	<u>Notes</u>	<u>2018</u> <u>DKK'000</u>
Interest income		79
Net foreign exchange gains/(losses)		<u>2,774</u>
Operating income		<u>2,853</u>
Administrative expenses	3	<u>(60,292)</u>
Operating expenses		<u>(60,292)</u>
Operating profit/(loss) (EBIT)		<u>(57,439)</u>
Financial expenses	4	<u>(8)</u>
Profit/(loss) for the year		<u>(57,447)</u>
Other comprehensive income		<u>0</u>
Comprehensive income		<u><u>(57,447)</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Equity investments	5	348,399
Receivables from investments	5	<u>84,103</u>
Investments		<u>432,502</u>
 Fixed assets		 <u>432,502</u>
 Assets		 <u><u>432,502</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Limited partnership capital	6	414,297
Retained earnings		<u>(57,447)</u>
Equity		<u>356,850</u>
Other payables	7	<u>75,652</u>
Current liabilities other than provisions		<u>75,652</u>
Liabilities other than provisions		<u>75,652</u>
Equity and liabilities		<u><u>432,502</u></u>

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from Limited Partners	414,297	-	414,297
Profit/(loss) for the year	-	(57,447)	(57,447)
Equity at 31 December 2018	414,297	(57,447)	(356,850)

Cash flow statement for 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Operating profit/(loss)		(57,439)
Income from investments		(2,853)
Working capital changes	8	<u>75,652</u>
Cash flows from ordinary activities		<u>15,360</u>
Financial expenses	4	<u>(8)</u>
Cash flows from operating activities		<u>(8)</u>
Acquisition of investments	5	(345,625)
Receivables from investments	5	<u>(84,024)</u>
Cash flows from investing activities		<u>(429,649)</u>
Contribution from Limited Partners		<u>414,297</u>
Cash flows from financing activities		<u>414,297</u>
Increase/decrease in cash		0
Cash beginning of year		<u>0</u>
Cash end of year		<u><u>0</u></u>

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises with certain provisions from class C.

CI III US AIV QFPF K/S is a Limited Partnership based in Denmark.

This is the Fund's first financial year and comprise the period 11 June 2018 – 31 December 2018, and hence no comparative figures have been presented.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General Partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The most significant accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Report on the omission of preparation of consolidated financial statements

CI III US AIV QFPF K/S has omitted to prepare consolidated financial statements under the provisions of IFRS 10 and IAS 27 as the Limited Partnership qualifies as an investment entity. The definition is as follows:

"An investment entity is defined as an entity which commits to its investors that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both".

In view of the circumstances described below, the General Partner believes that the Fund satisfies the definition of an investment entity:

- 1) The Fund has more than one investment.
- 2) The Fund has more than one investor, and its investors are not related parties. Please refer to the description in note 12 to the financial statements.
- 3) The Fund's investments in investments take the form of equity instruments or similar investments, and the Fund can also exit the investment, if relevant.

Standards and Interpretations not yet in force

All of the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2018 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations have not entered into force. This includes in particular IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that IFRS 16 will not impact significantly on the financial statements for the coming financial years as the Fund has not entered into significant leases.

The General Partner further believes that other amended Standards and Interpretations, which have not entered into force, will not have any significant impact on the financial statements, and they will not be adopted early.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Notes

1. Accounting policies (continued)

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the "functional currency"). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund's functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the rate in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Notes

1. Accounting policies (continued)

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of investments or receivables..

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year were recycled to the effect that, in net terms, profit for the year was affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial expenses

Financial expenses comprise various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partners' taxable income.

Notes

1. Accounting policies (continued)

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit or loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Furthermore, investments consist of capitalised development costs, which increases the fair value of the investments. On initial recognition, both types of investment are measured at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Valuation Guidelines and generally accepted valuation techniques, including benchmarking, DCF or other relevant methods, which are considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 11.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Notes

1. Accounting policies (continued)

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to the Limited Partners.

Cash comprises cash and short-term securities with an insignificant price risk less short-term bank loans.

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The entity's financial strength.

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. Furthermore, the valuation and hence fair value of the long-term receivables are affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty. For further information about the financial risks related to the investments, please refer to note 10.

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. Furthermore, the uncertainty is affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments and receivables are described in note 11 to the financial statements.

Notes

3. Administrative expenses

The Fund has no employees.

Administrative expenses include management fee and investment advisory fee for the period to Copenhagen Infrastructure Partners P/S, in accordance with the LPA and management agreement. For further information about management fee and investment Advisory fee, please refer to note 12.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager only serves as fund manager for Copenhagen Infrastructure III K/S, CI III US AIV QFPF K/S, CI III US AIV Non-QFPF K/S, CI III Dutch AIV K/S and CI III Swiss AIV K/S.

In accordance with section 61 (5 and 6) of the Alternative Investment Fund Managers etc. Act, information regarding salaries paid to employees of the investment manager is disclosed in the Annual Report for 2018 for Copenhagen Infrastructure Partners P/S, Business Reg. No. 37 99 40 06.

No carried interest is paid out by the AIF during the financial period.

Notes

	2018	
	DKK'000	
4. Financial expenses		
Other interest, foreign exchange loss etc		(4)
General Partner fee		(4)
Interest expenses for financial liabilities		(8)
Realised financial expenses		(8)
	Capitalised development projects before FID*	Investments
	DKK'000	DKK'000
		Receivables from investments
		DKK'000
5. Investments		
Fair value at 11 June 2018	-	-
Acquisitions and development costs (net)	123,697	221,928
Value adjustment	1,040	1,734
Fair value at 31 December 2018	124,737	223,662
		84,103

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Investment	Corporate form	Registered in	Equity interest %
CI III QFPF	LP	United states	94,82

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of the Fund.

The methods applied by the Fund to measure investments are evident from note 11 to the financial statements.

In accordance with the requirements of IFRS 12, certain disclosures must be provided for an investment company's non-consolidated subsidiaries, and the following information is deemed relevant in this respect:

Notes

5. Investments (continued)

The Fund's investments are not classified as investment entities under IFRS 10 because they are all engaged in developing or owning infrastructure projects. There are no restrictions on the Fund's right to receive dividend from or have loans etc. repaid by the investments, except that distributions from current operating activities of the equity investments must be made allowing for debt servicing by such companies. The Fund has not provided its investments with financial support during the financial year outside the contractual basis.

6. Limited Partnership capital

The Limited Partnership capital has not been divided into classes.

2018
DKK'000

7. Other payables

Other payables	75,652
----------------	--------

The carrying amount of payables relates to investments, legal fees, auditor's fees, travel costs etc.
The amount recognised is equal to the fair value of the liabilities.

8. Working capital changes

Change in payables	75,652
	75,652

9. Financial instruments

Categories of financial instruments:

Investments	348,399
Receivables from investments	84,103
Financial assets measured at fair value through profit or loss	432,502
Other payables	75,652
Financial liabilities measured at amortised cost	75,652

All financial liabilities are due for payment within 12 months.

Notes

10. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited Partners and invests in infrastructure projects.

The Fund's risk management processes include identification, measurement, monitoring, reporting and mitigation of the identified risks to minimise the potential negative effects at fund level.

Key financial risk factors and exposure regarding the financial statements for 2018 can be categorised as follows:

Financial risk factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	75,652	0	0	75,652
31 December 2018	75,652	0	0	75,652

The Fund has no guarantees or contingent liabilities, but has an outstanding investment commitment of USD 254.7m. The liquidity risk is considered insignificant. No indication of the Limited Partners' inability to contribute the remaining fund commitment exists.

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loan provided to the infrastructure projects.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables at the balance sheet date.

Likewise there is no impairment of receivables e.g. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects to which the Fund has provided loans are currently under construction. The construction phases progress as planned and no significant delays in completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty at 31 December 2018.

Notes

10. Financial risk management (continued)

Interest rate risk

The Fund has no external debt at the balance sheet date, and therefore no interest rate risk is related to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including draw downs and distributions, are made in investment-specific currencies. Consequently, the Limited Partners are not exposed to currency risk through the Fund. No hedging is made at fund level.

11. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequently if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistently over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investments has been estimated by applying methods that best reflect the risks, and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

In general, the fair value is determined in accordance with IPEV Valuation Guidelines and generally accepted valuation techniques, including DCF models, benchmarking or other relevant method. However, for projects which are before financial close, cost, including capitalised development costs, is considered the best estimate for fair value.

The valuation of investments and receivables from investments is based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material inputs are not based on observable market data (Level 3)

Notes

11. Financial instruments measured at fair value (continued)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prices.

	Level 1 DKK'000	Level 2 DKK'000	Level 3 DKK'000	Total DKK'000
2018				
Unlisted shares, investments	0	0	348,399	348,399
Receivables from investments	0	0	84,103	84,103
Financial assets measured at fair value through profit or loss	0	0	432,502	432,502

Sensitivity analysis

The fair value of the Fund's investments is affected by developments in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for investments are increased by 1 percentage point, the fair value of the investments will be reduced by approximately DKK 210-230m, which will reduce the NAV of the Fund with the same amount. A reduction by 1 percentage point will increase the fair value of the investments by approximately DKK 410-430m, and also have the same effect on the NAV of the Fund. Due to the nature of the investments the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analyses have been made for investments under construction.

Please refer to note 5 for a specification of fair value investments.

Notes

12. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

2018
DKK'000

Related party transactions

The General Partner receives a fee for its liability towards
CI III US AIV QFPF K/S as per the Articles of Association

Payment to the General Partner

4

Copenhagen Infrastructure Partners P/S (the Fund Manager) is considered
a related party of the Fund due to direct or indirect control and transactions

Management fee (11 June – 31 December 2018)

47,802

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar collateral in connection with loans. As shown in note 5, loans are only provided to entities in which the Fund holds the majority of shares.

2018
DKK'000

Committed loan capital

990,780

Contributions

84,024

Outstanding commitment

906,756

There are no other key relationships, which are considered material to the financial statements.

13. Contingent liabilities

The Fund has no guarantees or contingent liabilities, but has an outstanding commitment of USD 254.7m.

Notes

14. Investors

The Limited Partnership has registered the following Limited Partners as holding more than 5% of the voting rights or nominal value of the contributed capital:

PBU Invest Holding P/S, Tuborg Boulevard 3, 2900 Hellerup

Lærernes Pension Forsikringsaktieselskab, Tuborg Boulevard 3, 2900 Hellerup

PFA Pension, Forsikringsaktieselskab, Sundkrogsgade 4, 2100 Copenhagen

PensionDanmark Pensionsforsikringsaktieselskab, Langelinie Allé 43, 2100 Copenhagen

Juristernes og Økonomernes Pensionskasse, Dirch Passers Allé 76, Frederiksberg

Oslo Pensjonforsikring AS, St. Olavs Plass 0129 Oslo

AP Pension Livsforsikringsaktieselskab, Østbanegade 135, Copenhagen

LÆGERNES PENSION – pensionskassen for læger, Dirch Passers Allé 76, Frederiksberg

15. Events after the balance sheet date

No events have occurred after the balance sheet date to this date, which would influence the evaluation of this annual report.

16. Authorisation of the annual report for issue

At the meeting held on 13 May 2019 the General Partner authorised this annual report for issue on 27 May 2019.

The annual report will be submitted to the Limited Partnership's Limited Partners for adoption at the Annual General Meeting on 27 May 2019.



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

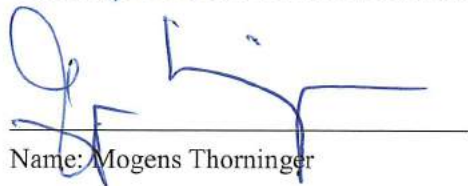
ATTACHMENT 5.6-10 CI-III Dutch AIV Annual Report 2018

CI III Dutch AIV K/S
Nørregade 21
1165 Copenhagen K
Business Registration No
39 17 45 02

Annual report 19.12.2017-31.12.2018

The Annual General Meeting adopted the annual report on 27.05.2019

Chairman of the General Meeting



Name: Mogens Thorninger

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Fund details

Fund

CI III Dutch AIV K/S

Nørregade 21

1165 Copenhagen K

Business Registration No: 39 17 45 02

Founded: 19.12.2017

Registered in: Copenhagen

Financial year: 19 December 2017 - 31 December 2018

Telephone: +45 70 70 51 51

Internet: www.cipartners.dk

General Partner

Copenhagen Infrastructure III GP ApS

Fund Manager

Copenhagen Infrastructure Partners P/S

Approved Manager of Alternative Investment Funds (FSA number: 23104)

Auditors

Deloitte Statsautoriseret Revisionspartnerselskab

Weidekampsgade 6

2300 Copenhagen S

Statement by the General Partner on the annual report

The General Partner has today considered and approved the annual report of CI III Dutch AIV K/S for the financial year 19 December 2017 - 31 December 2018.

The annual report is presented in accordance with International Financial Reporting Standards as adopted by the EU and disclosure requirements of the Danish Financial Statements Act.

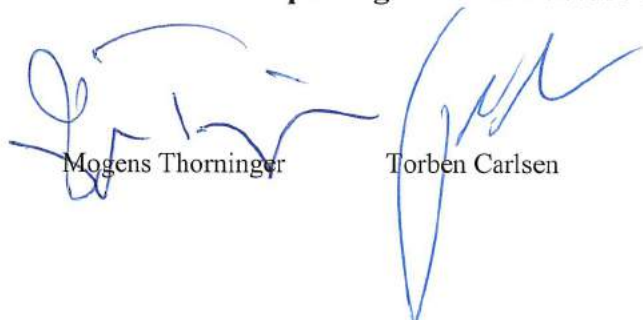
In our opinion, the financial statements give a true and fair view of the Limited Partnership's financial position at 31 December 2018 and of the results of its operations and the cash flows for the financial year 19 December 2017 - 31 December 2018.

We believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

We recommend the annual report for adoption at the Annual General Meeting.

Copenhagen, 13.05.2019

On behalf of Copenhagen Infrastructure III GP ApS



Mogens Thorninger Torben Carlsen

Independent auditor's report

To the shareholders of CI III Dutch AIV K/S

Opinion

We have audited the financial statements of CI III Dutch AIV K/S for the financial year 19.12.2017 - 31.12.2018, which comprise the statement of comprehensive income, balance sheet, statement of changes in equity, cash flow statement and notes, including a summary of significant accounting policies. The financial statements are prepared in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

In our opinion, the financial statements give a true and fair view of the Entity's financial position at 31.12.2018 and of the results of its operations for the financial year 19.12.2017 - 31.12.2018 in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the *Auditor's responsibilities for the audit of the financial statements* section of this auditor's report. We are independent of the Entity in accordance with the International Ethics Standards Board of Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

General Partner's responsibilities for the financial statements

The General Partner is responsible for the preparation of financial statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and additional requirements of the Danish Financial Statements Act, and for such internal control as the General Partner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the General Partner is responsible for assessing the Entity's ability to continue as a going concern, for disclosing, as applicable, matters related to going concern, and for using the going concern basis of accounting in preparing the financial statements unless the General Partner either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Independent auditor's report

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the General Partner.
- Conclude on the appropriateness of the General Partner's use of the going concern basis of accounting in preparing the financial statements, and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures in the notes, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Independent auditor's report

Statement on the management commentary

The General Partner is responsible for the management commentary.

Our opinion on the financial statements does not cover the management commentary, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the management commentary and, in doing so, consider whether the management commentary is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the management commentary provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, we conclude that the management commentary is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement of the management commentary.

Copenhagen, 13.05.2019

Deloitte

Statsautoriseret Revisionspartnerselskab
Business Registration No 33 96 35 56



Bill Haudal Pedersen
State-Authorised Public Accountant
Identification No (MNE) mne30131



Michael Thorø Larsen
State-Authorised Public Accountant
Identification No (MNE) mne35823

Management commentary

2017/18
DKK'000

Financial highlights

Key figures

Operating Profit/(loss) (EBIT)	(9,946)
Profit/(loss) for the year	(9,921)
Equity	51,378
Assets total	83,730

Ratios

Liquidity ratio (%)	95.84
Solvency ratio (%)	61.36

Primary activity

CI III Dutch AIV K/S was established in December 2017 and is managed by Copenhagen Infrastructure Partners P/S (CIP). The General Partner of CI III Dutch AIV K/S is Copenhagen Infrastructure III GP ApS.

At Fund close on 23 March 2018, the Limited Partners had committed DKK 744,5m to CI III Dutch AIV K/S for infrastructure investments in primarily North America, Europe and Asia.

Investments

End of 2018, CI III Dutch AIV K/S had completed two investments, Sage I-III and Misae.

Sage I-III

CI III Dutch AIV K/S has invested in a US solar project, Sage I-III. Sage I-III will be a 57.6 MWac solar plant located in Rich County, Utah, US. Sage I-III is currently under construction.

Misae

CI III Dutch AIV K/S has invested in a US solar project, Misae. Misae will be a 240 MWac solar plant located in Childress County, Texas, US. Misae is currently under construction.

Development in activities and finances

The origination and investment activities for CI III Dutch AIV K/S are progressing in accordance with expectations. Financial close on some projects is expected during 2019.

Management commentary (continued)

Uncertainty relating to recognition and measurement

CI III Dutch AIV K/S invests in infrastructure projects structured to provide stable cash flows, but where transferability and cash flows to a certain extent still may be affected by changes in market conditions. Consequently, the fair value of the investments is based on estimates and a number of assumptions made by the General Partner on the balance sheet date.

Information according to the Alternative Investment Fund Managers Directive

According to Article 22 of the Alternative Investment Fund Managers Directive, Alternative Investment Funds (AIF) must make certain disclosures to investors in connection with the presentation of financial statements.

During the financial period covered by the financial statements, there have been no significant changes in the matters below:

- The Fund's Investment strategy;
- Valuation principles of the Fund's investments;
- New arrangements for managing the Fund's liquidity;
- The Fund's risk profile and the risk management systems implemented by the Fund Manager used to manage the Fund's risks;
- There have been no amendments to the maximum level of leverage which the Fund Manager can use on behalf of the Fund. Nor has there been any changes in the right to use collateral or any guarantee accordance with the agreement allowing for the leverage.

Events after the balance sheet date

Lostock

CI III Dutch AIV K/S has in March 2019 invested in a UK waste-to-energy plant, Lostock. Lostock will be a 60 MW waste-to-energy plant located in Lostock, UK. Lostock is currently under construction.

No events besides from above have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

Outlook

Expectations for the Limited Partnership are positive.

Statement of comprehensive income

	<u>Notes</u>	<u>2017/2018</u> <u>DKK'000</u>
Interest income		71
Net foreign exchange gains/(losses)		<u>303</u>
Operating income		<u>374</u>
Administrative expenses	3	<u>(10,320)</u>
Operating expenses		<u>(10,320)</u>
Operating profit/(loss) (EBIT)		<u>(9,946)</u>
Financial income	4	35
Financial expenses	5	<u>(10)</u>
Profit/(loss) for the year		<u>(9,921)</u>
Other comprehensive income		<u>0</u>
Comprehensive income		<u><u>(9,921)</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Equity investments	6	44,170
Receivables from investments	6	<u>8,555</u>
Investments		<u>52,725</u>
 Fixed assets		 <u>52,725</u>
 Other short-term receivables		 <u>31,005</u>
Receivables		<u>31,005</u>
 Current assets		 <u>31,005</u>
 Assets		 <u><u>83,730</u></u>

Balance sheet at 31 December 2018

	<u>Notes</u>	<u>2018 DKK'000</u>
Limited partnership capital	7	61,299
Retained earnings		<u>(9,921)</u>
Equity		<u>51,378</u>
Bank loans		1
Other payables	8	<u>32,351</u>
Current liabilities other than provisions		<u>32,352</u>
Liabilities other than provisions		<u>32,352</u>
Equity and liabilities		<u><u>83,730</u></u>

Statement of changes in equity

	Limited partnership capital DKK'000	Retained earnings DKK'000	Total DKK'000
Contribution from Limited Partners	61,299	-	61,299
Profit/(loss) for the year	-	(9,921)	(9,921)
Equity at 31 December 2018	61,299	(9,921)	51,378

Cash flow statement for 2017/2018

	<u>Notes</u>	<u>2017/2018</u> <u>DKK'000</u>
Operating profit/(loss)		(9,946)
Income from investments		(374)
Working capital changes	9	<u>1,347</u>
Cash flows from ordinary activities		<u>(8,973)</u>
Financial income and expenses	4, 5	<u>25</u>
Cash flows from operating activities		<u>25</u>
Acquisition of investments	6	(43,863)
Receivables from investments	6	<u>(8,489)</u>
Cash flows from investing activities		<u>(52,352)</u>
Contribution from Limited Partners		<u>61,299</u>
Cash flows from financing activities		<u>61,299</u>
Increase/decrease in cash		(1)
Cash beginning of year		<u>0</u>
Cash end of year		<u>(1)</u>

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Notes

1. Accounting policies

Reporting class

The financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and disclosure requirements of the Danish Financial Statements Act governing reporting class B enterprises with certain provisions from class C.

CI III Dutch AIV K/S is a Limited Partnership based in Denmark.

This is the Fund's first financial year and comprise the period 19 December 2017 – 31 December 2018, and hence no comparative figures have been presented.

The financial statements are presented in Danish kroner (DKK), which is the functional currency of the Fund.

The financial statements are presented on the basis of historical cost, except for the investments and receivables from investments, which are measured at fair value. Historical cost is based on the fair value of the consideration given in exchange for assets.

Judgements made by the General Partner in the application of IFRSs that have had significant effects on the financial statements are disclosed, where applicable, in the relevant notes to the financial statements.

Defining materiality

If a line item is not individually material, it is aggregated with other items and notes of a similar nature in the financial statements or in the notes. There are substantial disclosure requirements throughout IFRS. The General Partner provides specific disclosures required by IFRS unless the information is considered immaterial to the economic decision-making of the users of these financial statements or not applicable.

The most significant accounting policies are set out overleaf.

Notes

1. Accounting policies (continued)

Standards and Interpretations not yet in force

All of the new and amended Standards and Interpretations which are relevant to the Fund and which came into force with effect for financial years beginning 1 January 2018 have been applied when preparing the financial statements.

At the date of the issue of these financial statements, a number of new or amended Standards and Interpretations have not entered into force. This includes in particular IFRS 16 regarding leasing with effect for financial years beginning 1 January 2019. The General Partner believes that IFRS 16 will not impact significantly on the financial statements for the coming financial years as the Fund has not entered into significant leases.

The General Partner further believes that other amended Standards and Interpretations, which have not entered into force, will not have any significant impact on the financial statements, and they will not be adopted early.

Significant accounting policies and estimates

As part of the preparation of the financial statements, the Fund Manager and the General Partner makes a number of accounting judgements which form the basis of presentation, recognition and measurement of the Fund's assets and liabilities. The most significant accounting judgements are evident from note 2 to the financial statements.

Recognition and measurement

Assets are recognised in the balance sheet when it is probable as a result of a prior event that future economic benefits will flow to the Fund, and the value of the asset can be measured reliably. Assets are derecognised in the balance sheet when it is no longer probable that future economic benefits will flow to the Fund.

Purchase and sale of financial assets and liabilities are recognised in the balance sheet at the commitment date.

Liabilities are recognised in the balance sheet when the Fund has a legal or constructive obligation as a result of an event before or on the balance sheet date, and it is probable that future economic benefits will flow out of the Fund, and the value of the liability can be measured reliably. Liabilities are derecognised in the balance sheet when it is no longer probable that economic benefits will have to be given up to settle the liability.

On initial recognition, assets and liabilities are measured at cost, however, investment assets are measured at fair value on initial recognition, typically equalling cost exclusive of directly incurred expenses (direct transaction costs). Measurement subsequent to initial recognition is effected as described below for each financial statement item. Allowance is made for events occurring from the balance sheet date to the date of presentation of the annual report, and which confirm or invalidate affairs and conditions existing at the balance sheet date.

Notes

1. Accounting policies (continued)

Income is recognised in the statement of comprehensive income when earned, whereas costs are recognised by the amounts attributable to this financial year.

Foreign currency translation

Items included in the financial statements of the Fund are measured in the currency of the primary economic environment in which the Fund operates (the "functional currency"). The financial statements of the Fund are presented in the currency unit (DKK, Danish kroner), which is the Fund's functional and presentation currency.

On initial recognition, foreign currency transactions are translated applying the exchange rate at the transaction date. Receivables, payables and other monetary items denominated in foreign currencies that have not been settled at the balance sheet date are translated using the exchange rate at the balance sheet date. Exchange differences that arise between the rate at the transaction date and the rate in effect at the payment date or the rate at the balance sheet date are recognised in the income statement as financial income or financial expenses.

Statement of comprehensive income

Revenue recognition

Dividend income is recognised when the Fund's rights to receive the payments have been established, normally being the ex-dividend date.

Interest on receivables from investments at fair value through profit or loss is accrued on a time-proportionate basis, by reference to the principal receivables from investments and at the effective interest rate applicable. The interest is calculated based on the net carrying amount on initial recognition.

Income from receivables and investments

Income from receivables and investments consists of unrealised fair value adjustments, dividends, accrued interest and profit or loss from the disposal of investments or receivables.

Income realised from the disposal of investments is calculated as the difference between net selling price and cost at the time of acquisition. Previously, unrealised fair value adjustments related to investments disposed of during the year were recycled to the effect that, in net terms, profit for the year was affected by the difference between the selling price and the fair value at the beginning of the financial year.

Administrative expenses

All expenses are recognised in the statement of comprehensive income on the accrual basis.

Administrative expenses comprise expenses incurred during the financial year not directly related to the Fund's investment activities.

Notes

1. Accounting policies (continued)

General due diligence costs and general administration etc including management fees have been expensed by the amounts attributable to this financial year, whereas certain development costs have been capitalised in order to increase the value of the equity investments or receivables from investments.

Financial income and expenses

Financial income and expenses comprise interest income and various expenses, and net exchange rate adjustments on transactions in foreign currencies.

Interest income and interest expenses are stated on an accruals basis using the principal interest rate.

Income taxes

Under current Danish law governing the Fund, it is not independently taxable because the Fund's profit/loss for the year is included in the Limited Partners' taxable income.

Balance sheet

Investments and receivables from investments

Financial assets and liabilities are recognised at fair value through profit or loss when the Fund becomes party to the contractual provisions of the instrument. Recognition takes place on the trading day when the Fund purchases or sells an investment under a contract whose terms require delivery of the investment within the time frame established by the market.

On initial recognition, investments and receivables from investments are measured at fair value.

Financial assets and liabilities are derecognised when the contractual rights to the cash flows from the investments have expired or the Fund has transferred substantially all risks and rewards of ownership.

Investments consist of equity investments and receivables from investments consist of loans and shareholder loans. Furthermore, investments consist of capitalised development costs, which increase the fair value of the investments. On initial recognition, both types of investment are measured at fair value, and subsequently measured at fair value with recognition of fair value adjustments through profit or loss.

The fair value is calculated equivalent to an estimated fair value that is determined based on market information, IPEV Valuation Guidelines and generally accepted valuation techniques, including benchmarking, DCF or other relevant methods, which are considered to provide the best estimate of the fair value.

For further information about the measurement of fair values, please refer to note 12.

Notes

1. Accounting policies (continued)

Other short-term receivables

Receivables are measured at amortised cost, usually equalling nominal value less write-downs for bad and doubtful debts.

Cash

Cash comprises cash in bank deposits.

Other financial liabilities

Other financial liabilities are measured at amortised cost, which usually corresponds to nominal value.

Cash flow statement

The cash flow statement of the Fund is presented using the indirect method and shows cash flows from operating, investing and financing activities as well as the Fund's cash equivalents at the beginning and the end of the financial year.

Cash flows from operating activities are calculated as the operating profit/loss adjusted for non-cash operating items and working capital changes.

Cash flows from investing activities comprise payments in connection with acquisition and divestment of investments.

Cash flows from financing activities comprise changes in the size or composition of the contributed capital and payment of distributions to the Limited Partners.

Cash comprises cash and short-term securities with an insignificant price risk less short-term bank loans.

Notes

1. Accounting policies (continued)

Financial highlights

Financial highlights are defined and calculated in accordance with "Recommendations & Ratios" issued by the Danish Society of Financial Analysts.

Ratios		Calculation formula	Ratios reflect
Liquidity ratio (%)	=	$\frac{\text{Current assets} \times 100}{\text{Current liabilities other than provisions}}$	The entity's financial strength.
Solvency ratio (%)	=	$\frac{\text{Equity} \times 100}{\text{Total assets}}$	The entity's financial strength.

2. Significant accounting estimates, assumptions and uncertainties

The Fund develops and invests in infrastructure assets (unlisted equity investments and receivables), the market price of which depends both on entity-specific affairs and market conditions, including power prices, commodity prices, exchange rates and construction risk within the different investments. Furthermore, the valuation and hence fair value of the long-term receivables are affected by changes in the risk-free interest rate and the general cost of risk in the market. As a result, income from investments, including the unrealised value adjustments, accrued interest and the fair value of investments are subject to estimation and uncertainty. For further information about the financial risks related to the investments, please refer to note 11.

This uncertainty may be higher during periods of high volatility in the financial markets, and economic trends affect earnings of the underlying companies as well. Furthermore, the uncertainty is affected by the construction risk within the different investments, and also the uncertainty related to the construction of the projects taking place within relevant time frames or milestones.

The methods applied in and the assumptions underlying the determination of the fair value in unlisted equity investments and receivables are described in note 12 to the financial statements.

Notes

3. Administrative expenses

The Fund has no employees.

Administrative expenses include management fee and investment advisory fee for the period to Copenhagen Infrastructure Partners P/S, in accordance with the LPA and management agreement. For further information about management fee and investment advisory fee, please refer to note 13.

According to Article 107 of the AIFM Directive, alternative investment funds must disclose information about the total remuneration of the entire staff of the Fund Manager and the number of beneficiaries. Furthermore, remuneration to material risk-takers must be disclosed. For information about remuneration, please refer to the annual report of the Fund Manager.

The Fund Manager must also disclose the information necessary to provide an understanding of the risk profile of the Fund and the measures that the Fund Manager takes to avoid or manage conflicts of interest between the Fund Manager and the Limited Partners. The Board of Directors has adopted a remuneration policy in order to ensure that the employees and Management are remunerated according to the Danish Executive Order on remuneration policy and disclosure requirements on remuneration for managers of alternative investment funds, etc.

The remuneration policy ensures, among other matters, that the following is applied in relation to remuneration at the Fund Manager:

- Promoting of sound and effective risk management, which does not encourage excessive risk-taking.
- Consistency with the principles regarding the protection of the Limited Partners and measures in order to avoid conflicts of interest.

Currently, the Fund Manager only serves as fund manager for Copenhagen Infrastructure III K/S, CI III US AIV QPFF K/S, CI III US AIV Non-QPFF K/S, CI III Dutch AIV K/S and CI III Swiss AIV K/S.

In accordance with section 61 (5 and 6) of the Alternative Investment Fund Managers etc. Act, information regarding salaries paid to employees of the investment manager is disclosed in the Annual Report for 2018 for Copenhagen Infrastructure Partners P/S, Business Reg. No. 37 99 40 06.

No carried interest is paid out by the AIF during the financial period.

Notes

	<u>2017/2018</u> <u>DKK'000</u>
4. Financial income	
Foreign exchange gains	35
Financial income	<u>35</u>
Realised financial income	<u>35</u>
5. Financial expenses	
Other interest, foreign exchange loss etc.	(2)
General Partner fee	(8)
Interest expenses for financial liabilities	<u>(10)</u>
Realised financial expenses	<u>(10)</u>

	<u>Capitalised development projects before FID* DKK'000</u>	<u>Investments DKK'000</u>	<u>Receivables from investments DKK'000</u>
6. Investments			
Fair value at 19 December 2017	-	-	-
Acquisitions and development costs (net)	20,350	23,513	8,489
Value adjustment	356	(49)	66
Fair value at 31 December 2018	<u>20,706</u>	<u>23,464</u>	<u>8,555</u>

*Development projects before FID comprise capitalised costs related to the design and development of the infrastructure investments where no equity and loan commitment has been provided.

Notes

6. Investments (continued)

<u>Investment</u>	<u>Corporate form</u>	<u>Registered in</u>	<u>Equity interest %</u>
CI III QFPF	LP	United states	5.08
CI III Changfang	K/S	Copenhagen	2.84
CI III Fufang	K/S	Copenhagen	2.84
CI III Xidao K/S	K/S	Copenhagen	2.84
CI III Zhong Neng	K/S	Copenhagen	2.84
CI Procurement	Inc.	United States	2.84
CI III Aba	K/S	Copenhagen	2.84
CI III UK Holding	K/S	Copenhagen	2.84
CI III Geo Holding	P/S	Copenhagen	2.84
CI III Star of the South	K/S	Copenhagen	2.84
CI III PQE Holding	P/S	Copenhagen	2.84
Gbay	K/S	Copenhagen	2.84

Consistently with the accounting policies, the Fund regularly adjusts the value of the investments to best estimate of fair value. This means that the proportionate share of profit or loss of the investments is not recognised in profit or loss of the Fund. Instead, the value adjustment of each investment's fair value is taken to profit or loss of the Fund.

The methods applied by the Fund to measure investments are evident from note 12 to the financial statements.

Notes

7. Limited Partnership capital

The Limited Partnership capital has not been divided into classes.

2018
DKK'000

8. Other payables

Other payables	32,351
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The carrying amount of payables relates to investments, legal fees, auditor's fees, travel costs etc.
The amount recognised is equal to the fair value of the liabilities.

9. Working capital changes

Change in receivables	(31,005)
Change in payables	32,352
	1,347

10. Financial instruments

Categories of financial instruments:

Investments	44,170
Receivables from investments	8,555
Financial assets measured at fair value through profit or loss	52,725
Other short-term receivables	31,005
Loans and receivables	31,005
Other payables	32,351
Financial liabilities measured at amortised cost	32,351

All financial liabilities are due for payment within 12 months.

Notes

11. Financial risk management

The General Partner is ultimately responsible for the overall risk management within the Fund, but has delegated the responsibility to the Fund Manager.

The Fund pursues an investment strategy approved by the Limited Partners and invests in infrastructure projects.

The Fund's risk management processes include identification, measurement, monitoring, reporting and mitigation of the identified risks to minimise the potential negative effects at fund level.

Key financial risk factors and exposure regarding the financial statements for 2018 can be categorised as follows:

Financial risk factors

Liquidity risks

	Less than 1 year DKK'000	Between 1 and 5 years DKK'000	After 5 years DKK'000	Total DKK'000
Other payables	32,351	0	0	32,351
31 December 2018	32,351	0	0	32,351

The Fund has no contingent liabilities, but has an outstanding investment commitment of USD 13.7m and AUD 0.5m. Furthermore, the Fund has outstanding guarantees for the investments of USD 2.2m and EUR 1.7m and an outstanding letter of credit of USD 0.4m.

The liquidity risk is considered insignificant. No indication of the Limited Partners inability to contribute the remaining fund commitment exists.

Credit risks

Credit risk relates to the risk of non-performing receivables and impairment of the Fund's loans provided to the infrastructure projects.

The maximum credit risk related to receivables equals the carrying amount. There is no indication of non-performing receivables at the balance sheet date.

Likewise there is no impairment of receivables e.g. at the balance sheet date as it is assessed that the debtors will fulfil the individual facility agreements. The investment projects to which the Fund has provided loans are currently under construction. The construction phases progress as planned and no significant delays in completion are currently expected.

The Fund is not exposed to any significant credit risk from a single counterparty at 31 December 2018.

Notes

11. Financial risk management (continued)

Interest rate risk

The Fund has no external debt at the balance sheet date, and therefore no interest rate risk connected to the liabilities.

Currency risk

The Fund is denominated in DKK. However, all cash flows, including drawdowns and distributions, are made in investment-specific currencies. Consequently, the Limited Partners are not exposed to currency risk through the Fund. No hedging is made at fund level.

12. Financial instruments measured at fair value

The fair value of the investments are measured on a quarterly basis, or more frequently if significant changes occur.

The Fund Manager has implemented procedures and methodology to ensure that the valuation is carried out consistently over time and across investments.

Methods applied in and assumptions underlying the determination of fair values of investments

The fair value of each investment and receivables from investments has been estimated by applying methods that best reflect the risks, and the stage of each investment, e.g. assumptions related to power prices, inflation rates, technical availability and discount rate.

In general, the fair value is determined in accordance with IPEV Valuation Guidelines and generally accepted valuation techniques, including DCF models, benchmarking or other relevant method. However, for projects which are before financial close, cost, including capitalised development costs, is considered the best estimate for fair value.

The valuation of investments and receivables from investments is based on the same methods, as investments and receivables from investments are exposed to the same risks.

Fair value hierarchy for financial instruments measured at fair value in the balance sheet

Below, financial instruments measured at fair value are classified using the fair value hierarchy:

- Quoted prices in active markets for identical instruments (Level 1)
- Quoted prices in active markets for similar assets or liabilities or other valuation methods under which all material inputs are based on observable market data (Level 2)
- Valuation techniques under which any material inputs are not based on observable market data (Level 3)

Notes

12. Financial instruments measured at fair value (continued)

It is the Fund's policy to incorporate the classification of financial assets (changes/transfers between levels 1 and 3) in the financial statements if their classification changes during the financial year. There have not been any transfers between the levels during the financial year and all investments are classified as Level 3 investments.

Material unobservable inputs for Level 3

Financial instruments measured at fair value in the balance sheet are based on valuation techniques that include material unobservable input. Material unobservable inputs mean in this context that the valuation is dependent on a return requirement that contains a number of components that cannot be observed on trading markets, for example project-specific risks and illiquidity prices.

	Level 1 DKK'000	Level 2 DKK'000	Level 3 DKK'000	Total DKK'000
2018				
Unlisted shares, investments	0	0	44,170	44,170
Receivables from investments	0	0	8,555	8,555
Financial assets measured at fair value through profit or loss	0	0	52,725	52,725

Sensitivity analysis

The fair value of the Fund's investments is affected by developments in the applied discount rate and future earnings expectations for these investments. A decline or increase in the material unobservable inputs stated above and changes in macroeconomic conditions might have a direct effect on the valuation of the investments.

If the discount rates for the Fund's investments are increased by 1 percentage point, the fair value of the investments will be reduced by approximately DKK 12m, which will reduce the NAV of the Fund with the same amount. A reduction by 1 percentage point will increase the fair value of the investments with approximately DKK 22m, and also have the same effect on the NAV of the Fund. Due to the nature of the investments the effects are subject to some uncertainty, as other factors can in some scenarios have a reverse effect. No sensitivity analyses have been made for investments under construction.

Please refer to note 6 for a specification of fair value investments.

Notes

13. Related parties

Related parties with a controlling interest

The Limited Partnership has no investors or related parties with a controlling interest.

2017/2018
DKK'000

Related party transactions

The General Partner receives a fee for its liability towards
CI III Dutch AIV K/S as per the Articles of Association

Payment to the General Partner

8

Copenhagen Infrastructure Partners P/S (the Fund Manager) is considered
a related party of the Fund due to direct or indirect control and transactions

Management fee

8,533

Receivables from investments

Loans have been granted on market terms, which are expected to be settled by future cash payments. The Fund has no guarantees or similar collateral in connection with loans.

There are no other key relationships, which are considered material to the financial statements.

14. Contingent liabilities

The Fund has no contingent liabilities, but has an outstanding commitment of USD 13.7m and AUD 0.5m. Furthermore, the Fund has outstanding guarantees for the investments of USD 2.2m and EUR 1.7m and an outstanding letter of credit of USD 0.4m.

Notes

15. Investors

The Limited Partnership has registered the following Limited Partner as holding more than 5% of the voting rights or nominal value of the contributed capital:

Stichting Pensioensfonds van de Metalektro (PME), Prinses Beatrixlaan 15 2595 AK's-Gravenhage

16. Events after the balance sheet date

Lostock

CI III Dutch AIV K/S has in March 2019 invested in a UK waste-to-energy plant, Lostock. Lostock will be a 60 MW waste-to-energy plant located in Lostock, UK. Lostock is currently under construction.

No events besides from above have occurred after the balance sheet date to this date which would influence the evaluation of this annual report.

17. Authorisation of the annual report for issue

At the meeting held on 13 May 2019 the General Partner authorised this annual report for issue on 27 May 2019.

The annual report will be submitted to the Limited Partnership's Limited Partner for adoption at the Annual General Meeting on 27 May 2019.



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.6-11 Avangrid Renewables Accounts 2018

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2018
Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to
Commission File No. 001-37660



Avangrid, Inc.

(Exact name of registrant as specified in its charter)

New York

(State or other jurisdiction of
incorporation or organization)

180 Marsh Hill Road
Orange, Connecticut

(Address of principal executive offices)

4911

(Primary Standard Industrial
Classification Code Number)

14-1798693

(I.R.S. Employer
Identification No.)

06477

(Zip Code)

Telephone: (207) 629-1200

(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Common Stock, \$0.01 par value per share par value

Name of each exchange on which registered

New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes ☐ No ☒
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for shorter period that the registrant was required to submit such files). Yes ☒ No ☐
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards pursuant to Section 13(a) of the Exchange Act. ☐
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒
The aggregate market value of the Avangrid, Inc.'s voting stock held by non-affiliates, computed by reference to the price at which the common equity was last sold as of the last business day of Avangrid, Inc.'s most recently completed second fiscal quarter (June 30, 2018) was \$2,959 million based on a closing sales price of \$52.93 per share.
Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 309,005,272 shares of common stock, par value \$0.01, were outstanding as of February 27, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the documents listed below have been incorporated by reference into the indicated parts of this report, as specified in the responses to the item numbers involved.
Designated portions of the Proxy Statement relating to the 2019 Annual Meeting of the Shareholders are incorporated by reference into Part III to the extent described therein.

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GLOSSARY OF TERMS AND ABBREVIATIONS

Unless the context indicates otherwise, references in this Annual Report on Form 10-K to “AVANGRID,” the “Company,” “we,” “our,” and “us” refer to Avangrid, Inc. and its consolidated subsidiaries.

Consent order refers to the partial consent order issued by DEEP in August 2016.

English station site refers to the former generation site on the Mill River in New Haven, Connecticut.

GenConn Devon refers to GenConn’s peaking generating plant in Devon, Connecticut.

GenConn Middletown refers to GenConn’s peaking generating plant in Middletown, Connecticut.

Ginna refers to the Ginna Nuclear Power Plant, LLC and the R.E. Ginna Nuclear Power Plant.

Iberdrola refers to Iberdrola, S.A., which owns 81.5% of the outstanding shares of Avangrid, Inc.

Iberdrola Group refers to the group of companies controlled by Iberdrola, S.A.

Installed capacity refers to the production capacity of a power plant or wind farm based either on its rated (nameplate) capacity or actual capacity.

Joint Proposal refers to the Joint Proposal, filed with the NYPSC on February 19, 2016, by NYSEG, RG&E and certain other signatory parties for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016.

Klamath Plant refers to the Klamath gas-fired cogeneration facility located in the city of Klamath, Oregon.

Merger Agreement refers to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among Avangrid, Inc., Green Merger Sub, Inc. and UIL Holdings Corporation.

Non-GAAP refers to the financial measures that are not prepared in accordance with U.S. GAAP, including adjusted net income and adjusted earnings per share.

AGT	Algonquin Gas Transmission
AMI	Automated Metering Infrastructure
AOI	Accumulated other comprehensive income
ARHI	Avangrid Renewables Holdings, Inc.
ARP	Alternative Revenue Programs
ASC	Accounting Standards Codification
Asnat	Asnat Realty, LLC
Army Corps	U.S. Army Corps of Engineers
ARO	Asset retirement obligation
AVANGRID	Avangrid, Inc.
Bcf	One billion cubic feet
BGC	The Berkshire Gas Company
BGEPA	Bald and Golden Eagle Protection Act
BLM	U.S. Bureau of Land Management
Cayuga	Cayuga Operating Company, LLC
CENG	Constellation Energy Nuclear Group, LLC
CfDs	Contracts for Differences

CFTC	Commodity Futures Trading Commission
CL&P	The Connecticut Light and Power Company
CMP	Central Maine Power Company
CNG	Connecticut Natural Gas Corporation
CPCN	Certificate of Public Convenience and Necessity
CSC	Connecticut Siting Council
DCF	Discounted cash flow
DEEP	Connecticut Department of Energy and Environmental Protection
DIMP	Distribution Integrity Management Program
DER	Distributed energy resources
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act
DOE	Department of Energy
DOER	Massachusetts Department of Energy Resources
DOJ	Department of Justice
DPA	Deferred Payment Arrangements
DPU	Massachusetts Department of Public Utilities
DSIP	Distributed System Implementation Plan
DSP	Distributed System Platform
DTh	Dekatherm
EAMs	Earnings adjustment mechanisms
EBITDA	Earnings before interest, taxes, depreciation and amortization
EDC	Massachusetts electric distribution companies
EDF	Environmental Defense Fund
EPA	Environmental Protection Agency
EPAct 2005	Energy Policy Act of 2005
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
ESC	Earnings Smart Community
ESM	Earnings sharing mechanism
Evergreen Power	Evergreen Power III, LLC
Exchange Act	The Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
FirstEnergy	FirstEnergy Corp.
FPA	Federal Power Act
Gas	Enstor Gas, LLC
GenConn	GenConn Energy LLC
Ginna Facility	R.E. Ginna Nuclear Power Plant
GNPP	Ginna Nuclear Power Plant, LLC.

HLBV	Hypothetical Liquidation at Book Value
HQUS	H.Q. Energy Services (U.S) Inc.
IRS	Internal Revenue Service
ISO	Independent system operator
ISO-NE	ISO New England, Inc.
kV	Kilovolts
kWh	Kilowatt-hour
LDCs	Local distribution companies
LIBOR	London Interbank Offer Rate
LIPA	Long Island Power Authority
LNG	Liquefied natural gas
LNS	Local Network Service
MBTA	Migratory Bird Treaty Act
Mcf	One thousand cubic feet
Merger Sub	Green Merger Sub, Inc.
MEPCO	Maine Electric Power Corporation
MGP	Manufactured gas plants
MHI	Mitsubishi Heavy Industries
MNG	Maine Natural Gas Corporation
MPRP	Maine Power Reliability Program
MPUC	Maine Public Utilities Commission
MtM	Mark-to-market
MW	Megawatts
MWh	Megawatt-hours
NAV	Net asset value
NECEC	New England Clean Energy Connect
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NETOs	New England Transmission Owners
Networks	Avangrid Networks, Inc.
New York TransCo	New York TransCo, LLC.
NGA	Natural Gas Act of 1938
NOL	Net operating loss
NYISO	New York Independent System Operator, Inc.
NYPA	New York Power Authority
NYPSC	New York State Public Service Commission
NYSE	New York Stock Exchange
NYSEG	New York State Electric & Gas Corporation
NYSERDA	New York State Energy Research and Development Authority

OATT	Open Access Transmission Tariff
OCC	Connecticut Office of Consumer Counsel
OCI	Other comprehensive income
OSHA	Occupational Safety and Health Act, as amended
PA	Connecticut Public Act
PCB	Polychlorinated Biphenyls
PJM	PJM Interconnection, L.L.C.
PPA	Power purchase agreement
PTF	Pool Transmission Facilities
PUCT	Public Utility Commission of Texas
PUHCA 2005	Public Utility Holding Company Act of 2005
PURA	Connecticut Public Utilities Regulatory Authority
RAM	Rate Adjustment Mechanism
RCRA	Resource Conservation and Recovery Act
RDM	Revenue decoupling mechanism
REC	Renewable Energy Certificate
RFP	Request for Proposals
Renewables	Avangrid Renewables, LLC
REV	Reforming the Energy Vision
RG&E	Rochester Gas and Electric Corporation
ROE	Return on equity
RNS	Regional Network Service
RPS	Renewable Portfolio Standards
RSSA	Reliability Support Services Agreement
RTO	Regional transmission organization
SCG	The Southern Connecticut Gas Company
Scottish Power	Scottish Power Ltd.
SEC	United States Securities and Exchange Commission
SOX	Sarbanes-Oxley Act
SPHI	Scottish Power Holdings, Inc.
Tax Act	Tax Cuts and Jobs Act of 2017 enacted by the U.S. federal government on December 22, 2017
TEF	Tax equity financing arrangements
TOTS	Transmission Owner Transmission Solutions
UI	The United Illuminating Company
UIL	UIL Holdings Corporation
U.S. GAAP	Generally accepted accounting principles for financial reporting in the United States.
VaR	Value-at-risk
VIEs	Variable interest entities
WECC	Western Electricity Coordinating Council

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains a number of forward-looking statements. Forward-looking statements may be identified by the use of forward-looking terms such as “may,” “will,” “should,” “would,” “could,” “can,” “expect(s),” “believe(s),” “anticipate(s),” “intend(s),” “plan(s),” “estimate(s),” “project(s),” “assume(s),” “guide(s),” “target(s),” “forecast(s),” “are (is) confident that” and “seek(s)” or the negative of such terms or other variations on such terms or comparable terminology. Such forward-looking statements include, but are not limited to, statements about our plans, objectives and intentions, outlooks or expectations for earnings, revenues, expenses or other future financial or business performance, strategies or expectations, or the impact of legal or regulatory matters on business, results of operations or financial condition of the business and other statements that are not historical facts. Such statements are based upon the current reasonable beliefs, expectations and assumptions of our management and are subject to significant risks and uncertainties that could cause actual outcomes and results to differ materially. Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, without limitation:

- the future financial performance, anticipated liquidity and capital expenditures;
- actions or inactions of local, state or federal regulatory agencies;
- success in retaining or recruiting our officers, key employees or directors;
- changes in levels or timing of capital expenditures;
- adverse developments in general market, business, economic, labor, regulatory and political conditions;
- fluctuations in weather patterns;
- technological developments;
- the impact of any cyber breaches or other incidents, grid disturbances, acts of war or terrorism or natural disasters; and
- the impact of any change to applicable laws and regulations affecting operations, including those relating to environmental and climate change, taxes, price controls, regulatory approval and permitting;
- the implementation of changes in accounting standards; and
- other presently unknown unforeseen factors.

Additional risks and uncertainties are set forth under Part I, Item 1A, “Risk Factors” in this Annual Report on Form 10-K. Should one or more of these risks or uncertainties materialize, or should any of the underlying assumptions prove incorrect, actual results may vary in material respects from those expressed or implied by these forward-looking statements. You should not place undue reliance on these forward-looking statements. We do not undertake any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this report, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. Other risk factors are detailed from time to time in our reports filed with the Securities and Exchange Commission, or SEC, and we encourage you to consult such disclosures.

PART I

Item 1. Business

Overview

AVANGRID is a leading sustainable energy company with approximately \$32 billion in assets and operations in 24 states. AVANGRID has two primary lines of business - Avangrid Networks and Avangrid Renewables. Avangrid Networks owns eight electric and natural gas utilities, serving approximately 3.2 million customers in New York and New England. Avangrid Renewables owns and operates 7.2 gigawatts of electricity capacity, primarily through wind power, with a presence in 22 states across the United States. AVANGRID supports the achievement of the Sustainable Development Goals approved by the member states of the United Nations, and earned the Compliance Leader Verification certification from the Ethisphere Institute, a third party verification of its ethics and compliance program. AVANGRID employs approximately 6,500 people. Iberdrola S.A., a corporation (*sociedad anónima*) organized under the laws of the Kingdom of Spain, a worldwide leader in the energy industry, directly owns 81.5% of outstanding shares of AVANGRID common stock. AVANGRID'S primary business is ownership of its operating businesses, which are described below.

Our direct, wholly-owned subsidiaries include Avangrid Networks, Inc., or Networks, and Avangrid Renewables Holdings, Inc., or ARHI. ARHI in turn holds subsidiaries including Avangrid Renewables, LLC, or Renewables. Networks owns and operates our regulated utility businesses through its subsidiaries, including electric transmission and distribution and natural gas distribution, transportation and sales. Renewables operates a portfolio of renewable energy generation facilities primarily using onshore wind power and also solar, biomass and thermal power. The following chart depicts our current organizational structure.



Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 1.0 million natural gas public utility customers as of December 31, 2018. The interstate transmission and wholesale sale of electricity by these regulated utilities is regulated by the Federal Energy Regulatory Commission, or FERC, under the Federal Power Act, or FPA, including with respect to transmission rates. Further, Networks' electric and gas distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the New York State Public Service Commission, or NYPSC, the Maine Public Utilities Commission, or MPUC, the Connecticut Public Utilities Regulatory Authority, or PURA, and the Massachusetts Department of Public Utilities, or DPU, respectively. Networks strives to be a leader in safety, reliability and quality of service to its utility customers.

Through Renewables, we had a combined wind, solar and thermal installed capacity of 7,218 megawatts, or MW, as of December 31, 2018, including Renewables' share of joint projects, of which 6,466 MW were installed wind capacity. Approximately 71% of the capacity was contracted as of December 31, 2018, for an average period of 8.5 years. Being among the top three largest wind operators in the United States based on installed capacity as of December 31, 2018, Renewables strives to lead the transformation of the U.S. energy industry to a sustainable, competitive, clean energy future. Renewables currently operates 57 wind farms in 21 states across the United States.

In December 2017, our management committed to a plan to sell the gas storage and trading businesses because they represented non-core businesses that are not aligned with our strategic objectives. At that time, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. On March 1, 2018, the Company closed a transaction to sell

Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC. On May 1, 2018, the Company closed a transaction to sell Enstor Gas, LLC, which operated AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC. The agreement included, among other things, a transition services agreement that obligates ARHI to provide certain transition services for up to one year after the closing date. Additional details on held for sale classification are provided in Note 26 to our consolidated financial statements contained in this Annual Report on Form 10-K.

Further information regarding the amount of revenues from external customers, including revenues by products and services, a measure of profit or loss and total assets for each segment for each of the last three fiscal years is provided in Note 23 to our consolidated financial statements contained in this Annual Report on Form 10-K.

See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" for further details.

History

We were incorporated in 1997 as a New York corporation under the name NGE Resources, Inc. and subsequently changed our name to Energy East Corporation. The stock of Energy East Corporation was publicly traded on the New York Stock Exchange, or the NYSE. In 2007, Iberdrola, S.A. acquired Scottish Power Ltd., or Scottish Power, including ScottishPower Holdings, Inc., or SPHI, the parent company of Scottish Power's U.S. subsidiaries. Through this acquisition, Iberdrola, S.A. acquired PPM Energy, a subsidiary that operated SPHI's U.S. wind business, thermal generation operations and the gas storage and energy management businesses and changed PPM Energy's name to Iberdrola Renewables. In 2008, Iberdrola, S.A. acquired Energy East Corporation, and we changed our name to Iberdrola USA, Inc. in December 2009. In 2013, we completed an internal corporate reorganization to create a unified corporate presence for the Iberdrola brand in the United States, bringing all of its U.S. energy companies under one single holding company, Iberdrola USA, Inc. The internal reorganization, completed in November 2013, resulted in the concentration of our principal businesses in two major subsidiaries: Networks, which held all of our regulated utilities; and Renewables, which held our renewable and thermal generation businesses, and gas storage and marketing businesses.

We were the corporate parent of The Southern Connecticut Gas Company, or SCG, Connecticut Natural Gas Corporation, or CNG and The Berkshire Gas Company, or BGC, prior to UIL Holdings Corporation, or UIL, acquiring those companies in 2010.

On December 16, 2015, we completed the acquisition of UIL, pursuant to which UIL merged with and into our wholly-owned subsidiary, Green Merger Sub, Inc., or Merger Sub, with Merger Sub surviving as our wholly-owned subsidiary. The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, or the Merger Agreement, by and among us, Merger Sub and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation" and we were renamed Avangrid, Inc. Immediately following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola, S.A. owned the remaining shares. Effective as of April 30, 2016, UIL and its subsidiaries were transferred to a wholly-owned subsidiary of Networks.

Networks

Overview

Networks, a Maine corporation, holds our regulated utility businesses, including electric generation, transmission and distribution and natural gas distribution, transportation and sales. Networks serves as a super-regional energy services and delivery company through the eight regulated utilities it owns directly:

- New York State Electric & Gas Corporation, or NYSEG, which serves electric and natural gas customers across more than 40% of the upstate New York geographic area;
- Rochester Gas and Electric Corporation, or RG&E, which serves electric and natural gas customers within a nine-county region in western New York, centered around Rochester;
- The United Illuminating Company, or UI, which serves electric customers in southwestern Connecticut;
- Central Maine Power Company, or CMP, which serves electric customers in central and southern Maine;
- SCG, which serves natural gas customers in Connecticut;
- CNG, which serves natural gas customers in Connecticut;
- BGC, which serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation, or MNG, which serves natural gas customers in several communities in central and southern Maine.

For the year ended December 31, 2018, Networks distributed approximately 37.3 million megawatt-hours, or MWh, of electricity. As of December 31, 2018, Networks provided electric service to its approximately 2.2 million customers in the states of New York, Maine and Connecticut. In total, the electric system of Networks' regulated utilities consisted of 8,662 miles of

transmission lines, 70,653 miles of distribution lines and 821 substations as of December 31, 2018. Furthermore, for the year ended December 31, 2018, Networks delivered approximately 203 million dekatherms, or DTh, of natural gas, to approximately 1 million customers, providing service in the states of New York, Maine, Connecticut and Massachusetts.

The demand for electric power and natural gas is affected by seasonal differences in the weather. Demand for electricity in each of the states in which Networks operates tends to increase during the summer months to meet cooling load or in winter months for heating load while statewide demand for natural gas tends to increase during the winter to meet heating load.

The following table sets forth certain information relating to the rate base, number of customers and the amount of electricity or natural gas provided by each of Networks' regulated utilities as of and for the year ended December 31, 2018:

Utility	Rate Base(1) (in billions)	Electricity Customers	Electricity Delivered (in MWh)	Natural Gas Customers	Natural Gas Delivered (in DTh)
NYSEG	\$ 2.7	898,685	15,728,000	267,893	57,649,000
RG&E	\$ 1.9	381,377	7,221,000	315,684	58,367,000
CMP	\$ 2.4	627,114	9,240,000	—	—
MNG	\$ 0.1	—	—	4,803	1,487,000
UI	\$ 1.6	336,394	5,148,000	—	—
SCG	\$ 0.6	—	—	198,966	36,251,000
CNG	\$ 0.5	—	—	177,660	37,995,000
BGC	\$ 0.1	—	—	40,381	10,545,000

- (1) "Rate base" means the net assets upon which a utility can receive a specified return, based on the value of such assets. The rate base is set by the relevant regulatory authority and typically represents the value of specified property, such as plants, facilities and other investments of the utility. These rate base values have been calculated using the best estimates as of December 31, 2018.

During the last five years, Networks has invested nearly \$5.9 billion in creating a delivery network with greater capacity and improved reliability, environmental security and sustainability, efficiency and automation. Networks continuously improves its grid to accommodate new requirements for advanced metering, demand response and enhanced outage management, while improving its flexibility for the integration and management of distributed energy resources, or DER.

New York

As of December 31, 2018, NYSEG served approximately 899,000 electricity customers and 268,000 natural gas customers across more than 40% of upstate New York's geographic area, while RG&E served approximately 381,000 electricity customers and 316,000 natural gas customers in a nine-county region centered around Rochester, in western New York.

In 2018, the nine hydroelectric plants owned by NYSEG and RG&E generated approximately 267 million kilowatt-hours, or kWh, of clean hydropower, which is enough energy to power 37,100 homes across New York State, assuming an average electricity consumption of 600 kWh per month per customer. See "—Properties—Networks" for more information regarding Networks' electric generation plants.

Networks also holds an approximate 20% ownership interest in the regulated New York TransCo, LLC, or New York TransCo. Through New York TransCo, Networks has formed a partnership with Central Hudson Gas and Electric Corporation, Consolidated Edison, Inc., National Grid, plc, and Orange and Rockland Utilities, Inc. to develop a portfolio of interconnected transmission lines and substations to fulfill the objectives of the New York energy highway initiative, a proposal to install up to 3,200 MW of new electric generation and transmission capacity in order to deliver more power generated from upstate New York power plants to downstate New York.

Maine

As of December 31, 2018, CMP delivered electricity to more than 627,000 customers in an 11,000 square-mile service area in central and southern Maine. CMP completed a \$1.4 billion investment plan for the construction of upgrades to the bulk power transmission grid in Maine, the largest transmission investment in the history of Maine, which included the construction of five new 345-kilovolt, or kV, substations and related facilities linked by approximately 440 miles of new transmission lines (refers to the Maine Power Reliability Program, or MPRP).

CMP also owns 78% of the Maine Electric Power Corporation, or MEPCO, a single-asset 182-mile 345kV electric transmission line from the Maine/New Brunswick border to Wiscasset, Maine.

As of December 31, 2018, MNG delivers natural gas to 4,803 customers in central and southern Maine. MNG continues to build out in 12 communities.

On February 14, 2018, the New England Clean Energy Connect, or NECEC, transmission project, proposed in a joint bid by CMP and Hydro-Québec, was selected by the Massachusetts electric utilities and the Massachusetts Department of Energy Resources, or DOER, in the Commonwealth of Massachusetts's 83D clean energy Request for Proposal, or RFP, to move forward as the alternative to the Northern Pass Transmission project which failed to win approval from the New Hampshire Site Evaluation Committee by March 27, 2018. On March 28, 2018, the DOER informed CMP that the conditional selection of Northern Pass Transmission project had been terminated, making the NECEC transmission project the lone winning bid in the RFP. The proposed NECEC transmission project includes a 145-mile transmission line linking the electrical grids in Québec, Canada and New England. The project, which has an estimated cost of approximately \$950 million, would add 1,200 MW of transmission capacity to supply New England with power from reliable hydroelectric generation.

On June 13, 2018, CMP entered into transmission service agreements, or TSAs, with the purchasing Massachusetts electric distribution companies, or the EDCs, and H.Q. Energy Services (U.S.) Inc., or HQUS, an affiliate of Hydro-Québec, which govern the terms of service and revenue recovery for the NECEC transmission project. Simultaneous with the execution of the TSAs with CMP, the EDCs have executed certain PPAs with HQUS for sales of electricity and environmental attributes to the EDCs. The EDCs submitted the TSAs and PPAs to the DPU for approval on July 23, 2018, and CMP filed the TSAs for approval by the FERC on August 20, 2018. On October 19, 2018, FERC issued an order accepting the TSAs for filing as CMP rate schedules effective as of October 20, 2018. The DPU proceedings are ongoing with a decision from the agency expected in the second quarter of 2019.

The NECEC project also requires certain permits, including environmental, from multiple state and federal agencies and a presidential permit from the U.S. Department of Energy, authorizing the construction, operation, maintenance and connection of facilities for the transmission of electric energy at the international border between the United States and Canada. These permitting activities are ongoing. CMP expects to obtain the applicable state and federal permits by year end 2019. See "Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*" for further details.

Connecticut

As of December 31, 2018, UI served more than 336,000 residential, commercial and industrial customers in a service area of approximately 335 square miles in the southwestern part of Connecticut. The service area includes Bridgeport and New Haven and is home to a diverse array of business sectors including aerospace manufacturing, healthcare, biotech, financial services, precision manufacturing, retail and education. UI's retail electric revenues vary by season, with the highest revenues typically in the third quarter of the year reflecting seasonal rates, hotter weather and air conditioning use.

UI is also a party to a joint venture with Clearway Energy, Inc. (formerly NRG Yield, Inc.), which is an affiliate of Global Infrastructure Partners, or GIP, pursuant to which UI holds 50% of the membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC, or GenConn, operates peaking generation plants in Devon, Connecticut, or GenConn Devon, and Middletown, Connecticut, or GenConn Middletown. In September 2018, NRG Energy, Inc. sold its interests in NRG Yield, Inc. to GIP. The sale is not expected to have an impact on GenConn.

As of December 31, 2018, SCG and CNG provided local gas distribution services to approximately 377,000 customers in the greater Hartford-New Britain area, Greenwich and the southern Connecticut coast from Westport to Old Saybrook, including the cities of Bridgeport and New Haven.

Massachusetts

As of December 31, 2018, BGC provided local gas distribution services to approximately 40,000 customers in a service area in western Massachusetts, which includes the cities of Pittsfield, North Adams and Greenfield.

Rate Base

These rate base values were calculated using the best estimates as of December 31, 2018. The rate base of Networks' regulated utilities for the years indicated below were as follows:

Rate base	2016	2017	2018
	<i>(in millions)</i>		
NYSEG Electric	\$ 1,828	\$ 1,872	\$ 2,067
NYSEG Gas	490	534	585
RG&E Electric	1,061	1,218	1,386
RG&E Gas	407	428	497
Subtotal New York	3,786	4,052	4,535
CMP Dist.	790	854	903
CMP Trans.	1,447	1,460	1,460
MNG	69	67	71
Subtotal Maine	2,306	2,381	2,434
UI Dist.	972	1,007	1,035
UI Trans.	544	570	592
SCG	510	536	550
CNG	429	449	479
Subtotal Connecticut	2,456	2,562	2,656
BGC	91	107	111
Total	\$ 8,638	\$ 9,103	\$ 9,736

Earnings Sharing Mechanisms

Networks' regulated utilities' rate plans approved by State regulators often include earnings sharing mechanisms, or ESM, that are intended to encourage regulated utilities to operate efficiently. Pursuant to ESMs, if certain of the regulated utilities of Networks earn more than certain threshold amounts, they must share with customers a specified percentage of these earnings. Below is a history of ESMs over the past three years:

	2016	2017	2018
NYSEG Electric	50% / 50%: 9.50% - 10.00% 75% / 25%: 10.00% - 10.50% 90% / 10%: over 10.50%; Based on Actual Equity Ratio up to 50% *	50% / 50%: 9.65% - 10.15% 75% / 25%: 10.15% - 10.65% 90% / 10%: over 10.65%; Based on Actual Equity Ratio up to 50%	50% / 50%: 9.75% - 10.25% 75% / 25%: 10.25% - 10.75% 90% / 10%: over 10.75%; Based on Actual Equity Ratio up to 50%
NYSEG Gas	Same as above	Same as above	Same as above
RG&E Electric	Same as above	Same as above	Same as above
RG&E Gas	Same as above	Same as above	Same as above
CMP Dist.	No ESM	No ESM	No ESM
CMP Trans.	No ESM	No ESM	No ESM
MNG	No ESM	50% / 50% over 11.55%	50% / 50% over 11.55%
UI	50% / 50% over 9.15%	50% / 50% over 9.10%	50% / 50% over 9.10%
SCG	No ESM	No ESM	50% / 50% over 9.25%
CNG	50% / 50% over 9.18%	50% / 50% over 9.18%	50% / 50% over 9.18%
BGC	No ESM	No ESM	No ESM

*No ESM from January through April 2016.

Renewables

The Renewables business, based in Portland, Oregon, is engaged primarily in the design, development, construction, management and operation of generation plants that produce electricity using renewable resources and, with more than 60 renewable energy projects, is one of the leaders in renewable energy production in the United States based on installed capacity. Renewables'

primary business is onshore wind energy generation, which represented approximately 90% of Renewables' combined installed capacity as of December 31, 2018. For the year ended December 31, 2018, Renewables produced approximately 16,207,000 MWh of energy through wind power generation. Renewables had a pipeline of approximately 14,000 MW (approximately 10,000 MW - onshore and approximately 4,000 MW - offshore) of future renewable energy projects in various stages of development as of December 31, 2018.

Typically, Renewables enters into long-term lease agreements with property owners who lease their land for renewable projects. Electricity generated at a wind project is then transmitted to customers through long-term agreements with purchasers. There are a limited number of turbine suppliers in the market. Renewables' largest turbine suppliers, Siemens-Gamesa, in which Iberdrola has an 8.1% ownership, and GE Wind, in the aggregate supplied turbines which accounted for 74% of Renewables' installed wind capacity as of December 31, 2018.

Renewables currently operates 57 wind farms in 21 states across the United States. To monetize the tax benefits resulting from production tax credits and accelerated tax depreciation available to qualifying wind energy projects, Renewables has entered into "tax equity" financing structures with third party investors for a portion of its wind farms. Renewables holds nine operating wind farms under these structures through limited liability companies jointly owned by one or more third party investors. These investors generally provide an up-front investment or, in some cases, payments over time for their membership interests in the financing structures. In return, the investors receive specified cash distribution allocations and substantially all of the tax earnings and benefits generated by the wind farms, until such benefits achieve a negotiated return on their investment. Upon attainment of this target return, the sharing of the cash flows and tax benefits flip, with Renewables receiving substantially all of these amounts thereafter. We also have an option to repurchase the investor's interest within a certain timeframe after the target return is met. Renewables maintains operational and management control over the wind farm businesses, subject to investor approval of certain major decisions. See "—Properties—Renewables" for more information regarding Renewables' wind power generation properties.

Additionally, as part of the Renewables portfolio, Renewables operates two thermal generation facilities in the United States, with 636 MW of combined capacity as of December 31, 2018. Renewables worked closely with the City of Klamath Falls, Oregon to develop the Klamath Plant, which has a current capacity of 536 MW. The Klamath Plant operates by creating two useful forms of energy, electricity and process steam, from a single fuel source of natural gas. In addition, Renewables operates a highly flexible 100 MW Klamath Peaking Plant adjacent to the Klamath Plant, providing customers of Renewables additional capability to meet their peak summer and winter power needs.

In addition to its wind assets, Renewables operates four solar photovoltaic facilities with an installed capacity of 116 MW. The solar photovoltaic facilities produced over 262,000 MWh of renewable energy for the year ended December 31, 2018. Solar accounted for 1.5% of the total renewable energy generation from Renewables in these same periods.

Renewables is pursuing the continued development of a large pipeline of wind energy projects in various regions across the United States. Each site features a range of different atmospheric characteristics that ultimately drive the selection of turbine technology for the proposed project. As part of Renewables' wind resource assessment investigation, critical atmospheric parameters such as mean wind speed, extreme wind speed, turbulence intensity, and mean air density are characterized to represent long-term conditions, for over 20 years. The summary wind characteristics are then combined with a terrain, or orography, analysis to assess siting risks in order to mitigate any future operations and maintenance concerns that may arise due to improper turbine siting.

Renewables maintains close relationships with key turbine suppliers, including Siemens-Gamesa, GE, Vestas and others in order to identify the turbine technology that safely delivers the lowest cost of energy for each candidate project in its portfolio. Renewables has deployed the following mix of turbines under this strategy. See "—Properties—Renewables" for more information regarding Renewables' turbine technology.

MFG	Model	Rating	Turbines	MW
Siemens-Gamesa	G83	2.0	60	120
Siemens-Gamesa	G87	2.0	651	1,302
Siemens-Gamesa	G90	2.0	237	474
Siemens-Gamesa	G97	2.0	109	218
Siemens-Gamesa	G114	2.0	282	581
Siemens-Gamesa	SWT2.3-93	2.3	44	101
GE	1.5s	1.5	133	200
GE	1.5sle	1.5	1,126	1,689
GE	2.3	2.3	57	131
MHI	MWT62/1.0	1.0	45	45
MHI	MWT92/2.4	2.4	168	403
MHI	MWT95/2.4	2.4	125	300
MHI	MWT102/2.4	2.4	1	2
NEG	NM48	0.7	3	2
Suzlon	S88	2.1	341	716
Vestas	V47	0.7	34	22
Vestas	V82	1.7	97	160
Total			3,513	6,466

The Renewables meteorology team supports the commercial development of wind energy projects in Renewables' pipeline by performing a wide variety of detailed investigations to characterize the expected wind energy production from a proposed wind farm in its pre-construction phase of development. These investigations include measuring the wind resource with several well-equipped meteorological masts, utilizing state of the art laser-based and acoustic-based remote sensing equipment, computational fluid dynamics modeling software and energy modeling software packages that characterize wake losses from any upwind turbines that may be present. The Renewables fleet of measurement masts consists of approximately 170 towers that are currently in operation. Additionally, a total of six light detecting and ranging, and six sonic detecting and ranging, remote sensing devices are deployed at sites across the United States. These remote sensing devices allow hub-height wind speed measurement from a ground-based sensor that can be rapidly deployed and moved as the project matures or changes in nature. The resulting pre-construction energy production estimates that utilize these measurements have been shown to be accurate in a multi-year internal study that compares results to actual, operational data in a benchmarking analysis. This study provides a critical feedback loop that is used to define methodology requirements for future pre-construction energy production estimates to ensure confidence in project investment. Renewables' commitment to obtaining robust atmospheric measurement is driven by a company culture that values business case confidence and understands the role that accurate meteorological data play in the pursuit of this goal.

Regulatory Environment and Principal Markets

Federal Energy Regulatory Commission

Among other things, the FERC regulates the transmission and wholesale sales of electricity in interstate commerce and the transmission and sale of natural gas for resale in interstate commerce. Certain aspects of Networks' businesses and Renewables' competitive generation businesses are subject to regulation by the FERC.

Pursuant to the FPA, electric utilities must maintain tariffs and rate schedules on file with the FERC, which govern the rates, terms and conditions for the provision of the FERC-jurisdictional wholesale power and transmission services. Unless otherwise exempt, any person that owns or operates facilities used for the wholesale sale or transmission of power in interstate commerce is a public utility subject to the FERC's jurisdiction. The FERC regulates, among other things, the disposition of certain utility property, the issuance of securities by public utilities, the rates, the terms and conditions for the transmission or wholesale sale of power in interstate commerce, interlocking officer and director positions, and the uniform system of accounts and reporting requirements for public utilities.

With respect to Networks' regulated electric utilities in Maine, New York and Connecticut, the FERC governs the return on equity, or ROE, on all transmission assets in Maine and Connecticut and certain New York TransCo assets in New York; FERC also oversees the rates, terms and conditions of transmission of electric energy in interstate commerce, interconnection service in interstate commerce (which applies to independent power generators, for example), and the rates, terms and conditions of wholesale sales of electric energy in interstate commerce, which includes cost-based rates, market-based rates and the operations of regional capacity and electric energy markets in New England administered by an independent entity, ISO New England, Inc., or ISO-NE, and in New York, administered by another independent entity, the New York Independent System Operator, Inc., or NYISO. The FERC approves CMP, UI and New York TransCo regulated electric utilities' transmission revenue requirements. Wholesale electric transmission revenues are recovered through formula rates that are approved by the FERC. CMP's, MEPCO's and UI's electric

transmission revenues are recovered from New England customers through charges that recover costs of transmission and other transmission-related services provided by all regional transmission owners. NYSEG's and RG&E's electric transmission revenues are recovered from New York customers through charges that recover the costs of transmission, and other transmission-related services provided by all transmission owners in New York. Several of our affiliates have been granted authority to engage in sales at market-based rates and blanket authority to issue securities, and have also been granted certain waivers of the FERC reporting and accounting regulations available to non-traditional public utilities; however, we cannot be assured that such authorizations or waivers will not be revoked for these affiliates or will be granted in the future to other affiliates.

Pursuant to a series of orders involving the ROE for regionally planned New England electric transmission projects, the FERC established a base-level transmission ROE of 11.14%, as well as providing a 50-basis point ROE adder on Pool Transmission Facilities, or PTF, for participation in the regional transmission organization, or RTO, for New England and a 100-basis point ROE incentive for projects included in the ISO-NE Regional System Plan that were completed and on line as of December 31, 2008. Certain other transmission projects received authorization for incentives up to 125 basis points.

Since 2011, several parties have filed four separate complaints with the FERC against ISO-NE and several New England transmission owners, or NETOs, including UI, CMP and MEPCO, claiming that the current approved base ROE of 11.14% was not just and reasonable, seeking a reduction of the base ROE and a refund to customers for the 15-month refund periods beginning October 1, 2011 (Complaint I), December 27, 2012 (Complaint II), July 31, 2014 (Complaint III) and April 29, 2016 (Complaint IV).

Following various intermediate hearings, orders, and appellate decisions, on October 16, 2018, the FERC issued an order directing briefs and proposing a new methodology to calculate the NETOs ROE that is contained in NETOs' transmission formula rate on file at FERC, or the October 2018 Order. The FERC proposes to use this new methodology to resolve Complaints I, II, III, and IV filed by the New England state consumer advocates.

The new proposed ROE methodology set forth in the October 2018 Order considers more than just the two-step discounted cash flow, or DCF, analysis adopted in the FERC order on Complaint I vacated by the Court. The new proposed ROE methodology uses three financial analyses (i.e., DCF, the capital-asset pricing model, and the expected earnings analysis) to produce a range of returns to narrow the zone of reasonableness when assessing whether a complainant has met its initial burden of demonstrating that the utility's existing ROE is unjust and unreasonable. The new proposed ROE methodology establishes a range of just and reasonable ROEs of 9.60% to 10.99% and proposes a just and reasonable base ROE of 10.41% with a new ROE cap of 13.08%. Pursuant to the October 2018 Order, the NETOs filed briefs on the proposed methodology in all four Complaints on January 11, 2019. We cannot predict the outcome of this proceeding.

The FERC has the right to review books and records of "holding companies," as defined in the Public Utility Holding Company Act of 2005, or PUHCA 2005, that are determined by FERC to be relevant to the companies' respective FERC-jurisdictional rates. We are a holding company, as defined in PUHCA 2005.

The FERC has civil penalty authority over violations of any provision of Part II of the FPA, as well as any rule or order issued thereunder. FERC is authorized to assess a maximum civil penalty of \$1.3 million per violation for each day that the violation continues. The FPA also provides for the assessment of criminal fines and imprisonment for violations under Part II of the FPA. Pursuant to the Energy Policy Act of 2005, or EPCA 2005, the North American Electric Reliability Corporation, or NERC, has been certified by the FERC as the Electric Reliability Organization for North America responsible for developing and overseeing the enforcement of electric system reliability standards applicable throughout the United States. FERC-approved reliability standards may be enforced by the FERC independently, or, alternatively, by NERC and the regional reliability organizations with frontline responsibility for auditing, investigating and otherwise ensuring compliance with reliability standards, subject to the FERC oversight.

The gas distribution operations of NYSEG, RG&E, SCG, CNG and BGC are subject to the FERC regulation under the Natural Gas Act of 1938, or NGA, with respect to their gas purchases/sales and contracted transportation/storage capacity. FERC has civil penalty authority under the NGA to impose penalties for certain violations of up to \$1.3 million per day for violations. FERC also has the authority to order the disgorgement of profits from transactions deemed to violate the NGA and EPCA 2005.

Market Anti-Manipulation Regulation

The FERC and the Commodity Futures Trading Commission, or CFTC, monitor certain segments of the physical and futures energy commodities market pursuant to the FPA, the Commodity Exchange Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, including our businesses' energy transactions and operations in the United States. With regard to the physical purchases and sales of electricity and natural gas, the gathering storage, transmission and delivery of these energy commodities and any related trading or hedging transactions that some of our operating subsidiaries undertake, our operating subsidiaries are required to observe these anti-market manipulation laws and related regulations enforced

by the FERC and CFTC. The FERC and CFTC hold substantial enforcement authority, including the ability to assess civil penalties of up to \$1.3 million per day per violation, to order disgorgement of profits and to recommend criminal penalties.

State Regulation

Networks' regulated utilities are subject to regulation by the applicable state public utility commissions, including with regard to their rates, terms and conditions of service, issuance of securities, purchase or sale of utility assets and other accounting and operational matters. NYSEG and RG&E are subject to regulation by the NYPSC; CMP and MNG are subject to regulation by the MPUC; UI, SCG and CNG are subject to regulation by the PURA; and BGC is subject to regulation by the DPU. The NYPSC, MPUC and the Connecticut Siting Council, or CSC, exercise jurisdiction over the siting of electric transmission lines in their respective states, and each of the NYPSC, MPUC, PURA and DPU exercise jurisdiction over the approval of certain mergers or other business combinations involving Networks' regulated utilities. In addition, each of the utility commissions has the authority to impose penalties on these regulated utilities, which could be substantial, for violating state utility laws and regulations and their orders.

Networks' regulated distribution utilities deliver electricity and/or natural gas to all customers in their service territory at rates established under cost of service regulation. Under this regulatory structure, Networks' regulated distribution utilities recover the cost of providing distribution service to their customers based on its costs, and earn a return on their capital investment in utility assets.

The following provides a summary of Networks regulated utilities' most recent rate cases:

- *New York.* On May 20, 2015, NYSEG and RG&E initiated a distribution rate case to ensure that the companies are able to continue to provide safe, adequate and reliable service, continue to make investments to modernize infrastructure, enhance low income programs and improve both gas and electric reliability, while maintaining the Companies' financial integrity. On February 19, 2016, NYSEG, RG&E and other signatory parties filed a Joint Proposal, with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016. The Joint Proposal was approved on June 15, 2016 by the NYPSC. For more information on rate case activity in New York, see Note 5 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.

The NYSEG and RG&E 2016 three-year rate plan ends in April 2019. The companies intend to file rate cases in New York in the second quarter of 2019 for new tariffs effective in the second quarter of 2020.

- *Maine.* On May 1, 2013, CMP filed a distribution service rate case in order to recover past and future investments and provide safe and adequate service. On August 25, 2014, MPUC approved a stipulation agreement that provided for a distribution rate increase of approximately \$24.3 million, effective July 1, 2014, with an allowed ROE of 9.45% and an allowed equity ratio of 50%. The stipulation provided for the implementation of a revenue decoupling mechanism, or RDM, reserve accounting and sharing of incremental storm costs, a separate proceeding for recovery of a new billing system and no earnings sharing. On March 1, 2018, the MPUC issued a Notice of Investigation initiating a summary investigation into CMP's metering, billing and customer communications practices. Due to the highly technical nature of CMP's customer billing system, on March 22, 2018 the MPUC issued an Order Initiating Audit commencing a forensic audit of CMP's customer billing system to identify any errors that have, or continue to be resulting in billing inaccuracies. On July 10, 2018, the MPUC issued an Order Modifying Scope of Audit, which expanded the scope of the audit to include the customer communication practices that were originally identified in the Commission's Notice of Investigation. On May 29, 2018, a ten-person complaint was filed with the MPUC against CMP, Networks and AVANGRID. The complaint requested that the MPUC open a rate case to determine if CMP is making excessive returns on investment and, therefore, whether CMP's retail rates should be lower. The complaint also requested the MPUC deny certain costs associated with the October 2017 windstorm. On July 24, 2018, the MPUC issued an order dismissing the complaint and its associated request to deny the recovery of costs associated with the October 2017 windstorm. The order initiated an investigation into CMP's rates and revenue requirement and directed CMP to make a filing consistent with the requirements for a general rate case no later than October 15, 2018. Consistent with the order in the ten-person complaint proceeding, on August 7, 2018, the MPUC issued a Notice of Investigation, opening the proceeding in which CMP would make its rate case filing and through which the MPUC will examine the rates and revenue requirements of CMP. On October 15, 2018, CMP filed a general rate case as directed by the MPUC requesting a ROE of 10% and an equity ratio of 55%. CMP is proposing to use savings arising out of changes in federal taxation pursuant to the Tax Cuts and Jobs Act of 2017, or the Tax Act, to keep its distribution prices stable while making its electric system more reliable. The MPUC has established a ten-month process to review CMP's filing and we expect a decision in October of 2019. CMP's general rate case filing includes a proposal to enhance the resiliency of the energy grid by expanding vegetation management and pursuing additional reliability measures such as pole replacements and addition of tree wire in selected areas. Such investments are designed to strengthen CMP's power grid so it can better stand up to severe weather. CMP is planning to use savings from the

federal Tax Act to pay for the costs of resiliency programs, other investments in infrastructure and certain cost increases since 2014. On December 20, 2018, the MPUC released the findings of the forensic audit of CMP's customer billing system and customer communication practices. On January 14, 2019, the MPUC issued an Order and Notice of Investigation initiating an investigation of CMP's metering and billing practices and initiating a separate investigation of the audit of CMP's customer service and communication practices and incorporating such investigation into the general rate case. We cannot predict the outcome of this matter.

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service. On May 3, 2016, all active parties to the case filed a stipulation that settled all matters at issue in the case and reflected a 10-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a ten-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge that increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation.

- *Connecticut.* In December 2016, PURA approved distribution rate schedules for UI for three years that became effective January 1, 2017 and which, among other things, provides for annual tariff increases and an ROE of 9.10% based on a 50% equity ratio, continued UI's existing ESM pursuant to which UI and its customers share on a 50/50 basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism, and approved the continuation of a requested storm reserve. Any dollars due to customers from the ESM continue to be first applied against any storm regulatory asset balance (if one exists at that time) or refunded to customers through a bill credit if such storm regulatory asset balance does not exist.

In December 2017, PURA approved new tariffs for SCG effective January 1, 2018 for a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019 and 2020, respectively. The new tariff also includes an RDM and Distribution Integrity Management Program, or DIMP, mechanism similar to the mechanisms authorized for CNG, ESM, the amortization of certain regulatory liabilities (most notably accumulated hardship deferral balances and certain accumulated deferred income taxes) and tariff increases based on a ROE of 9.25% and approximately 52% equity level. Any dollars due to customers from the ESM will be first applied against any environmental regulatory asset balance as defined in the settlement agreement (if one exists at that time) or refunded to customers through a bill credit if such environmental regulatory asset balance does not exist.

On June 29, 2018, CNG filed an application with PURA for new tariffs to become effective January 1, 2019. On August 30, 2018, CNG entered into a settlement agreement with the Office of Consumer Counsel and PURA prosecutorial staff that provides for new rates effective January 1, 2019. The settlement agreement was approved by PURA on December 19, 2018. The settlement agreement included an increase in rates of \$9.9 million in 2019, an incremental increase of \$4.6 million in 2020 and an incremental increase of \$5.2 million in 2021, for a total increase of \$19.7 million over the three-year rate plan. The settlement agreement is based on an ROE of 9.30%, and an equity ratio of 54% in 2019, 54.50% in 2020 and 55% in 2021.

For more information on rate case activity in Connecticut, see Note 5 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.

- *Massachusetts.* BGC's rates are established by the DPU. BGC's ten-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan.

On May 17, 2018, BGC filed a petition with the DPU seeking approval of a distribution rate increase to be effective January 1, 2019. On December 4, 2018, BGC and the Massachusetts Attorney General's Office filed a settlement agreement with the DPU. The settlement agreement provides for a \$1.6 million distribution base rate increase effective January 1, 2019, or February 1, 2019 if the DPU did not approve the settlement agreement prior to January 1, 2019, and an additional \$0.7 million base distribution increase effective November 1, 2019, if certain investments are made by BGC. The settlement agreement contained a make-whole provision if the DPU approved the agreement after January 1, 2019. The distribution rate increase is based on a 9.70% ROE and 55% equity ratio. The settlement agreement provides for the implementation

of a RDM and pension expense tracker and also provides that BGC will not file to change base distribution to become effective before November 1, 2021. The settlement agreement was approved by the DPU on January 18, 2019.

In addition, as a result of a restructuring of the utility industry in New York, Maine, Connecticut and Massachusetts, most of Networks' distribution utilities' customers have the opportunity to purchase their electricity or natural gas supplies from third-party energy supply vendors. Most customers in New York, however, continue to purchase such supplies through the distribution utilities under regulated energy rates and tariffs. In Maine, CMP customers can also purchase electric supply from competitive providers but the majority receives baseline standard offer service that is provided through a MPUC procurement process. Networks' regulated utilities in New York, Connecticut and Massachusetts and MNG purchase electricity or natural gas from unaffiliated wholesale suppliers and recover the actual approved costs of these supplies on a pass-through basis, as well as certain costs associated with industry restructuring, through reconciling rate mechanisms that are periodically adjusted.

In April 2014, the NYPSC instituted its Reforming the Energy Vision, or REV, proceeding, the goals of which are to improve electric system efficiency and reliability, encourage renewable energy resources, support DER, and empower customer choice. Within REV and its related proceedings, the NYPSC is examining the establishment of a Distributed System Platform, or DSP, to manage and coordinate DER, and to provide customers with market data and tools to manage their energy use. The NYPSC has determined distribution utilities should be the DSP providers. The NYPSC also is examining how its regulatory practices should be modified to incent utility practices to promote REV objectives. The REV-related proceedings involve a two-phased schedule with an initial order relating to policy determinations for DSP and related matters issued in February 2015 and an initial order for regulatory design and regulatory matters issued in May 2016. All electric utilities were ordered to file an initial Distributed System Implementation Plan, or DSIP, by June 30, 2016. An initial DSIP was filed by NYSEG and RG&E and included information regarding the potential deployment of Automated Metering Infrastructure, or AMI. A separate petition for the cost recovery associated with full deployment of AMI was filed by NYSEG and RG&E in December 2016. In March, 2017, the NYPSC issued three separate REV-related orders. These orders created a series of filing requirements for NYSEG and RG&E beginning in March 2017 and extending through the end of 2018. The three orders involve: 1) modifications to the electric utilities' proposed interconnection earnings adjustment mechanism, or EAM, framework; 2) further DSIP requirements, including filing of an updated DSIP plan by mid-2018 and implementing two energy storage projects at each company by the end of 2018; and 3) Net Energy Metering Transition including implementation of Phase One of the Value of DER. In September 2017, the NYPSC issued another order related to the Value of DER, requiring tariff filings, changes to Standard Interconnection Requirements, and planning for the implementation of automated consolidated billing. In July 2018, NYSEG and RG&E submitted an updated DSIP plan consistent with guidance received from the NY Department of Public Service. As of the end of 2018, both NYSEG and RG&E had deployed two energy storage projects each, consistent with the March 2017 NYPSC order requirements. Phase Two of the Value of DER proceeding was established and several working group sessions occurred between the latter half of 2017 and all of 2018, primarily addressing issues pertaining to compensation for DER and rate design. In December 2018, the NYPSC Staff submitted whitepapers on standby and buyback service rate design, future value stack compensation and capacity value compensation. It is expected that the NYPSC will rule on the proposals set forth in the whitepapers in 2019. An additional staff whitepaper on Rate Design for Mass Market On-Site DER projects interconnected after January 1, 2020 is scheduled to be submitted by the NYPSC Staff in the first quarter of 2019.

State public utility commissions may also have jurisdiction over certain aspects of Renewables' competitive generation businesses. For example, in New York, certain Renewables' generation subsidiaries are electric corporations subject to "lightened" regulation by the NYPSC. As such, the NYPSC exercises its jurisdictional authority over certain non-rate aspects of the facilities, including safety, retirements and the issuance of debt secured by recourse to those generation assets located in New York. In Texas, Renewables' operations within the Electric Reliability Council of Texas, or ERCOT, footprint are not subject to regulation by FERC, as they are deemed to operate solely within the ERCOT market and not in interstate commerce. These operations are subject to regulation by the Public Utility Commission of Texas, or PUCT. In California, Renewables' generation subsidiaries are subject to regulation by the California Public Utilities Commission with regard to certain non-rate aspects of the facilities, including health and safety, outage reporting and other aspects of the facilities' operations.

Tax Cuts and Jobs Act

On December 22, 2017, the Tax Cuts and Jobs Act of 2017, or the Tax Act, was signed into law. The Tax Act significantly changed the federal taxation of business entities including, among other things, implementing a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rates will result in amounts previously and currently collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The NYPSC, MPUC, PURA, DPU and the FERC have instituted separate proceedings in New York, Maine, Connecticut, Massachusetts and the FERC, respectively, to review and address the implications of the Tax Act on the utilities. For more information on the Tax Act proceedings, see Note 5 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.

RTOs and ISOs

Networks' regulated electric utilities in New York, Connecticut and Maine, as well as some of Renewables' generation fleet, operate in or have access to organized energy markets, known as RTOs or independent system operators, or ISOs, particularly NYISO and ISO-NE. Each organized market administers centralized bid-based energy, capacity and ancillary services markets pursuant to tariffs approved by the FERC, or in the case of ERCOT, market rules approved by the PUCT. These tariffs and rules dictate how the energy, capacity and ancillary service markets operate, how market participants bid, clear, are dispatched, make bilateral sales with one another, and how entities with market-based rates are compensated. Certain of these markets set prices, referred to as Locational Marginal Prices that reflect the value of energy, capacity or certain ancillary services, based upon geographic locations, transmission constraints and other factors. Each market is subject to market mitigation measures designed to limit the exercise of market power. Some markets limit the prices of the bidder based upon some level of cost justification. These market structures impact the bidding, operation, dispatch and sale of energy, capacity and ancillary services.

The RTOs and ISOs are also responsible for transmission planning and operations within their respective regions. Each of Networks' transmission-owning subsidiaries in New York, Connecticut and Maine has transferred operational control over certain of its electric transmission facilities to its respective ISOs, such as ISO-NE and NYISO.

New Renewable Source Generation

Under Connecticut Public Act 11-80, or PA, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I Renewable Energy Certificates, or RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over approximately 21 years. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates. PA 17-144 and PA18-50 added seventh and eighth years and up to \$48 million in additional commitments by UI to the program.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, pursuant to which UI has developed 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for The Connecticut Light and Power Company, (currently 9.25%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the project. The cost of this program, a 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport and a 2.2 MW fuel cell facility in Woodbridge, all of which are now operational, was \$41.5 million.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15-year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provide that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On May 25, 2017, UI entered into six 20-year power purchase agreements, or PPAs, totaling approximately 32 MW with developers of wind and solar generation. These PPAs originated from a three-state Clean Energy RFP, and were entered into pursuant to PA 13-303 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 13, 2017.

On June 20, 2017, UI entered into twenty-two 20-year PPAs totaling approximately 72 MW with developers of wind and solar generation. These PPAs originated from an RFP issued by the Connecticut Department of Energy and Environmental Protection, or DEEP, under PA 15-107 1(b), which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 7, 2017. One contract was terminated on October 24, 2017, resulting in UI having twenty-one remaining contracts from this solicitation totaling approximately 70 MW.

In October of 2018, UI entered into five PPAs totaling approximately 50 MW from developers of offshore wind and fuel cell generation. These PPAs originated from an RFP issued by DEEP, under PA 17-144 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were filed for PURA approval on October 25, 2018. On December 19, 2018, PURA issued its final decision approving the five PPAs and approved UI's use of the non by-passable federally mandated congestion charges for all customers to recover the net costs of the PPAs.

On December 28, 2018, DEEP issued a directive to UI to negotiate and enter into PPAs with 12 projects, totaling approximately 12 million MWh, which were selected as a result of the Zero Carbon RFP issued by DEEP pursuant to PA 17-3, which provides that the net costs of the PPAs are recoverable through electric rates. One of the selected projects is the Millstone nuclear facility located in Waterford, Connecticut and owned by Dominion Energy, Inc. DEEP's directive provides that UI should file these PPAs for PURA by March 31, 2019. UI has not yet entered into any of these PPAs.

Under Maine law 35-A M.R.S.A. §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic RFPs seeking long-term supplies of energy, capacity or RECs, from qualifying resources. The MPUC is further authorized to order Maine transmission and distribution utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, on March 31, 2010, to purchase capacity and energy from Evergreen's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A. §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Pursuant to Maine Law 35-A M.R.S.A. §3604, the MPUC is authorized to direct Maine transmission and distribution utilities to enter into long-term contracts to purchase capacity, energy and renewable energy credits from up to 50 MW of qualifying Community-Based Renewable Energy facilities. In accordance with §3604, on October 22, 2016, CMP commenced purchases from Athens Energy LLC for a contract term of three years. CMP purchase obligations under the Athens contract are approximately \$6 million per year. Under the provisions of §3604 and MPUC implementing orders, CMP will periodically auction the purchased products from Athens for resale to wholesale market purchasers and recover any differences between power purchase costs and resale revenues through a reconcilable component of its retail distribution rates. Although the MPUC has certified several additional Community - Based Renewable Energy generation projects under §3604 and authorized similar PPAs between these sellers and CMP, no additional facilities have advanced to operational status.

Environmental, Health and Safety

Permitting and Other Regulatory Requirements

Networks. Similar to Renewables, Networks' distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to various federal, state and local laws and regulations in connection with the environmental, health and safety effects of its operations. The distribution utilities of Networks are subject to regulation by the applicable state public utility commission with respect to the siting and approval of electric transmission lines, with the exception of UI, the siting of whose transmission lines is subject to the jurisdiction of the CSC, and with respect to pipeline safety regulations for intrastate gas pipeline operators.

The National Environmental Policy Act, or NEPA, requires that detailed statements of the environmental effect of Networks' facilities be prepared in connection with the issuance of various federal permits and licenses. Federal agencies are required by NEPA to make an independent environmental evaluation of the facilities as part of their actions during proceedings with respect to these permits and licenses.

Under the federal Toxic Substances Control Act, the Environmental Protection Agency, or EPA, has issued regulations that control the use and disposal of Polychlorinated Biphenyls, or PCBs. PCBs were widely used as insulating fluids in many electric utility transformers and capacitors manufactured before the federal Toxic Substances Control Act prohibited any further manufacture of such PCB equipment. Fluids with a concentration of PCBs higher than 500 parts per million and materials (such as electrical capacitors) that contain such fluids must be disposed of through burning in high temperature incinerators approved by the EPA. For our gas distribution companies, PCBs are sometimes found in the distribution system. Networks tests any distribution piping being removed or repaired for the presence of PCBs and complies with relevant disposal procedures, as needed.

Under the federal Resource Conservation and Recovery Act, or RCRA, the generation, transportation, treatment, storage and disposal of hazardous wastes are subject to regulations adopted by the EPA. All of Networks' subsidiaries have complied with the notification and application requirements of present regulations, and the procedures by which the subsidiaries handle, store, treat and dispose of hazardous waste products comply with these regulations.

Prior to the last quarter of the 20th century, when environmental best practices laws and regulations were implemented, utility companies, including Networks' subsidiaries, often disposed of residues from operations by depositing or burying them on-site or disposing of them at off-site landfills or other facilities. Typical materials disposed of include coal gasification byproducts, fuel oils, ash, and other materials that might contain PCBs or that otherwise might be hazardous. In recent years it has been determined that such disposal practices, under certain circumstances, can cause groundwater contamination.

Renewables. Renewables' projects are subject to a variety of state environmental review and permitting requirements. Many states where Renewables' projects are located, or may be located in the future, have laws that require state agencies to evaluate a broad array of environmental impacts before granting state permits. Generally, state agencies evaluate similar issues as federal agencies, including the project's impact on wildlife, historic sites, aesthetics, wetlands and water resources, agricultural operations and scenic areas. States may impose different or additional monitoring or mitigation requirements than federal agencies. Additional approvals may be required for specific aspects of a project, such as stream or wetland crossings, impacts to designated significant wildlife habitats, storm water management and highway department authorizations for oversize loads and state road closings during construction. Permitting requirements related to transmission lines may be required in certain cases.

Renewables' projects also are subject to local environmental and regulatory requirements, including county and municipal land use, zoning, building and transportation requirements. Permitting at the local municipal or county level often consists of obtaining a special use or conditional use permit under a land use ordinance or code, or, in some cases, rezoning is required for a project. Obtaining a permit usually requires that Renewables demonstrates that the project will conform to certain development standards specified under the ordinance so that the project is compatible with existing land uses and protects natural and human environments. Local or state regulatory agencies may require modeling and measurement of permissible sound levels in connection with the permitting and approval of Renewables' projects. Local or state agencies also may require Renewables to develop decommissioning plans for dismantling the project at the end of its functional life and establish financial assurances for carrying out the decommissioning plan.

In addition to permits required under state and local laws, Renewables' projects may be subject to permitting and other regulatory requirements arising under federal law. For example, if a project is located near wetlands, a permit may be required from the U.S. Army Corps of Engineers, or Army Corps, with respect to the discharge of dredged or fill material into the waters of the United States. The Army Corps may also require the mitigation of any loss of wetland functions and values that accompanies the project's activities. In addition, Renewables may be required to obtain permits under the federal Clean Water Act for water discharges, such as storm water runoff associated with construction activities, and to follow a variety of best management practices to ensure that water quality is protected and impacts are minimized. Renewables' projects also may be located, or partially located, on lands administered by the U.S. Bureau of Land Management, or BLM. Therefore, Renewables may be required to obtain and maintain BLM right-of-way grants for access to, or operations on, such lands. To obtain and maintain a grant, there must be environmental reviews conducted, a plan of development implemented and a demonstration that there has been compliance with the plan to protect the environment, including measures to protect biological, archeological and cultural resources encountered on the grant.

Renewables' projects may be subject to requirements pursuant to the Endangered Species Act, or ESA, and analogous state laws. For example, federal agencies granting permits for Renewables' projects consider the impact on endangered and threatened species and their habitat under the ESA, which prohibits and imposes stringent penalties for harming endangered or threatened species and their habitats. Renewables' projects also need to consider the Migratory Bird Treaty Act, or MBTA, and the Bald and Golden Eagle Protection Act, or BGEPA, which protect migratory birds and bald and golden eagles and are administered by the U.S. Fish and Wildlife Service. Criminal liability can result from violations of the MBTA and the BGEPA, even for incidental takings of migratory birds. For example, the U.S. Department of Justice, or DOJ, has recently entered into settlements with two large wind farm operators, pursuant to which those operators pled guilty to criminal violations of the MBTA and agreed to substantial penalties and mitigation measures.

In addition to regulations, voluntary wind turbine siting guidelines established by the U.S. Fish and Wildlife Service set forth siting, monitoring and coordination protocols that are designed to support wind development in the United States while also protecting both birds and bats and their habitats. These guidelines include provisions for specific monitoring and study conditions which need to be met in order for projects to be in adherence with these voluntary guidelines. Most states also have similar laws. Because the operation of wind turbines may result in injury or fatalities to birds and bats, federal and state agencies often recommend or require that Renewables conduct avian and bat risk assessments prior to issuing permits for its projects. They may also require ongoing monitoring or mitigation activities as a condition to approving a project.

Global Climate Change and Greenhouse Gas Emission Issues

Global climate change and greenhouse gas emission issues continue to receive an increased focus from state governments and the federal government. In November 2010, the EPA published final rules for monitoring and reporting requirements for petroleum and natural gas systems that emit greenhouse gases under the authority of the Clean Air Act beginning in 2011. These regulations apply to facilities that emit greenhouse gases above the threshold level of 25,000 metric tons equivalent per year. SCG and CNG both exceed this threshold and are subject to reporting requirements. The liquefied natural gas, or LNG, facilities owned and/or contracted by SCG and CNG are also subject to the monitoring and reporting requirements under the regulations. Similarly, Networks is subject to reporting requirements under provisions of the greenhouse gases regulations, which regulate electric transmission and distribution equipment that emit sulfur hexafluoride.

We are continuously evaluating the regulatory risks and regulatory uncertainty presented by climate change and greenhouse gas emission. Such concerns could potentially lead to additional rules and regulations that impact how we operate our business. We expect that any costs of these rules and regulations would be recovered from customers.

OSHA and Certain Other Federal Safety Laws

We are subject to the requirements of the federal Occupational Safety and Health Act, as amended, or OSHA, and comparable state laws that regulate the protection of the health and safety of employees. In addition, OSHA's hazard communication standard and standards administered by other federal as well as state agencies, including the Emergency Planning and Community Right to Know Act and the related implementing regulations require that information be maintained about hazardous materials used or produced in operations of our subsidiaries and that this information be provided to employees, state and local government authorities and citizens.

Management, Disposal and Remediation of Hazardous Substances

We own or lease real property and may be subject to federal, state and local requirements regarding the storage, use, transportation and disposal of petroleum products and toxic or hazardous substances, including spill prevention, control and counter-measure requirements. Project properties and materials stored or disposed thereon may be subject to the federal RCRA, the Toxic Substances Control Act, the Comprehensive Environmental Response, Compensation and Liability Act and analogous state laws. If any of our owned or leased properties are contaminated, whether during or prior to our ownership or operation, we could be responsible for the costs of investigation and cleanup and for any related liabilities, including claims for damage to property, persons or natural resources. Such responsibility may arise even if we were not at fault and did not cause the contamination. In addition, waste generated by our operating subsidiaries is at times sent to third party disposal facilities. If such facilities become contaminated, the operating subsidiary and any other persons who arranged for the disposal or treatment of hazardous substances at those sites may be jointly and severally responsible for the costs of investigation and remediation, as well as for any claims of damages to third parties, their property or natural resources.

On September 16, 2015, UI signed a partial consent order that was then issued by DEEP in August 2016 related to the investigation and remediation of the English Station site. The consent order requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such cost and \$30 million to be applied to a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut and the Commissioner of DEEP. However, UI is obligated to comply with the consent order even if the cost of such compliance exceeds \$30 million. The state may discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding.

Customers

Networks delivers natural gas and electricity to residential, commercial and institutional customers through its regulated utilities in New York, Maine, Connecticut and Massachusetts. Networks' customer payment terms are regulated by the states of New York, with respect to NYSEG and RG&E; Maine, with respect to CMP and MNG; Connecticut, with respect to UI, SCG and CNG; and Massachusetts, with respect to BGC, and each of the regulated utilities must provide extended payment arrangements to customers for past due balances. See "—Networks" for more information relating to the customers of Networks.

Renewables sells the majority of its output to large investor-owned utilities, public utilities and other credit-worthy entities. Additionally, Renewables generates and provides power, among other services, to federal and state agencies, institutional retail and joint action agencies. Offtakers typically purchase renewable energy from Renewables through long-term PPAs, allowing Renewables to limit its exposure to market volatility. Approximately 71% of Renewables' wind generating capacity is fully committed under PPAs as of December 31, 2018, with an average duration of 8.5 years. Renewables also delivers thermal output to wholesale customers in the Western United States.

Competition

Networks' regulated public utilities in New York, Maine, Connecticut and Massachusetts do not generally face competition from other companies that transmit and distribute electricity and natural gas. However, demand for electricity and natural gas may be negatively impacted by federal and state legislation mandating that certain percentages of power delivered to end users be produced from renewable resources, such as wind, thermal and solar energy.

Networks faces competition from self-contained micro-grids that integrate renewable energy sources in the areas served by Networks. However, there has been limited development of these micro-grids in Networks' service areas to date, and Networks

expects that growth in distributed generation of renewable energy will continue due to financial incentives being provided by federal and state legislation. Networks has experienced significant growth in alternative distribution sources of generation on its network over the past ten years, with approximately 90% of the growth coming from solar photovoltaic facilities.

Renewables has competitive advantages, including a robust development pipeline, a management team with extensive experience, strong relationships with suppliers and clients, expert regulatory knowledge and brand awareness. However, Renewables faces competition throughout the life cycles of its energy facilities, including during the development phase, in the identification and procurement of suitable sites with high wind resource availability, grid connection capacity and land availability. Renewables also competes with other suppliers in securing long-term PPAs with power purchasers and participates in competitive bilateral and organized energy markets with other energy sources for power that is not sold under PPAs. Competitive conditions may be substantially affected by various forms of energy legislation and regulation considered from time to time by federal, state and local legislatures and administrative agencies.

Properties

Networks

The following table sets forth certain information relating to Networks' electricity generation facilities and their respective locations, type and installed capacity as of December 31, 2018. Unless noted otherwise, Networks owns each of these facilities and all our generating properties are regulated under cost of service regulation.

Operating Company	Facility Location	Facility Type	Installed Capacity (in MW)	Year(s) Commissioned
NYSEG	Newcomb, NY	Diesel Turbine	4.3	1967, 2017
NYSEG	Auburn, NY(1)	Natural Gas Turbine	7.4	2000
NYSEG	Eastern New York (6 locations)	Hydroelectric	61.4	1921—1983
RG&E	Rochester, NY (3 locations)	Hydroelectric	57.1	1917—1960

(1) The Auburn, NY natural gas turbine generating unit is leased.

UI is also party to a 50-50 joint venture with certain affiliates of Clearway Energy, Inc. in GCE Holding LLC, whose wholly owned subsidiary, GenConn, operates two 188 MW peaking generation plants, GenConn Devon and GenConn Middletown, in Connecticut.

The following table sets forth certain operating data relating to the electricity transmission and distribution activities of each of Networks' regulated utilities as of December 31, 2018.

Utility	State	Substations	Transmission Lines (in miles)	Overhead Distribution Lines (in pole miles)	Underground Lines (in miles)	Total Distribution (in miles)	Electricity Customers
NYSEG	New York	430	4,515	32,243	2,860	35,103	898,685
RG&E	New York	155	1,094	5,918	2,894	8,812	381,377
CMP	Maine	208	2,914	21,733	1,510	23,243	627,114
UI	Connecticut	28	139	3,283	212	3,495	336,394

The following table sets forth certain operating data relating to the natural gas transmission and distribution activities of each of Networks' regulated utilities, as of December 31, 2018:

Utility	State	Natural Gas Customers	Transmission Pipeline (in miles)	Distribution Pipeline (in miles)
NYSEG	New York	267,893	20	8,339
RG&E	New York	315,684	105	8,990
MNG	Maine	4,803	2	211
SCG	Connecticut	198,966	—	2,441
CNG	Connecticut	177,660	—	2,167
BGC	Massachusetts	40,381	—	761

CNG owns and operates a LNG plant which can store up to 1.2 Bcf of natural gas and can vaporize up to 110,000 Mcf per day of LNG to meet peak demand. SCG has contract rights to and operates a similar plant, which is owned by an affiliate, that can also store up to 1.2 Bcf of natural gas. SCG's LNG facilities can vaporize up to 82,000 Mcf per day of LNG to meet peak demand. SCG and CNG have also contracted for 20.6 Bcf of storage with a maximum peak day delivery capability of 210,000 Mcf per day.

Renewables

The following table sets forth Renewables' portfolio of wind projects as of December 31, 2018. Unless noted otherwise, Renewables wholly owns each of these facilities.

Location	Wind Project	Turbines	Total Installed Capacity (MW)	Commercial Operation Date	North American Electric Reliability Corporation (NERC) Region
Arizona	Dry Lake I	30 (Suzlon S88, 2.1 MW)	63	2009	WECC
	Dry Lake II	31 (Suzlon, 2.1 MW)	65	2010	WECC
California	Dillon	45 (Mitsubishi, 1 MW)	45	2008	WECC
	Manzana	126 (GE, 1.5 MW)	189	2011	WECC
	Mountain View III	34 (Vestas V47, 0.66 MW)	22	2003	WECC
	Phoenix Wind Power	3 (Neg Micon (Vestas), 0.66 MW)	2	1999	WECC
	Shiloh	100 (GE, 1.5 MW)	150	2006	WECC
	Tule	57 (GE, 2.3 MW)	131	2017	WECC
Colorado	Colorado Green	108 (GE, 1.5 MW)	162	2003	WECC
	Twin Buttes	50 (GE, 1.5 MW)	75	2007	WECC
	Twin Buttes II	30 (Gamesa G114, 2.10 MW); 6 (Gamesa G114, 2.0 MW)	75	2017	WECC
Illinois	Providence Heights	36 (Gamesa G87, 2.0 MW)	72	2008	MRO
	Streator Cayuga Ridge South	150 (Gamesa, 2.0MW)	300	2010	SERC
Iowa	Barton	80 (Gamesa, 2.0 MW)	160	2009	MRO
	Flying Cloud	29 (GE, 1.5 MW)	44	2004	MRO
	New Harvest	50 (Gamesa G87, 2.0W)	100	2012	MRO
	Top of Iowa II	40 (Gamesa G87, 2.0 MW)	80	2008	MRO
	Winnebago I	10 (Gamesa G83, 2.0 MW)	20	2008	MRO
Kansas	Elk River	100 (GE, 1.5 MW)	150	2005	MRO
Massachusetts	Hoosac	19 (GE, 1.5 MW)	29	2012	NPCC
Minnesota	Elm Creek	66 (GE, 1.5 MW)	99	2008	MRO
	MinnDakota	100 (GE, 1.5 MW)	150	2008	MRO
	Trimont	67 (GE, 1.5 MW)	101	2005	MRO
	Elm Creek II	62 (Mitsubishi, 2.4)	149	2010	MRO
	Moraine I	34 (GE, 1.5 MW)	51	2003	MRO
	Moraine II	33 (GE, 1.5 MW)	50	2009	MRO
Missouri	Farmers City	73 (Gamesa G87, 2.0 MW)	146	2009	MRO
New Hampshire	Groton	24 (Gamesa G87, 2.0 MW)	48	2012	NPCC
	Lempster	12 (Gamesa, 2 MW)	24	2008	NPCC
New Mexico	El Cabo	140 (Gamesa G114, 2.1 MW); 2 (Gamesa G114, 2.0 MW)	298	2017	WECC
New York	Hardscrabble	37 (Gamesa G90, 2MW)	74	2011	NPCC
	Maple Ridge I(1)	70 (Vestas V82, 1.65 MW)	116	2006	NPCC
	Maple Ridge II(1)	27 (Vestas V82, 1.65 MW)	45	2006	NPCC
North Carolina	Amazon Wind Farm US - East	104 (Gamesa G114, 2.0 MW)	208	2016	SERC
North Dakota	Rugby	71 (Suzlon S88, 2.1 MW)	149	2009	MRO
Ohio	Blue Creek	152 (Gamesa G90 – 2.0 MW)	304	2012	RFC
Oregon	Hay Canyon	48 (Suzlon S88, 2.1 MW)	101	2009	WECC
	Klondike I	16 (GE, 1.5 S – 1.5 MW)	24	2001	WECC
	Klondike II	50 (GE, 1.5 S – 1.5 MW)	75	2005	WECC

Location	Wind Project	Turbines	Total Installed Capacity (MW)	Commercial Operation Date	North American Electric Reliability Corporation (NERC) Region
	Klondike III	44 (Siemens, 2.3 MW); 80 (GE, 1.5 SLE, 1.5 MW); 1 (Mitsubishi, 2.4 MW)	224	2007	WECC
	Klondike IIIa	51 (GE, 1.5 MW)	77	2008	WECC
	Leaning Juniper II	74 (GE, 1.5 MW); 43 (Suzlon, 2.1 MW)	201	2011	WECC
	Pebble Springs	47 (Suzlon S88/2100, 2.1 MW)	99	2009	WECC
	Star Point	47 (Suzlon, 2.1 MW)	99	2010	WECC
Pennsylvania	Casselman	23 (GE, 1.5 MW)	35	2008	RFC
	Locust Ridge I	13 (Gamesa G87, 2.0)	26	2006	RFC
	Locust Ridge II	51 (Gamesa G83, 2.0 MW)	102	2009	RFC
	South Chestnut	23 (Gamesa, 2.0 MW)	46	2012	RFC
South Dakota	Buffalo Ridge I	24 (Suzlon, 2.1 MW)	50	2009	MRO
	Buffalo Ridge II	105 (Gamesa G87, 2.0 MW)	210	2010	MRO
Texas	Baffin	101 (Gamesa G97, 2.0 MW)	202	2015	TRE
	Barton Chapel	60 (Gamesa, 2.0 MW)	120	2009	TRE
	Peñascal I	84 (Mitsubishi, 2.4 MW)	202	2009	TRE
	Peñascal II	84 (Mitsubishi, 2.4 MW)	199	2010	TRE
Vermont	Deerfield	7 (Gamesa G87, 2.0 MW); 8 (Gamesa G97, 2.0 MW)	30	2018	NPCC
Washington	Big Horn I	133 (GE, 1.5 MW)	200	2006	WECC
	Big Horn II	25 (Gamesa, 2.0 MW)	50	2010	WECC
	Juniper Canyon	63 (Mitsubishi, 2.4 MW)	151	2011	WECC

(1) Jointly owned with Horizon Wind Energy; capacity amounts represent only Renewables' share of the wind farm.

Additionally, set forth below are the solar and thermal facilities operated by Renewables as of December 31, 2018. Unless otherwise noted, Renewables owns each such facility.

Facility	Location	Type of Facility	Installed Capacity (MW)	Commercial Operation Date
Copper Crossing Solar Ranch	Pinal County, Arizona	Solar	20	2011
San Luis Valley Solar Ranch (1)	Alamosa County, Colorado	Solar	30	2012
Gala Solar	Deschutes County, Oregon	Solar	56	2017
Klamath Cogeneration	Klamath Falls, Oregon	Thermal	536	2001
Klamath Peakers	Klamath Falls, Oregon	Thermal	100	2009
Wy'East Solar	Sherman County, Oregon	Solar	10	2018

(1) Operated pursuant to a sale-and-leaseback agreement.

Infrastructure Protection and Cyber Security Measures

We have risk based security measures in place designed to protect our facilities, assets and cyber-infrastructure, such as our transmission and distribution system.

While we have not had any significant security breaches, a physical security intrusion could potentially lead to theft and the release of critical operating information. In addition to physical security intrusions, a cyber breach could potentially lead to theft and the release of critical operating information or confidential customer information.

To manage these operational risks, pursuant to the cybersecurity risk policy and corporate security policy approved by the AVANGRID board, we have implemented cyber and physical security measures and continue to strengthen our security posture by improving and expanding our physical and cyber security capabilities to protect critical assets.

In an effort to reduce our vulnerability to cyber attacks, the AVANGRID board appointed a senior officer responsible for security (chief security officer) and we have established a dedicated corporate security office, responsible for improving and

coordinating security and NERC compliance across the company. We have adopted a comprehensive company-wide physical and cyber security program, which is supported by a governance program to manage, oversee and assist us in meeting our corporate, legal and regulatory responsibilities with regard to the protection of our cyber, physical and information assets.

However, as threats evolve and grow increasingly more sophisticated, we cannot ensure that a potential security breach may not occur or quantify the potential impact of such an event. We continue to invest in technology, processes, security measures and services to predict, detect, mitigate and protect our assets, both physical and cyber. These investments include upgrades to our cyber-infrastructure assets, network architecture and physical security measures, and compliance with emerging industry best practice and regulation.

Employees

As of December 31, 2018, we had 6,449 employees excluding twelve international assignees. Of these 6,449 employees, 48.3% are represented by a union. The following table provides an overview of the number of employees at each business segment as of December 31, 2018:

Business Segment	Number of Employees (excluding International Assignees)	% of Union Workforce Subject to Collective Bargaining Agreement
Networks	5,325	58.4%
Renewables	831	—
Corporate	293	—
Total	6,449	48.3%

We have not experienced any work stoppages in the last five years and enjoy good relations with our labor unions. Virtually all of our employees work full-time.

Available Information

Copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to these reports filed with the SEC may be requested, viewed or downloaded on-line, free of charge, on our website www.avangrid.com. Printed copies of these reports may be obtained free of charge by writing to our Investor Relations Department at 180 Marsh Hill Road, Orange, Connecticut, 06477.

Item 1A. Risk Factors

Risks Relating to Our Regulatory Environment

Our businesses are subject to substantial regulation by federal, state and local regulatory agencies and our businesses, results of operations and prospects may be materially adversely affected by legislative or regulatory changes, as well as liability under, or any future inability to comply with, existing or future regulations or requirements.

The operations of our businesses are subject to, and influenced by, complex and comprehensive federal, state and local regulation and legislation, including regulations promulgated by state utility commissions and the FERC. This extensive regulatory and legislative framework, portions of which are more specifically identified in the following risk factors, regulates, among other things and to varying degrees, the industries in which our subsidiaries operate, our business segments, rates for our products and services, financings, capital structures, cost structures, construction, environmental obligations (including in respect of, among others, air emissions, water consumption, water discharge, protections for wildlife and humans, nuisance prohibitions and allowances, and regulation of gas infrastructure operations, and associated environmental and facility permitting), development and operation of electric generation facilities and electric and gas transmission and distribution facilities, natural gas transportation, processing and storage facilities, acquisition, disposal, depreciation and amortization of facilities and other assets, service reliability, hedging, derivatives transactions and commodities trading.

In our business planning and in the management of our subsidiaries' operations, we must address the effects of regulation on our businesses, including the significant and increasing compliance costs imposed on our operations as a result of such regulation, and any inability or failure to do so timely and adequately could have a material adverse effect on our businesses, results of operations, financial condition and cash flows. The federal, state and local political and economic environment has had, and may in the future have, an adverse effect on regulatory decisions with negative consequences for our businesses. These decisions may require, for example, our businesses to cancel or delay planned development activities, to reduce or delay other planned capital expenditures or investments or otherwise incur costs that we may not be able to recover through rates, any of which could have

a material adverse effect on the business, results of operations, financial condition and cash flows of our businesses. In addition, changes in the nature of the regulation of our business could have a material adverse effect on our business, results of operations, financial condition and cash flows. We are unable to predict future legislative or regulatory changes, initiatives or interpretations, and there can be no assurance that we will be able to respond adequately or sufficiently quickly to such changes, although any such changes, initiatives or interpretations may increase costs and competitive pressures on us, which could have a material adverse effect on our business, results of operations, financial condition and cash flows. There can be no assurance that we will be able to respond adequately or sufficiently quickly to such rules and developments, or to any other changes that reverse or restrict the competitive restructuring of the energy industry in those jurisdictions in which such restructuring has occurred. Any of these events could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our businesses are subject to the jurisdiction of various federal, state and local regulatory agencies including, but not limited to, the FERC, the CFTC, the DOE and the EPA. Further, Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to the jurisdiction of the NYPSC, the MPUC, the New York State Department of Environmental Conservation, the Maine Department of Environmental Protection, the PURA, the CSC, the DEEP and the DPU. These regulatory agencies cover a wide range of business activities, including, among other items, the retail and wholesale rates for electric energy, capacity and ancillary services, and for the transmission and distribution of these products, the costs charged to Networks' customers through tariffs including cost recovery clauses, the terms and conditions of Networks' services, procurement of electricity for Networks' customers, issuances of securities, the provision of services by affiliates and the allocation of those service costs, certain accounting matters, and certain aspects of the siting, construction and transmission and distribution systems. The FERC has the authority to impose penalties, which could be substantial, for violations of the FPA, the NGA, or related rules, including reliability and cyber security rules as described in further detail below. The Financial Accounting Standards Board, or FASB, or the SEC, may enact new accounting standards that could impact the way we are required to record revenue, expenses, assets and liabilities. Certain regulatory agencies have the authority to review and disallow recovery of costs that they consider excessive or imprudently incurred and to determine the level of return that our businesses are permitted to earn on invested capital.

The regulatory process, which may be adversely affected by the political, regulatory and economic environment in New York, Maine, Connecticut and Massachusetts, as applicable, may limit our ability to increase earnings and does not provide any assurance as to achievement of authorized or other earnings levels. The disallowance of the recovery of costs incurred by us or a decrease in the rate of return that we are permitted to earn on our invested capital could have a material adverse effect on our business, results of operation, financial condition and cash flows. Certain of these regulatory agencies also have the authority to audit the management and operations of our businesses in New York, Maine, Connecticut and Massachusetts and require or recommend operational changes. Such audits and post-audit work requires the attention of our management and employees and may divert their attention from other regulatory, operational or financial matters.

As previously described, we are subject to a variety of federal, state, local laws and regulations. The introduction of new laws or regulations or changes in existing laws or regulations, or the interpretation thereof, may alter the environment in which we do business and could increase the costs of doing business for us or restrict our actions and adversely affect our financial condition, operating results and cash flows.

Any failure to meet the reliability standards mandated by NERC could have a material adverse effect on our business, results of operation, financial condition and cash flows.

As a result of the EPAct 2005, owners, operators and users of bulk electric systems are subject to mandatory reliability standards developed by NERC and are subject to oversight by the FERC in the U.S. and governmental authorities in Canada. The standards are based on the functions that need to be performed to ensure that the bulk electric system operates reliably. Networks' and Renewables' businesses have been, and will continue to be, subject to routine audits and monitoring with respect to compliance with applicable NERC reliability standards, including standards approved by the FERC that could result in an increase in the number of assets (including cyber-security assets) designated as "BES Cyber Systems," which would subject such assets to NERC cyber-security standards. The implementation of the Balancing Authority registration for the Northwest Renewable assets in 2018 has brought increased NERC compliance requirements and additional compliance risks including increase in assets, budgets and experienced resources. This new registration as a Balancing Authority also changes the NERC audit cycle from six years down to three years for Renewables and may impact other AVANGRID NERC registrations at Networks. NERC and the FERC can be expected to continue to refine existing reliability standards as well as develop and adopt new reliability standards. Compliance with modified or new reliability standards may subject Networks' and/or Renewables' businesses to new requirements resulting in higher operating costs and/or increased capital expenditures. If Networks' and/or Renewables' businesses were found not to be in compliance with the mandatory reliability standards, it could be subject to penalties of up to \$1.3 million per day per violation. Both the costs of regulatory compliance and the costs that may be imposed as a result of any actual or alleged compliance failures could have a material adverse effect on our business, results of operation, financial condition, reputation and prospects. UI completed an onsite NERC CIP audit in 2018; an offsite audit is expected to conclude in early 2019.

The NYPSC has initiated a proceeding that may result in the alteration of the public utility model in New York State and could materially and adversely impact our business and operations in New York State.

In April 2014, the NYPSC commenced a proceeding titled REV, which is an initiative to reform New York State's energy industry and regulatory practices. REV has followed several simultaneous paths, including a formal Track 1 dealing with market design and platform technology and Track 2 dealing with regulatory reform. REV's objectives include the promotion of more efficient use of energy, increased utilization of renewable energy resources such as wind and solar in support of New York State's renewable energy goals and wider deployment of "distributed" energy resources, such as micro grids, on-site power supplies, and storage. Track 1 of the REV initiative involves the examination of the role that distribution utilities will have in the enablement of market-based deployment of DER to promote load management, system efficiency and peak load reductions. NYSEG and RG&E are participating in all aspects of the REV initiative with other New York utilities as well as providing their unique perspective. NYPSC staff has conducted public statement hearings across New York State regarding REV.

Various other REV-related proceedings have also been initiated by the NYPSC, each of which is following its own schedule. These proceedings include the Clean Energy Fund, Demand Response Tariffs, Community Choice Aggregation, Large Scale Renewables and Community Distributed Generation. As part of this initiative, NYSEG and RG&E entered into agreements with New York State Energy Research and Development Authority, or NYSEEDA, for REC and Zero-Emission Credits, or ZECs in 2017.

Track 2 of the REV initiative is also underway, and through a NYPSC Staff Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York State and NYPSC policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for EAMs, platform service revenues, innovative rate designs and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of system efficiency, energy efficiency, interconnections and clean air. NYSEG and RG&E continue to engage through a number of working groups that have been established to assist the implementation of the DSIP items and delivering the Value of DER/Net Metering changes.

We are not able to predict the outcome of the REV proceeding or its impact on our business, results of operations, financial condition and cash flows. While the end result of the REV process at the NYPSC remains unclear, it could alter the utility model in New York in a manner that could create material adverse impacts on our businesses and operations in New York.

Changes in regulatory and/or legislative policy could negatively impact Networks' transmission planning and cost allocation.

The existing FERC-approved ISO-NE, transmission tariff allocates the costs of transmission facilities that provide regional benefits to all customers of participating transmission-owning utilities in New England. As new investment in regional transmission infrastructure occurs in any one state, its cost is shared across New England in accordance with a FERC-approved formula found in the transmission tariff. Participating New England transmission owners' agreement to this regional cost allocation is set forth in the transmission operating agreement. This agreement can be modified with the approval of a majority of the transmission-owning utilities and approval by the FERC. In addition, other parties, such as state regulators, may seek certain changes to the regional cost allocation formula, which could have adverse effects on the rates Networks' distribution companies in New England charge their retail customers. The FERC has found that the New England rate protocols lacked transparency and have established a hearing and settlement procedures. We cannot predict the outcome of this proceeding.

The FERC has issued rules requiring all RTOs and transmission owning utilities to make compliance changes to their tariffs and contracts in order to further encourage the construction of transmission for generation, including renewable generation. This compliance will require RTOs (such as ISO-NE and NYISO) and the transmission owners in New England and New York to develop methodologies that allow for regional planning and cost allocation for transmission projects chosen in the regional plan that are designed to meet public policy goals such as reducing greenhouse gas emissions or encouraging renewable generation. Such compliance may also allow non-incumbent utilities and other entities to participate in the planning and construction of new projects in Networks' service areas and regionally.

Changes in RTO tariffs, transmission owners' agreements or legislative policy, or implementation of these new FERC planning rules, could adversely affect our transmission planning, results of operations, financial condition and cash flows.

We are subject to numerous environmental laws, regulations and other standards, including rules and regulations with respect to climate change, which could result in capital expenditures, increased operating costs and various liabilities, and could require us to cancel or delay planned projects or limit or eliminate certain operations.

Our businesses are subject to environmental laws and regulations, including, but not limited to, extensive federal, state and local environmental statutes, rules and regulations relating to air quality, water quality and usage, climate change, emissions of

greenhouse gases (including, but not limited to carbon dioxide), waste management, hazardous wastes (including the clean-up of former manufactured gas and electric generation facilities), marine, avian and other wildlife mortality and habitat protection, historical artifact preservation, natural resources and health and safety (including, but not limited to, electric and magnetic fields from power lines and substations, and ice throw, shadow flicker and noise related to wind turbines) that could, among other things, prevent or delay the development of power generation, power or natural gas transmission, or other infrastructure projects, restrict the output of some existing facilities, limit the availability and use of some fuels required for the production of electricity, require additional pollution control equipment, and otherwise increase costs, increase capital expenditures and limit or eliminate certain operations. There are significant capital, operating and other costs associated with compliance with these environmental statutes, rules and regulations, and those costs could be even more significant in the future as a result of new legislation. For example, new laws, regulations or treaties relating to climate change could mandate new or increased requirements to control or reduce the emission of greenhouse gases, such as carbon dioxide, taxes or fees on fossil fuels or emissions, cap and trade programs, emission limits and clean or renewable energy standards or mandates that require curtailment of operations for certain periods of time due to potential electromagnetic interference. Violations of current or future laws, rules, regulations or other standards could expose our subsidiaries to regulatory and legal proceedings, disputes with, and legal challenges by, third parties, and potentially significant civil fines, criminal penalties and other sanctions, which could have an adverse effect on our operations, financial condition and cash flows.

Our regulated utility operations may not be able to recover costs in a timely manner or at all or obtain a return on certain assets or invested capital through base rates, cost recovery clauses, other regulatory mechanisms or otherwise.

Our regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to periodic review of their rates by the NYPSC, MPUC, PURA and DPU, respectively, and the retail rates charged to our regulated utilities' customers through base rates and cost recovery clauses are subject to the jurisdiction of the NYPSC, MPUC, PURA and DPU, as applicable. New rates may be proposed by Network's businesses, which are then subject to review, modification and final authorization and implementation by regulators. Alternatively, regulators may review the rates of Networks' regulated utilities on their own motion. Networks' regulated utilities' rate plans cover specified periods, but rates determined pursuant to a plan generally continue in effect until a new rate plan is approved by the state utility regulator. Networks' regulated utilities' business rate plans approved by state utility regulators limit the rates Networks' regulated utilities can charge their customers. The rates are generally designed for, but do not guarantee, the recovery of Networks' regulated utilities' respective cost of service and the opportunity to earn a reasonable rate of return (ROE). Actual costs may increase due to inflation or other factors and exceed levels provided for such costs in the rate plans for Networks' regulated utilities. Utility regulators can initiate proceedings to prohibit Networks' regulated utilities from recovering from their customers the cost of service (including energy costs) that the regulators determine to have been imprudently incurred. Networks' regulated utilities defer for future recovery certain costs including major storm costs and environmental costs. In a number of proceedings in recent years, Networks' regulated subsidiaries have been denied recovery, or deferred recovery pending the next general rate case, including denials or deferrals related to major storm costs and construction expenditures. In some instances, denial of recovery may cause the regulated subsidiaries to record an impairment of assets. If Networks' regulated utilities' costs are not fully and timely recovered through the rates ultimately approved by regulators, our cash flows, results of operations and financial condition, and our ability to earn a return on investment and meet financial obligations, could be adversely affected.

Current electric and gas rate plans of Networks' regulated utilities include RDMs and the provisions for the recovery of energy costs, including reconciliation of the actual amount paid by such regulated utilities. There is no guarantee that such decoupling mechanisms or recovery and reconciliation mechanism will remain part of the rate plan of Networks in future rate proceedings.

In addition, there are pending challenges at the FERC against New England transmission owners (including UI and CMP) seeking to lower the ROE that these transmission owners are allowed by the FERC to receive for wholesale transmission service pursuant to the ISO-NE Open Access Transmission Tariff. Reductions to ROE adversely impact the revenues that Networks' regulated utilities receive from wholesale transmission customers and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Harming of protected species can result in curtailment of wind project operations and could have a material adverse effect on our business, results of operation, financial condition and cash flows.

The operation of energy projects and transmission of energy can adversely affect endangered, threatened or otherwise protected animal species under federal and state statutes, laws, rules and regulations. Wind projects involve a risk that protected flying species, such as birds and bats, will be harmed due to collision. Transmission and distribution lines are another source of potential avian collision as well as electrocution. Energy generation and transmission facilities can result in impacts to protected wildlife, including death caused by collision, electrocution and poisoning. Energy infrastructure occasionally affects endangered or protected species. Our businesses observe industry guidelines and government-recommended best practices to avoid, minimize

and mitigate harm to protected species, but complete avoidance is not possible and subsequent penalties may result. Where appropriate, our businesses can apply for an “incidental take” permit for some protected species, which may be conditioned upon the institution of costly avoidance and remediation measures.

Violations of wildlife protection laws in certain jurisdictions may result in civil or criminal penalties, including violations of certain laws protecting migratory birds, endangered species and eagles. The ESA and analogous state laws restrict activities without a permit that may adversely affect endangered and threatened species or their habitat. The ESA also provides for private causes of actions against a development project, an operating facility, or the agency that oversees the alleged violation of law. Complying with the state and federal laws protecting migratory birds, endangered species and eagles may require implementation of operating restrictions or a temporary, seasonal, or permanent ban on operations in affected areas, which can have a material adverse effect on the revenue of those projects. For example, there have been recent sightings of the protected California condor at Renewables’ Manzana wind facility. Any incidental taking of a California condor could result in substantial financial, legal and reputational harm to us.

Renewables relies in part on governmental policies that support utility-scale renewable energy. Any reductions to, or the elimination of, governmental mandates and incentives that support utility-scale renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables relies, in part, upon government policies that support utility-scale renewable energy projects and enhance the economic feasibility of developing and operating wind energy projects in regions in which Renewables operates or plans to develop and operate renewable energy facilities. The federal government and many states and local jurisdictions have policies or other mechanisms, such as tax incentives or renewable portfolio standards, or RPS, that support the sale of energy from utility-scale renewable energy facilities, such as wind energy facilities. As a result of budgetary constraints, political factors or otherwise, federal, state and local governments from time to time may review their policies and other mechanisms that support renewable energy and consider actions that would make them less conducive to the development or operation of renewable energy facilities. Any reductions to, or the elimination of, governmental policies or other mechanisms that support renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in, among other items, the lack of a satisfactory market for the development of new renewable energy projects, Renewables abandoning the development of new renewable energy projects, a loss of Renewables’ investments in the projects and reduced project returns, any of which could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our businesses may face risks related to obtaining governmental approvals and permits in respect of project siting, financing, construction, operation and the negotiation of project development agreements which could delay a project and could result in a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables owns, develops, constructs and/or operates electricity generation, including renewable and thermal generators, and associated transmission facilities. Networks develops, constructs, manages and operates transmission and distribution facilities to meet customer needs. As part of these operations, our businesses must periodically apply for licenses and permits from various local, state, federal and other regulatory authorities and abide by their respective conditions. In particular, with respect to Renewables, over the past years noise standards and siting criteria in the Northeast, where population density is higher compared to the Northwest, where Renewables also operates, have grown more restrictive. Federal and state siting legislation has increased its focus on potential conflicts with military installations. Offshore wind also incorporates a new and more complex permitting process and has higher development costs. If our businesses are unsuccessful in obtaining necessary licenses or permits on acceptable terms, there is a delay in obtaining or renewing necessary licenses or permits or regulatory authorities initiate any associated investigations or enforcement actions or impose related penalties or disallowances on us, they individually or in the aggregate could have a material adverse effect on our businesses, results of operations, financial condition and cash flows.

Our operating subsidiaries’ purchases and sales of energy commodities and related transportation and services expose us to potential regulatory risks that could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Under the EPCA 2005 and the Dodd-Frank Act, our businesses are subject to enhanced FERC and CFTC statutory authority to monitor certain segments of the physical and financial energy commodities markets. These agencies have imposed broad regulations prohibiting fraud and manipulation of the electricity and gas markets. Under these laws, the FERC and CFTC have promulgated new regulations that have increased compliance costs and imposed new reporting requirements on our businesses. For example, the Dodd-Frank Act substantially increased regulation of the over-the-counter derivative contracts market and futures contract markets, which impacts our businesses. The new regulations require our operating subsidiaries to comply with certain margin requirements for our over-the-counter derivative contracts with certain CFTC- or SEC-registered entities and if the rules implementing the new regulations require us to post significant amounts of cash collateral with respect to swap transactions, this

could have a material adverse effect on our liquidity. We cannot predict the impact these new regulations will have on our businesses' ability to hedge their commodity and interest rate risks or on over-the-counter derivatives markets as a whole, but they could potentially have a material adverse effect on our businesses' risk exposure, as well as reduce market liquidity and further increase the cost of hedging activities.

With regard to the physical purchases and sales of energy commodities, the physical trading of energy commodities and any related transportation and/or hedging activities that some of our operating subsidiaries undertake, our operating subsidiaries are required to observe the market-related regulations and certain reporting and other requirements enforced by the FERC, the CFTC and the SEC. Additionally, to the extent that the operating subsidiaries enter into transportation contracts with natural gas pipelines or transmission contracts with electricity transmission providers that are subject to FERC regulation, the operating subsidiaries are subject to FERC requirements related to the use of such transportation or transmission capacity. Any failure on the part of our operating subsidiaries to comply with the regulations and policies of the FERC, the CFTC or the SEC relating to the physical or financial trading and sales of natural gas or other energy commodities, transportation or transmission of these energy commodities or trading or hedging of these commodities could result in the imposition of significant civil and criminal penalties. Failure to comply with such regulations, as interpreted and enforced, could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables' ability to generate revenue from certain utility-scale wind energy power plants depends on having continuing interconnection arrangements, PPAs, or other market mechanisms and depends upon interconnecting utility and RTO rules, policies, procedures and FERC tariffs that do not present restrictions to current and future wind project operations.

The electric generation facilities owned by Renewables rely on interconnection and/or transmission agreements and transmission networks in order to sell the energy generated by such facility. If the interconnection and/or transmission agreement of an electric generating facility Renewables owns is terminated for any reason, Renewables may not be able to replace it with an interconnection or transmission arrangement on terms as favorable as the existing arrangement, or at all, or it may experience significant delays or costs in securing a replacement. If a transmission network to which one or more of Renewables' electric generating facilities is connected experiences outages or curtailments, the affected projects may lose revenue. These factors could materially affect Renewables' ability to forecast operations and negatively affect our business, results of operations, financial condition and cash flows. In addition, certain of Renewables' operating facilities' generation of electricity may be physically or economically curtailed, and offtakers or transmission or interconnection providers may be permitted to restrict wind project operations without paying full compensation to Renewables pursuant to PPAs or interconnection agreements or FERC tariff provisions or rules, policies or procedures of RTOs, which may reduce our revenues and impair our ability to capitalize fully on a particular facility's generating potential. Such curtailments or operational limitations could have a material adverse effect on our business, financial condition, results of operations and cash flows. Furthermore, economic congestion on the transmission grid (for instance, a negative price difference between the location where power is put on the grid by a project and the location where power is taken off the grid by the project's customer) in certain of the bulk power markets in which Renewables operates may occur and its businesses may be responsible for those congestion costs. Similarly, negative congestion costs may require that the wind projects either not participate in the energy markets or bid and clear at negative prices which may require the wind projects to pay money to operate each hour in which prices are negative. If such businesses were liable for such congestion costs or if the wind projects are required to pay money to operate in any given hour when prices are negative, then our financial results could be adversely affected.

Risks Relating to Our Business and Operations

Disruptions, uncertainty or volatility in the credit and capital markets may negatively affect our liquidity and capital needs and our ability to meet our growth objectives and can also materially adversely affect our results of operations and financial condition.

A crisis affecting the banking system and the financial markets including severe volatility in stock and bond markets could impact our financial operating conditions, our day-to-day activities, our liquidity and cash positions, the loss of significant investment opportunities, the value of our business and our financial condition. In addition, during periods of slow or little economic growth, energy conservation efforts often increase and the amount of uncollectible customer accounts increases. These factors may also reduce earnings and cash flow.

Increases in interest rates or reductions in credit ratings could have an adverse impact on our cash flows, results of operations and financial condition.

Trends in the general level of interest rates and in the debt capital and credit markets could increase the cost of our borrowings and our ability to access the credit markets. We have floating rate exposure under our commercial paper program, our credit facilities and our auction rate bonds which closely tracks movements in the London Interbank Offer Rate, or LIBOR. The cost of

new long-term debt can be affected by the level of US treasury rates and conditions in the debt capital markets that affect credit spreads.

In addition, AVANGRID and certain of its subsidiaries have credit ratings which directly affect the cost of maintaining and borrowing under revolving credit facilities and which indirectly affect the cost of borrowing under our commercial paper program and the cost of new long-term debt raised in the debt capital markets. In addition, we intend to access the capital markets and issue debt securities from time to time, and a decrease in credit ratings or outlook could adversely affect our liquidity, increase borrowing costs and decrease demand for our debt securities and increase the expense and difficulty of financing our operations and investments. Lower credit ratings could increase the cost of debt and equity capital and, depending on the rating and market conditions, preclude access to the debt and equity capital markets. Any of these events could have a materially adverse effect on our business, results of operations, financial condition and cash flows.

If Networks' electricity and natural gas transmission, transportation and distribution systems do not operate as expected, they could require unplanned expenditures, including the maintenance and refurbishment of Networks' facilities, which could adversely affect our business, results of operations, financial position and cash flows.

Networks' ability to operate its electricity and natural gas transmission, transportation and distribution systems is critical to the financial performance of our business. The ongoing operation of Networks' facilities involves risks customary to the electric and natural gas industry that include the breakdown, failure, loss of use or destruction of Networks' facilities, equipment or processes or the facilities, equipment or processes of third parties due to natural disasters, war or acts of terrorism, operational and safety performance below expected levels, errors in the operation or maintenance of these facilities and the inability to transport electricity or natural gas to customers in an efficient manner. These and other occurrences could reduce potential earnings and cash flows and increase the costs of repairs and replacement of assets. Losses incurred by Networks in respect of such occurrences may not be fully recoverable through insurance or customer rates. Further, certain of Networks' facilities require periodic upgrading and improvement.

In addition, unplanned outages typically increase Networks' operation and maintenance expenses. Any unexpected failure, including failure associated with breakdowns, forced outages or any unanticipated capital expenditures, accident, failure of major equipment, shortage of or inability to acquire critical replacement or spare parts could result in reduced profitability, harm to our reputation or regulatory penalties. For more information, see "Risks Relating to Our Regulatory Environment" above.

Our businesses' operations and power production may fall below expectations due to the impact of severe weather or other natural events, which could adversely affect our cash flows, results of operations and financial position.

Weather conditions directly influence the demand for electricity and natural gas and other fuels and affect the price of energy and energy-related commodities. Severe weather, such as ice and snow storms, hurricanes and other natural disasters, such as floods and earthquakes, can be destructive and cause power outages, bodily injury and property damage or affect the availability of fuel and water, which may require additional costs or loss of revenues, for example, the costs incurred to restore service and repair damaged facilities, to obtain replacement power and to access available financing sources, may not be recoverable from customers and could adversely affect our cash flows, results of operations and financial position. Many of our facilities could be placed at greater risk of damage should changes in the global climate produce unusual variations in temperature and weather patterns, resulting in more intense, frequent and extreme weather events, abnormal levels of precipitation and a change in sea level. A disruption or failure of electric generation, transmission or distribution systems or natural gas production, transmission, transportation, storage or distribution systems in the event of ice and snow storms, long periods of severe weather, hurricane, tornado or other severe weather event, or otherwise, could prevent us from operating our business in the normal course and could result in any of the adverse consequences described above. Because utility companies, including our regulated utilities, have large customer bases, they are subject to adverse publicity focused on the reliability of their distribution services and the speed with which they are able to respond to electric outages, natural gas leaks and similar interruptions caused by storm damage or other unanticipated events. Adverse publicity of this nature could harm our reputations and the reputations of our subsidiaries.

Furthermore, Renewables can incur damage to wind turbine equipment, either through natural events such as lightning strikes that damage blades or in-ground electrical systems used to collect electricity from turbines. Many of the operating facilities of Networks are located either in, or close to, densely populated public places. A failure of, or damage to, these facilities, could result in bodily injury or death, property damage, the release of hazardous substances or extended service interruptions. The cost of repairing damage to Networks' facilities and the potential disruption of their operations due to storms, natural disasters or other catastrophic events could be substantial. In respect of our businesses where cost recovery is available, recovery of costs to restore service and repair damaged facilities is or may be subject to regulatory approval, and any determination by the regulator not to permit timely and full recovery of the costs incurred could have a material adverse effect on our business, results of operations, financial condition and cash flows.

If wind conditions are unfavorable or below Renewables' production forecasts, or Renewables' wind turbines are not available for operation, Renewables projects' electricity generation and the revenue generated from its projects may be substantially below our expectations.

Changing wind patterns or lower than expected wind resource could cause reductions in electricity generation at Renewables' projects, which could affect the revenues produced by these wind generating facilities. Renewables' wind projects are sited, developed and operated to maximize wind performance. Prior to siting a wind facility, detailed studies are conducted to measure the wind resource in order to estimate future production. However, wind patterns or wind resource in the future might deviate from historical patterns and are difficult to predict. These events could negatively impact the results of operations of Renewables, which may vary significantly from period to period, depending on the level of available resources. To the extent that resources are not available at planned levels, the financial results from these facilities may be less than expected. Changing wind patterns or lower than expected wind resources could also degrade equipment or components and the interconnection and transmission facilities' lives or maintenance costs. Replacement and spare parts for wind turbines and key pieces of electrical equipment may be difficult or costly to acquire or may be unavailable. The loss of any suppliers or service providers or inability to find replacement suppliers or service providers or to purchase turbines at rates currently offered by Renewables' existing suppliers or a change in the terms of Renewables' supply or operations and maintenance agreements, such as increased prices for maintenance services or for spare parts, could have a material adverse effect on Renewables' ability to construct and maintain wind farms or the profitability of wind farm development and operation.

The revenues generated by Renewables' facilities depend upon Renewables' ability to maintain the working order of its wind turbines. A natural disaster, severe weather, accident, failure of major equipment, shortage of or inability to acquire critical replacement or spare parts, failure in the operation of any future transmission facilities that Renewables may acquire, including the failure of interconnection to available electricity transmission or distribution networks, could damage or require Renewables to shut down its turbines or related equipment and facilities, leading to decreases in electricity generation levels and revenues. Additionally, Renewables' operating projects generally do not hold spare substation main transformers in inventory. These transformers are designed specifically for each wind power project, and order lead times can be lengthy. If one of Renewables' projects had to replace any of its substation main transformers, it would be unable to sell all of its power until a replacement is installed.

If Renewables experiences a prolonged interruption at one of its operating projects due to natural events or operational problems and such events are not fully covered by insurance, Renewables' electricity generation levels could materially decrease, which could have a material adverse effect on its business, results of operation and financial condition and could adversely affect our cash flows, results of operations and financial position.

Cyber breaches, acts of war or terrorism, grid disturbances or security breaches involving the misappropriation of confidential and proprietary customer, employee, financial or system operating information could negatively impact our business.

Cyber breaches, acts of war or terrorism or grid disturbances resulting from internal or external sources could target our generation, transmission and distribution facilities or our information technology systems. In the regular course of business, we maintain sensitive customer, employee, financial and system operating information and are required by various federal and state laws to safeguard this information. Cyber or physical security intrusions could potentially lead to disabling damage to our generation, transmission and distribution facilities and to theft and the release of critical operating information or confidential customer or employee information, which could adversely affect our operations or adversely impact our reputation, and could result in significant costs, fines and litigation. We routinely experience attempts by external parties to penetrate and attack our networks and systems. Although such attempts have not resulted in any material breaches, disruptions or loss of business - critical information, our systems and procedures for preparing and protecting against such attacks and mitigating such risks may prove to be insufficient in the future and such attacks could have an adverse impact on our business and operations. Additionally, because our generation and transmission facilities are part of an interconnected regional grid, we face the risk of blackout due to a disruption on a neighboring interconnected system. The Company maintains a specific insurance program for cyber-risk in accordance with insurance market current offerings; and that will need to be periodically reviewed due to the rapid evolution and broad range of cyber risks. While we maintain insurance coverage that is designed to address losses or claims that may arise in connection with cyber risks, such insurance coverage may be insufficient to cover all losses or claims that may arise from such risks. As threats evolve and grow increasingly more sophisticated, we may incur significant costs to upgrade or enhance our security measures to protect against such risks and we may face difficulties in fully anticipating or implementing adequate preventive measures or mitigating potential harms. In addition, we cannot ensure that a potential security breach may not occur or quantify the potential impact of such an event. Any such cyber breaches could result in a significant decrease in revenues, significant expense to repair system damage or security breaches, adversely impact our reputation, regulatory penalties and liability claims, which could have a material adverse effect on our cash flows, results of operations and financial condition.

Risks including but not limited to any physical security breach involving unauthorized access, electricity or equipment theft and vandalism could adversely affect our business operations and adversely impact our reputation.

A physical attack on our transmission and distribution infrastructure could interfere with normal business operations and affect our ability to control our transmission and distribution assets. A physical security intrusion could potentially lead to theft and the release of critical operating information, which could adversely affect our operations or adversely impact our reputation, and could result in significant costs, fines and litigation. Additionally, certain of our power generation and transmission and distribution assets and equipment are at risk for theft and damage. For example, Networks is at risk for copper wire theft, especially, due to an increased demand for copper in the United States and internationally. Theft of copper wire or solar panels can cause significant disruption to Networks' and Renewables' operations, respectively, and can lead to operating losses at those locations. Furthermore, Renewables can incur damage to wind turbine equipment through vandalism, such as gunshots into towers or other generating equipment. Such damage can cause disruption of operations for unspecified periods which may lead to operating losses at those locations.

Our risk management policies cannot fully eliminate the risk associated with some of our operating subsidiaries' commodity trading and hedging activities, which may result in significant losses.

Renewables has exposure to commodity price movements through their "natural" long positions in electricity in addition to proprietary trading and hedging activities.

Networks and Renewables manage the exposure to risks of commodity price movements through internal risk management policies, enforcement of established risk limits and risk management procedures. These risk policies, risk limits and risk management procedures may not work as planned and cannot eliminate all risks associated with these activities. Even when these risk policies and procedures are followed, and decisions are made based on projections and estimates of future performance, results of operations may be diminished if the judgments and assumptions underlying those decisions prove to be incorrect. Our risk management tools and metrics associated with our hedging and trading procedures, such as daily value at risk, stop loss limits and liquidity guidelines, are based on historical price movements. Due to the inherent uncertainty involved in price movements and potential deviation from historical pricing behavior, we are unable to assure that our risk management tools and metrics will be effective to protect against material adverse effects on our business, financial condition, results of operations and prospects. Factors, such as future prices and demand for power and other energy-related commodities, become more difficult to predict and the calculations become less reliable the further into the future estimates are made. As a result, we cannot fully predict the impact that some of our subsidiaries' commodity trading and hedging activities and risk management decisions may have on our business, results of operations, financial condition and cash flows.

We expect to invest in development opportunities in all segments of our business, but such opportunities may not be successful, projects may not commence operation as scheduled and/or within budget or at all, which could have a material adverse effect on our business prospects.

We are pursuing broader development investment opportunities related to all segments of our business, particularly in respect of additional opportunities related to electric transmission, renewable energy generation, interconnections to generating resources and other development investment opportunities. The development, construction and expansion of such projects involve numerous risks. Various factors could result in increased costs or result in delays or cancellation of these projects. Offshore wind brings significant development costs associated to single projects. Risks include regulatory approval processes, permitting, new legislation, economic events, environmental and community concerns, negative publicity, design and siting issues, difficulties in obtaining required rights of way, construction delays and cost overruns, including delays in equipment deliveries, particularly of wind turbines or transformers, severe weather, competition from incumbent facilities and other entities, and actions of strategic partners. For example, there may be delays or unexpected developments in completing current and future construction projects. While most of Renewables' construction projects are constructed under fixed-price and fixed-schedule contracts with construction and equipment suppliers, these contracts provide for limitations on the liability of these contractors to pay liquidated damages for cost overruns and construction delays. These circumstances could prevent Renewables' construction projects from commencing operations or from meeting original expectations about how much electricity it will generate or the returns it will achieve. In addition, for Renewables' projects that are subject to PPAs, substantial delays could cause defaults under the PPAs, which generally require the completion of project construction by a certain date at specified performance levels. A delay resulting in a wind project failing to qualify for federal production tax credits could result in losses that would be substantially greater than the amount of liquidated damages paid to Renewables. In December 2015, the Consolidated Appropriations Act extended the expiration date for this tax credit to December 31, 2019, for wind facilities commencing construction, with a phase-down beginning for wind projects commencing construction after December 31, 2016. In May 2018, Vineyard Wind, LLC (AVANGRID has a 50% voting interest) was selected to build 800 MW of offshore wind in Massachusetts. The company still needs to get regulatory approvals before starting construction. A delay in getting all necessary permits may impact expected returns of this project or affect the final investment decision outcome. In 2018, CMP was selected to construct a transmission line (New England Clean

Energy Connect) to provide renewable energy to Massachusetts. The company is going through a permitting process that includes federal, state and local permits that will need to be approved before the project starts construction. As is typical with large projects, we could experience delays, including in regulatory approvals, permitting and construction. Should any of these factors result in such delays or cancellations, our growth projections, financial position, results of operations and cash flows could be adversely affected or our future growth opportunities may not be realized as anticipated.

Advances in technology and rate design initiatives could impair or eliminate the competitive advantage of our business or could result in customer defection, which could have a material adverse effect on our growth, business, financial condition and results of operations.

The emergence of technology and initiatives designed to reduce greenhouse gas emissions or limit the effects of global warming and overall climate change has increased the development of new technologies for solar generation, energy efficiency and for investment in research and development to make those technologies more efficient and cost effective. There is a potential that new technology or rate design incentives could adversely affect the demand for services of our regulated subsidiaries thus impacting our revenues, which could adversely affect our cash flows, results of operations and financial concerns. For example, net energy metering allows electricity customers who supply their own electricity from on-site generation to pay only for the net energy obtained from the utility. Further, the behind-the-meter storage systems and grid integration components such as inverters or electronics could result in electricity delivery customers abandoning the grid system or replacing part of grid services with self-supply or self-balancing, which could impact the return on current or future Networks' assets deployed and designed to serve projected load. Such emergence of alternative sources of energy supply can result in customers relying on the power grid for limited use, such as in the case of a deficit or an emergency, or completely abandoning the grid, which is known as customer defection. While currently the regulated utilities of Networks are subject to RDMs, they are either legislatively or regulatory in nature and there is no assurance such mechanisms will always be available. The progressive reduction in the costs of distributed energy assets, as a result of technological improvements, large scale deployment in certain jurisdictions and constructive support regimes could result in customer defection (individually or integrated in micro-grids) when a net benefit analysis of investing in self-supply and storage of energy compared to energy provided by utility service appears attractive for certain customer classes. Similarly, future investments in Networks could be impacted if adequate rate making does not fully contemplate the characteristics of an integrated reliable grid from a unified perspective, regardless of customer disconnection. Further, the interoperability, integration and standard connection of these distributed energy devices and systems could place a burden on the system of Networks' operating subsidiaries, without adequately compensating them. Furthermore, the technologies used in the renewable energy sector change and evolve rapidly. Techniques for the production of electricity from renewable sources are constantly improving and becoming more complex. In order to maintain Renewables' competitiveness and expand its business, Renewables must adjust effectively to changes in technology. If Renewables fails to react effectively to current and future technological changes in the sector in a timely manner, Renewables' future business growth, results of operations and financial condition could be materially adversely affected.

Renewables' revenue may be reduced significantly upon expiration or early termination of PPAs if the market price of electricity decreases and Renewables is otherwise unable to negotiate favorable pricing terms.

Renewables' portfolio of PPAs is made up of PPAs that primarily have fixed or otherwise predetermined electricity prices for the life of the PPA. A decrease in the market price of electricity, including lower prices for traditional fossil fuels, could result in a decrease in revenues once a PPA has expired or upon a renewal of a PPA. Any decrease in the price payable to Renewables under new PPAs could have a material adverse effect on our business, results of operations, financial conditions and cash flows. For the majority of Renewables' wind energy generation projects, upon the expiration of a PPA, the project becomes a merchant project subject to market risks, unless Renewables can negotiate a renewal of the PPA. If Renewables is not able to replace an expiring or early terminated PPA with a contract on equivalent terms and conditions or otherwise obtain prices that permit operation of the related facility on a profitable basis, the affected site may temporarily or permanently cease operations and trigger an asset value impairment. The majority of the Renewables PPAs are fixed price contracts. An early termination of any may result in economic losses.

There are a limited number of purchasers of utility-scale quantities of electricity, which exposes Renewables' utility-scale projects to additional risk that could have a material adverse effect on its business.

Since the transmission and distribution of electricity is highly concentrated in most jurisdictions, there are a limited number of possible purchasers for utility-scale quantities of electricity in a given geographic location, including transmission grid operators, state and investor-owned power companies, public utility districts and cooperatives. As a result, there is a concentrated pool of potential buyers for electricity generated by Renewables' businesses, which may restrict our ability to negotiate favorable terms under new PPAs and could impact our ability to find new customers for the electricity generated by our generation facilities should this become necessary. Renewables' PPA portfolio is mostly contracted with low risk regulated utility companies. In the past few years, there has been increased participation from commercial and industrial businesses. The higher long term business risk profile

of these companies results in increased credit risk. Furthermore, if the financial condition of these utilities and/or power purchasers deteriorated or the RPS programs, climate change programs or other regulations to which they are currently subject and that compel them to source renewable energy supplies change, demand for electricity produced by Renewables' businesses could be negatively impacted.

Lower prices for other fuel sources may reduce the demand for wind and solar energy development, which could have a material adverse effect on Renewables' ability to grow its business.

Wind and solar energy demand is affected by the price and availability of other fuels, including nuclear, coal, natural gas and oil, as well as other sources of renewable energy. To the extent renewable energy, particularly wind energy, becomes less cost-competitive due to reduced government targets, increases in the cost of wind energy, as a result of new regulations, and incentives that favor alternative renewable energy, cheaper alternatives or otherwise, demand for wind energy and other forms of renewable energy could decrease. Slow growth or a long-term reduction in the demand for renewable energy could have a material adverse effect on Renewables' ability to grow its business.

Volatility in the price of natural gas and home heating oil could adversely impact the demand for gas conversions and could have a material adverse effect on our regulated gas utilities' ability to grow their businesses.

Conversion from home heating oil to natural gas requires a significant investment by customers. If the price of natural gas does not remain sufficiently below the prices of home heating oil, current oil heating customers may elect not to convert to natural gas. Volatility in oil prices demonstrates the difficulty to predict future home heating costs. In addition, any new regulations imposed on natural gas, particularly on extraction of natural gas from shale formations, could lead to substantial increases in the price of natural gas. Reduced prices for heating oil or increases in in prices for natural gas may cause potential natural gas customers to forgo converting their heating systems to natural gas and as a result, could negatively impact the forecasted growth of the CNG, SCG and BGC businesses, and their cash flows, results of operations and financial condition.

Our subsidiaries do not own all of the land on which their projects are located and their use and enjoyment of real property rights for their projects may be adversely affected by the rights of lienholders and leaseholders that are superior to those of the grantors of those real property rights to our subsidiaries' projects, which could have a material adverse effect on their business, results of operations, financial condition and cash flows.

Our subsidiaries do not own all of the land on which their projects are located. For example, Renewables does not own all of the land on which its wind projects are located. Such projects generally are, and future projects may be, located on land occupied under long-term easements, leases and rights of way. The ownership interests in the land subject to these easements, leases and rights of way may be subject to mortgages securing loans or other liens and other easements, lease rights and rights of way of third parties that were created previously. As a result, some of the rights under such easements, leases or rights of way held by our operating subsidiaries may be subject to the rights of these third parties, and the rights of our operating subsidiaries to use the land on which their projects are or will be located and their projects' rights to such easements, leases and rights of way could be lost or curtailed. Any such loss or curtailment of the rights of our operating subsidiaries to use the land on which their projects are or will be located could have a material adverse effect on their business, results of operations, financial condition and cash flows.

We and our subsidiaries are subject to litigation or administrative proceedings, the outcome or settlement of which could adversely affect our business, results of operations, financial condition and cash flows.

Our operating subsidiaries have been and continue to be involved in legal proceedings, administrative proceedings, claims and other litigation that arise in the ordinary course of business. These actions may include environmental claims, employment-related claims and contractual disputes or claims for personal injury or property damage that occur in connection with services performed relating to the operation of our businesses, or actions by regulatory or tax authorities. Unfavorable outcomes or developments relating to these proceedings or future proceedings, such as judgments for monetary damages, injunctions or denial or revocation of permits, could have a material adverse effect on our business, financial condition and results of operations. In addition, settlement of claims could adversely affect our business, results of operations, financial condition and cash flows.

Storing, transporting and distributing natural gas involves inherent risks that could cause us to incur significant financial losses.

There are inherent hazards and operation risks in gas distribution activities, such as leaks, accidental explosions and mechanical problems that could cause the loss of human life, significant damage to property, environmental pollution and impairment of operations. The location of pipelines and storage facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages resulting from these risks. These activities may subject us to litigation and administrative proceedings that could result in substantial monetary judgments, fines or penalties.

To the extent that the occurrence of any of these events is not fully covered by insurance or natural gas hedges, they could adversely affect our revenue, earnings and cash flow.

We are not able to insure against all potential risks and may become subject to higher insurance premiums, and our ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers.

Our businesses and activities are exposed to the risks inherent in the construction and operation of our respective assets, such as electrical power plants, wind power plants and other renewable energy projects and natural gas storage and distribution facilities, including breakdowns, manufacturing defects, natural disasters, terrorist attacks, cyber attacks and sabotage. Our subsidiaries are also exposed to third party liability risks and environmental risks. While our operating subsidiaries maintain insurance coverage, such insurance may not continue to be offered on an economically feasible basis and may not cover all events that could give rise to a loss or claim involving the assets or operations of our subsidiaries. For example, Renewables currently has 540 MW of installed capacity in California subject to known earthquake risks and approximately 600 MW of installed capacity on the Texas Gulf Coast subject to known hurricane and windstorm risks. Further, while insurance coverage applies to property damages and business interruptions, this coverage is limited as a result of severe insurance market restrictions and we are generally not fully insured against all significant losses. In addition, our subsidiaries' insurance policies are subject to annual review by their insurers. Our ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers. If insurance coverage is not available or obtainable on acceptable terms, we may be required to pay costs associated with adverse future events. If one of our operating subsidiaries were to incur a serious uninsured loss or a loss significantly exceeding the limits of their insurance policies, the results could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Furthermore, Networks' gas distribution and transportation activities involve a variety of inherent hazards and operating risks, such as leaks, accidents, explosions, fires and mechanical problems and could result in serious injury to employees and non-employees, loss of human life, significant damage to property, environmental pollution and impairment of our subsidiaries' operations. In accordance with customary industry practice, our subsidiaries maintain insurance against some, but not all, of these risks and losses. The location of natural gas pipelines and other facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages that could potentially result from these risks. The occurrence of any of these events not fully covered by insurance could adversely affect our business, results of operations, financial position and cash flows.

The benefits of any warranties provided by the suppliers of equipment for Networks and Renewables' projects may be limited by the ability of a supplier to satisfy its warranty obligations, or if the term of the warranty has expired or has liability limits which could have a material adverse effect on our business, results of operation, financial condition and cash flows.

Networks and Renewables expect to benefit from various warranties, including product quality and performance warranties, provided by suppliers in connection with the purchase of equipment. The suppliers of our operating subsidiaries may fail to fulfill their warranty obligations or a particular defect may not be covered by a warranty. Even if a supplier fulfills its obligations, the warranty may not be sufficient to compensate the operating subsidiary for all of its losses. In addition, these warranties generally expire within two to five years after the date each equipment item is delivered or commissioned and are subject to liability limits. If installation is delayed, the operating subsidiaries may lose all or a portion of the benefit of a warranty. If Networks or Renewables seeks warranty protection and a supplier is unable or unwilling to perform its warranty obligations, whether as a result of its financial condition or otherwise, or if the term of the warranty has expired or a liability limit has been reached, there may be a reduction or loss of warranty protection for the affected equipment, which could have a material adverse effect on our business, results of operation, financial condition and cash flows.

A disruption in the wholesale energy markets or failure by an energy supplier could adversely affect our business and results of operation.

Almost all the electricity and gas that Networks sells to full-service customers is purchased through the wholesale energy markets or pursuant to contracts with energy suppliers. A disruption in the wholesale energy markets or a failure on the part of energy suppliers or operators of energy delivery systems that connect to Networks' energy facilities could adversely affect Networks' ability to meet its customers' energy needs and adversely affect our business and results of operation.

The increased cost of purchasing natural gas during periods in which natural gas prices are rising significantly could adversely impact our earnings and cash flow.

The rates that are permitted to be charged by our regulated natural gas utilities that allow for rate recovery generally allow such businesses to recover their cost of purchasing natural gas. In general, the various regulatory agencies allow our regulated

utilities to recover the costs of natural gas purchased for customers on a dollar-for-dollar basis (in the absence of disallowances), without a profit component. Networks' regulated natural gas utilities periodically adjust customer rates for increases and decreases in the cost of gas purchased by such regulated utilities for sale to its customers. Under the regulatory body-approved gas cost recovery pricing mechanisms, the gas commodity charge portion of gas rates charged to customers may be adjusted upward on a periodic basis. If the cost of purchasing natural gas increases and Networks' regulated natural gas utilities are unable to recover these costs from its customers immediately, or at all, Networks may incur increased costs associated with higher working capital requirements and/or realize increased costs. In addition, any increases in the cost of purchasing natural gas may result in higher customer bad debt expense for uncollectible accounts and reduced sales volume and related margins due to lower customer consumption.

Pension and post-retirement benefit plans could require significant future contributions to such plan that could adversely impact our business, results of operations, financial condition and cash flows.

We provide defined benefit pension plans and other post-retirement benefits administered by our subsidiaries for a significant number of employees, former employees and retirees. Financial market disruptions and significant declines in the market values of the investments held to meet the pension and post-retirement obligations, discount rate assumptions, participant demographics and increasing longevity, and changes in laws and regulations may require us to make significant contributions to the plans. Large funding requirements or significant increases in expenses could adversely impact our business, results of operations, financial condition and cash flows.

Our existing credit facilities contain, and agreements that we may enter into in the future may contain, covenants that could restrict our financial flexibility.

Our existing credit facilities, and the credit facilities of our subsidiaries, contain covenants imposing certain requirements on our business including covenants regarding the ratio of indebtedness to total capitalization. Furthermore, our subsidiaries periodically issue long-term debt, historically consisting of both secured and unsecured indebtedness. These third-party debt agreements also contain covenants, including covenants regarding the ratio of indebtedness to total capitalization. These requirements may limit our ability and the ability of our subsidiaries to take advantage of potential business opportunities as they arise and may adversely affect our conduct and our operating subsidiaries' current business, including restricting our ability to finance future operations and capital needs and limiting the subsidiaries' ability to engage in other business activities. Other covenants place or could place restrictions on our ability and the ability of our operating subsidiaries to, among other things, incur additional debt, create liens, and sell or transfer assets.

Agreements we and our operating subsidiaries enter into in the future may also have similar or more restrictive covenants, especially if the general credit market deteriorates. A breach of any covenant in the existing credit facilities or the agreements governing our other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration of payment of the underlying obligations or may trigger acceleration of payment if not remedied within a specified period. Events of default under one agreement may trigger events of default under other agreements, although our regulated utilities are not subject to the risk of default of affiliates. Should payments become accelerated as the result of an event of default, the principal and interest on such borrowing would become due and payable immediately. If that should occur, we may not be able to make all of the required payments or borrow sufficient funds to refinance the accelerated debt obligations. Even if new financing is then available, it may not be on terms that are acceptable to us.

We may be unable to meet our financial obligations and to pay dividends on our common stock if our subsidiaries are unable to pay dividends or repay loans from us.

We are a holding company and, as such, have no revenue-generating operations of our own. We are dependent on dividends and the repayment of loans from our subsidiaries and on external financings to provide the cash that is necessary to make future investments, service debt we have incurred, pay administrative costs and pay dividends. Our subsidiaries are separate legal entities and have no independent obligation to pay us dividends. Prior to paying us dividends, the subsidiaries have financial obligations that must be satisfied, including among others, their operating expenses and obligations to creditors. Furthermore, our regulated utilities are restricted by regulatory decision from paying us dividends unless a minimum equity-to-total capital ratio is maintained. The future enactment of laws or regulations may prohibit or further restrict the ability of our subsidiaries to pay upstream dividends or to repay funds. In addition, in the event of a subsidiary's liquidation or reorganization, our right to participate in a distribution of assets is subject to the prior claims of the subsidiary's creditors. As a result, our ability to pay dividends on our common stock and meet our financial obligations is reliant on the ability of our subsidiaries to generate sustained earnings and cash flows and pay dividends to and repay loans from us.

Our investments and cash balances are subject to the risk of loss.

Our cash balances and the cash balances at our subsidiaries may be deposited in banks, may be invested in liquid securities such as commercial paper or money market funds or may be deposited in a liquidity agreement in which we are a participant along with other affiliates of the Iberdrola Group. Bank deposits in excess of federal deposit insurance limits would be subject to risks in the counterparty bank. Liquid securities and money market funds are subject to loss of principal, more likely in an adverse market situation, and to the risk of illiquidity.

We and our subsidiaries may suffer the loss of key personnel or the inability to hire and retain qualified employees, which could result in a material adverse effect on our business, financial condition, results of operations and prospects.

The operations of our operating subsidiaries depend on the continued efforts of our employees and our subsidiaries' employees. Retaining key employees and maintaining the ability to attract new employees are important to our financial performance and for our subsidiaries' operations and financial performance. We cannot guarantee that any member of our management or of our subsidiaries' management will continue to serve in any capacity for any particular period of time. In addition, a significant portion of our and our subsidiaries' workforce, including many workers with specialized skills maintaining and servicing the electrical infrastructure, will be eligible to retire over the next five to ten years. Such highly skilled individuals cannot be quickly replaced due to the technically complex work they perform. If a significant amount of such workers retire and are not replaced, the subsequent loss in productivity and increased recruiting and training costs could result in a material adverse effect on our business, financial condition, results of operations and prospects.

We and our subsidiaries face the risk of strikes, work stoppages or an inability to negotiate future collective bargaining agreements on commercially reasonable terms which could have a material adverse effect on our business, results of operations, financial condition and cash flows.

A majority of the employees at Networks' facilities are subject to collective bargaining agreements with various unions. Additionally, unionization activities, including votes for union certification, could occur among non-union employees. If union employees strike, participate in a work stoppage or slowdown or engage in other forms of labor strike or disruption, our subsidiaries could experience reduced power generation or outages if replacement labor is not procured. The ability to procure such replacement labor is uncertain, though risks are reduced by rigorous contingency planning. Strikes, work stoppages or an inability to negotiate future collective bargaining agreements on commercially reasonable terms could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Changes in tax laws, as well as judgments and estimates used in the determination of tax-related asset and liability amounts, could materially adversely affect our business, results of operations, financial condition and cash flows.

Our provision for income taxes and reporting of tax-related assets and liabilities require significant judgments and the use of estimates. Amounts of tax-related assets and liabilities involve judgments and estimates of the timing and probability of recognition of income, deductions and tax credits, including, but not limited to, estimates for potential adverse outcomes regarding tax positions that have been taken and the ability to utilize tax benefit carryforwards, such as net operating loss, or NOL, and tax credit carryforwards. Actual income taxes could vary significantly from estimated amounts due to the future impacts of, among other things, changes in tax laws, regulations and interpretations, our financial condition and results of operations.

The success of our business depends on achieving our strategic objectives, which may be through acquisitions, joint ventures, dispositions and restructurings.

We are continuously reviewing the alternatives available to ensure that we meet our strategic objectives, which include, among other things, acquisitions, joint ventures, dispositions and restructuring. With respect to potential acquisitions, joint ventures and restructuring actions, we may not achieve expected returns and other benefits as a result of various factors, including integration and collaboration challenges, such as personnel and technology. In addition, we may not achieve anticipated cost savings from restructuring actions. We also may participate in joint ventures with other companies or enterprises in various markets, including joint ventures where we may have a lesser degree of control over the business operations, which may expose us to additional operational, financial, legal or compliance risks. We also continue to evaluate the potential disposition of assets and businesses that may no longer help us meet our objectives or sell a stake of these assets as a way to maximize the value of our business. When we decide to sell assets or a business, we may encounter difficulty in finding buyers or executing alternative exit strategies on acceptable terms in a timely manner, which could delay the accomplishment of our strategic objectives. Alternatively, we may dispose of a business at a price or on terms that are less than we had anticipated. Failure to achieve our strategic objectives could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Risks Relating to Ownership of Our Common Stock

The trading price and volume of our common stock may be volatile and the value of your investment could decline.

The trading price of and demand for shares of our common stock could fluctuate and will depend on a number of conditions, including:

- the risk factors described in this Annual Report on Form 10-K;
- general economic conditions in the U.S. and internationally, including changes in interest rates;
- changes in electricity and natural gas prices;
- actual, anticipated or unanticipated fluctuations in our quarterly and annual results and those of our competitors;
- our businesses, operations, results and prospects;
- future mergers and strategic alliances;
- market conditions in the energy industry;
- changes in law, government regulation, taxes, legal proceedings or other developments;
- shortfalls in our operating results from levels forecasted by securities analysts or by us;
- investor sentiment toward the stock of energy companies in general;
- announcements concerning us or our competitors;
- maintenance of acceptable credit ratings or credit quality; and
- the general state of the securities markets.

These and other factors may impair the development or sustainability of a liquid market for shares of our common stock and the ability of investors to sell shares at an attractive price. These factors also could cause the market price and demand for shares of our common stock to fluctuate substantially, which may negatively affect the price and liquidity of shares of our common stock. These fluctuations could cause you to lose all or part of your investment in shares of our common stock. Many of these factors and conditions are beyond our control and may not be related to our operating performance.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about us or our businesses, the price and trading volume of our common stock could decline.

The trading market for our common stock will, to some extent, depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us should downgrade our shares or change their opinion of our business prospects or report inaccurate information, our share price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our stock price and trading volume to decline.

Iberdrola exercises significant influence over us, and its interests may be different than yours. Additionally, future sales or issuances of our common stock by Iberdrola, S.A. could have a negative impact on the price of our common stock.

Iberdrola owns approximately 81.5% of outstanding shares of our common stock and will be able to exercise significant influence over our business policies and affairs, including the composition of our board of directors and any action requiring the approval of our shareholders, including the adoption of amendments to the certificate of incorporation and bylaws and the approval of a merger or sale of substantially all of our assets, subject to applicable law and the limitations set forth in the shareholder agreement to which we and Iberdrola are parties. The directors designated by Iberdrola may have significant authority to effect decisions affecting our capital structure, including the issuance of additional capital stock, incurrence of additional indebtedness, the implementation of stock repurchase programs and the decision of whether or not to declare dividends.

The interests of Iberdrola may conflict with the interests of our other shareholders. For example, Iberdrola may support certain long-term strategies or objectives for us that may not be accretive to shareholders in the short term. The concentration of ownership may also delay, defer or even prevent a change in control, even if such a change in control would benefit our other shareholders, and may make some transactions more difficult or impossible without the support of Iberdrola. This significant concentration of share ownership may adversely affect the trading price for shares of our common stock because investors may perceive disadvantages in owning stock in companies with shareholders who own significant percentages of a company's outstanding stock.

Further, sales of our common stock by Iberdrola or the perception that sales may be made by it could significantly reduce the market price of shares of our common stock. Even if Iberdrola does not sell a large number of shares of our common stock into the market, its right to transfer such shares may depress the price of our common stock. Furthermore, pursuant to the shareholder agreement, Iberdrola is entitled to customary registration rights of our common stock, including the right to choose the method by which the common stock are distributed, a choice as to the underwriter and fees and expenses to be borne by us. Iberdrola also retains preemptive rights to protect against dilution in connection with issuances of equity by us. If Iberdrola exercises its registration rights and/or its preemptive rights, the market price of shares of our common stock may be adversely affected.

We have elected to take advantage of the “controlled company” exemption to the corporate governance rules for NYSE-listed companies, which could make shares of our common stock less attractive to some investors or otherwise harm our stock price.

Under the rules of the NYSE, a company in which over 50% of the voting power is held by an individual, a group or another company is a “controlled company” and is not required to have:

- a majority of its board of directors be independent directors;
- a compensation committee, or to have such committees be composed entirely of independent directors; and
- a nominating and corporate governance committee, or to have such committee composed entirely of independent directors.

In October 2016, our board determined that it was in the best interests of the company to establish a compensation, nominating and corporate governance committee. In light of our status as a controlled company, we currently rely on the NYSE exemptions with respect to board, compensation committee and nominating and corporate governance committee independence.

Because we are a controlled company, you will not have the same protections afforded to shareholders of companies that are subject to all of the corporate governance requirements of the NYSE without regard to the exemptions available for “controlled companies.” Our status as a controlled company could make our shares of common stock less attractive to some investors or otherwise harm our stock price.

Our dividend policy is subject to the discretion of our board of directors and may be limited by our debt agreements and limitations under New York law.

Although we currently anticipate paying a regular quarterly dividend, any such determination to pay dividends is at the discretion of our board of directors and dependent on conditions such as our financial condition, earnings, legal requirements, including limitations under New York law, restrictions in our debt agreements that limit our ability to pay dividends to shareholders and other factors the board of directors deem relevant. Our board of directors may, in its sole discretion, change the amount or frequency of dividends or discontinue the payment of dividends entirely. For these reasons, investors may not be able to rely on dividends to receive a return on their investments.

If we are unable to implement and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the trading price of our common stock may be negatively affected.

As a public company, we are subject to reporting, disclosure control and other obligations under the Exchange Act, the Sarbanes-Oxley Act, or SOX, the Dodd-Frank Act, as well as rules adopted, and to be adopted, by the SEC and the NYSE. For example, beginning with the 2016 Annual Report on Form 10-K, Section 404 of SOX requires our management to report on the effectiveness of our internal control over financial reporting and our independent registered public accounting firm to attest to the effectiveness of our internal controls. Our management and other personnel will continue to devote a substantial amount of time to these compliance activities. If we are not able to comply with the requirements of Section 404 in a timely manner or if we are unable to conclude that our internal control over financial reporting is effective, our ability to accurately report our cash flows, results of operations or financial condition could be inhibited and additional financial and management resources could be required. Any failure to maintain internal control over financial reporting or if our independent registered public accounting firm determines the we have a material weakness or significant deficiency in our internal control over financial reporting, could cause investors to lose confidence in the accuracy and completeness of our financial reports, a decline in the market price of our common stock, or subject us to sanctions or investigations by the NYSE, the SEC or other regulatory authorities. Failure to remedy any material weakness or significant deficiency in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets and reduce or eliminate the trading market for our common stock. Further, as a result of becoming a public company, we have incurred and will continue to incur higher legal, accounting and other expenses than we did as a private company, and these expenses may increase even more in the future.

Item 1B. Unresolved Staff Comments.

None

Item 2. Properties.

We have included descriptions of the location and general character of our principal physical operating properties by segment in “Item 1. Business”, which is incorporated herein by reference. The principal offices of AVANGRID and Networks are located in Orange, Connecticut, Portland, Maine, and Rochester, New York, while Renewables’ headquarters is located in Portland, Oregon.

In addition, AVANGRID and its subsidiaries have various administrative offices located throughout the United States. AVANGRID leases part of its administrative and local offices.

The following table sets forth the principal properties of AVANGRID, by location, type, lease or ownership and size as of December 31, 2018:

Location	Type of Facility	Lease/Owned	Size (square feet)
Orange, Connecticut	Office	Owned	127,310
Augusta, Maine	Office	Leased	220,400
Portland, Maine	Office	Leased	16,462
Rochester, New York	Office	Owned	122,494
Portland, Oregon	Office	Leased	76,150

We believe that our office facilities are adequate for our current needs and that additional office space can be obtained if necessary.

Item 3. Legal Proceedings.

For information with respect to this item see Notes 13 and 14 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.

Item 4. Mine Safety Disclosures.

Not applicable.

Executive Officers of AVANGRID

The names and ages of all executive officers of AVANGRID as of March 1, 2019 and a brief account of the business experience during the past five years of each executive officer are as follows:

Name	Age (1)	Title
James P. Torgerson	66	Chief Executive Officer
Douglas K. Stuver	55	Senior Vice President – Chief Financial Officer
Scott M. Tremble	39	Senior Vice President – Controller
Laura Beane	44	President and Chief Executive Officer of Renewables
Douglas A. Herling	55	President and Chief Executive Officer of CMP
Peter T. Church	46	Senior Vice President – Human Resources & Corporate Administration
Ignacio Estella	49	Senior Vice President – Corporate Development
Robert D. Kump	57	President and Chief Executive Officer of Networks
Carl A. Taylor	54	President and Chief Executive Officer of NYSEG and RG&E
R. Scott Mahoney	53	Senior Vice President – General Counsel and Corporate Secretary
Anthony Marone	55	President and Chief Executive Officer of UIL

(1) Age as of December 31, 2018.

James P. Torgerson. Mr. Torgerson was appointed Chief Executive Officer of AVANGRID on December 16, 2015, upon consummation of the acquisition of UIL. Previously, Mr. Torgerson served as president and chief executive officer of UIL since 2006. Prior to 2006, Mr. Torgerson was president and chief executive officer of Midwest Independent Transmission System Operator. Mr. Torgerson serves as the chair of the board of directors of the American Gas Association and as a trustee of the Yale-New Haven Hospital, a Director of Yale New Haven Health System, board and executive committee member of the Edison Electric Institute, and trustee of the Hartford Bishops' Foundation for the Archdiocese of Hartford. Mr. Torgerson is the former chairman and director of the Connecticut Business and Industry Association and the former chairman of the Connecticut Institute for the 21st Century. Mr. Torgerson holds a bachelor's of business administration degree in accounting from Cleveland State University.

Douglas K. Stuver. Mr. Stuver was appointed Senior Vice President - Chief Financial Officer of AVANGRID on July 8, 2018, and is responsible for AVANGRID's investor relations corporate communications, risk management, treasury and purchasing

divisions. Mr. Stuver joined AVANGRID in 2015 and served as Vice President – Controller of Avangrid Renewables, LLC. Prior to joining the Company, he served as chief financial officer of the Company's prior affiliate, PacifiCorp, from 2008 to 2015. Mr. Stuver graduated magna cum laude with a B.A. from University of Pittsburgh and is a Certified Public Accountant (inactive status).

Scott M. Tremble. Mr. Tremble was appointed Senior Vice President – Controller of AVANGRID on May 1, 2018, and is responsible for the execution and recording of AVANGRID's transactional processes while meeting mandatory reporting requirements and tax obligations. Mr. Tremble joined the Company as chief accounting officer of Avangrid Management Company, LLC, a wholly-owned subsidiary of AVANGRID, in 2015, and was responsible for oversight in the areas of consolidation, financial reporting, internal controls, technical accounting, and corporate accounting for the Company. From 2014 to 2015, he served as the international controller of Cole Haan LLC. Mr. Tremble started his career at PricewaterhouseCoopers in October 2002 and served various roles, including, most recently, as senior manager in the assurance practice. Mr. Tremble received his B.S. in Accountancy from Bentley University and is a Certified Public Accountant.

Laura Beane. Ms. Beane was appointed President and Chief Executive Officer of Renewables on April 25, 2017. She was formerly Vice President, Operations and Management Services at Avangrid Renewables from September 2015 to May 2017. Ms. Beane was Director of Market Structure/Policy at Avangrid Renewables from February 2007 to September 2015. Prior to joining Iberdrola/Avangrid Renewables, Ms. Beane worked for the Company's prior affiliate, PacifiCorp, where she held regulatory and project management positions beginning in 1995. Ms. Beane graduated with distinction from the Comillas and Strathclyde universities as part of Iberdrola's first MBA program in the Global Energy Industry cohort and has also earned an MBA and Bachelor of Science degree from the University of Utah.

Douglas A. Herling. Mr. Herling was appointed President and Chief Executive Officer of CMP effective January 2, 2018. Mr. Herling also has functional responsibility for AVANGRID's electrical operations. Previously, Mr. Herling served as Networks vice president – electric operations from 2016 to 2017. From 2001 to 2016 Mr. Herling held various executive management positions at Avangrid Networks and CMP, including vice president – special projects, vice president – engineering & asset management, and engineering and vice president of CMP field operations. Mr. Herling joined CMP in 1985. Mr. Herling earned his Bachelor of Science degree in Marine Engineering from the Maine Maritime Academy.

Peter T. Church. Mr. Church was appointed Senior Vice President – Human Resources & Corporate Administration of AVANGRID on October 31, 2018, and is responsible for ensuring that human resources strategies and initiatives support AVANGRID's mission and objectives, overseeing all aspects of human resources management, practices and operations, and coordinates AVANGRID's other corporate administrative functions including health and safety, general services, and information technology and systems. Prior to joining AVANGRID, Mr. Church held a number of executive positions at UnitedHealth Group from 2012 to 2018 including serving as the Chief Talent Officer, Vice President, Human Capital - Commercial Markets, and Vice President, Talent Acquisition and Workforce Insights. Mr. Church earned both a Bachelor of Arts in Psychology as well as a Master of Arts in General/Experimental Psychology from the University of Hartford.

Ignacio Estella. Mr. Estella was appointed Senior Vice President – Corporate Development of AVANGRID on December 17, 2015, and is responsible for delivering non-organic growth opportunities for the Company beyond those of its present businesses. Previously, Mr. Estella served as corporate vice president of business origination of Iberdrola from May 2009 until November 2013 and vice president – corporate development of Iberdrola USA, Inc., from December 2013 to December 16, 2015. He served as gas markets development director of Iberdrola between February 2007 and April 2009. Mr. Estella holds a degree in law and business administration from the Universidad Pontificia Comillas and a Master of Public Administration, with concentration in industry analysis and strategic negotiation from Harvard University.

Robert D. Kump. Mr. Kump was appointed President and Chief Executive Officer of Networks in November 2010. Mr. Kump served as AVANGRID's Chief Corporate Officer from January 2014 to December 2016. Mr. Kump also has served as a director of AVANGRID's subsidiaries CMP, NYSEG, and RG&E since 2009, as the President of the Avangrid Management Company, LLC since March 2012, and as the Chief Executive Officer of Avangrid Service Company since October 2009. Mr. Kump held various positions from February 1997 to October 2009 as AVANGRID's senior vice president and chief financial officer, vice president, controller and chief accounting officer, treasurer and secretary. Mr. Kump also previously held a number of positions at NYSEG from 1986 to 1997, including senior accountant-external financial reporting, director-investor relations, director-financial services, and treasurer. Mr. Kump earned a B.A. in accounting from Binghamton University and is a C.P.A. in New York.

Carl A. Taylor. Mr. Taylor was appointed President and Chief Executive Office of NYSEG and RG&E on June 30, 2017, and has functional responsibility for AVANGRID's gas operations. Previously, Mr. Taylor served as Vice President of Customer Service of AVANGRID. Mr. Taylor started with NYSEG in 1987 as an electrical engineer in the generation planning area and progressed through positions of increasing seniority in the organization including president of NYSEG Solutions, Inc., a subsidiary

of NYSEG. He earned a Bachelor of Electrical Engineering Degree from Rochester Institute of Technology and a Master's of Business Administration Degree from State University of New York at Binghamton.

R. Scott Mahoney. Mr. Mahoney was appointed Senior Vice President – General Counsel of AVANGRID on December 17, 2015. He was appointed Secretary of AVANGRID on January 27, 2016, and previously served as vice president-general counsel and secretary of Networks. Mr. Mahoney previously served as Deputy General Counsel and Chief FERC Compliance Officer for AVANGRID from January 2007 to June 2012, and previously served in legal and senior executive positions at AVANGRID subsidiaries from October 1996 until January 2007. Mr. Mahoney also serves on the board of directors of the Gulf of Maine Research Institute. Mr. Mahoney earned a B.A. from St. Lawrence University, a J.D. from the University of Maine, a master's degree in environmental law from the Vermont Law School, and a postgraduate diploma in business administration from the University of Warwick. He has received bar admission to the State of Maine, the State of New York, the U.S. Court of Appeals, the U.S. District Court and the U.S. Court of Military Appeals.

Anthony Marone. Mr. Marone was appointed President and Chief Executive Officer of UIL on September 9, 2016. In this role, he has overall responsibility for Avangrid Networks' electric and natural gas operating companies in Connecticut and Massachusetts and functional responsibility for AVANGRID's regulatory and asset management and planning. Mr. Marone also serves as President – Connecticut and Massachusetts Operations of Networks. Previously Mr. Marone served as senior vice president of customer and business services of UIL since May 14, 2013. Mr. Marone served as senior vice president – business services of UI and vice president of business services of UIL from November 16, 2010 to May 2013. Mr. Marone received his master's degree in engineering and business management from the University of New Haven and a bachelor's degree in mechanical engineering from the New York Institute of Technology.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

Our shares of common stock began trading on the NYSE on December 17, 2015, under the symbol “AGR.” Prior to that time, there was no public market for shares of our common stock.

As of February 27, 2019, there were 3,337 shareholders of record.

Dividends

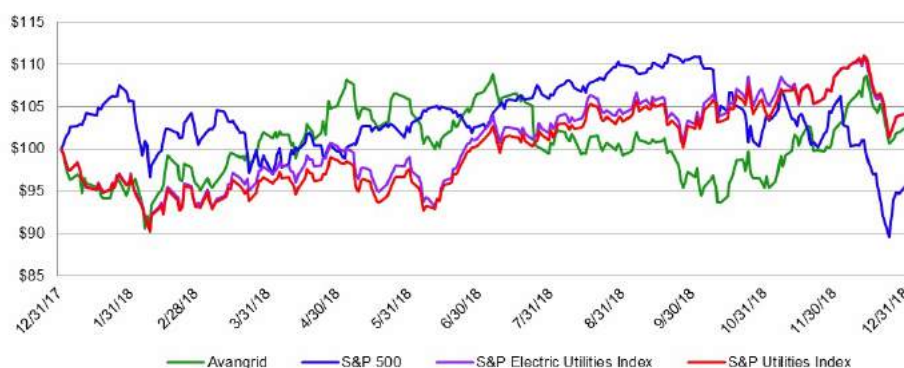
AVANGRID expects to continue paying quarterly cash dividends, although there is no assurance as to the amount of future dividends which depends on future earnings, capital requirements and financial condition.

Further information regarding payment of dividends is provided in “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Annual Report on Form 10-K.

Performance Graph

The line graph appearing below compares the change in AVANGRID’s total shareholder return on its shares of common stock with the return on the S&P Composite-500 Stock Index, the S&P Electric Utilities Index and the S&P Utilities Index for the period January 1, 2018 through December 31, 2018.

Cumulative Total Return Comparison
January 1, 2018 – December 31, 2018



	January 1, 2018		December 31, 2018	
AVANGRID	\$	100.00	\$	102.52
S&P 500	\$	100.00	\$	95.61
S&P Electric Utilities Index	\$	100.00	\$	104.21
S&P Utilities Index	\$	100.00	\$	104.11

The above information assumes that the value of the investment in shares of AVANGRID’s common stock and each index was \$100 on January 1, 2018, including dividend reinvestment during this time period. The changes displayed are not necessarily indicative of future returns.

Recent Sales of Unregistered Securities

None.

Issuer Repurchases of Equity Securities

There were no repurchases of common stock of AVANGRID during the fourth quarter of the year ended December 31, 2018.

Equity Compensation Plan Information

For information regarding securities authorized for issuance under equity compensation plans, see Part III, Item 12 of this Annual Report on Form 10-K.

Item 6. Selected Financial Data

The following selected consolidated financial data should be read in conjunction with the consolidated financial statements and the notes thereto in Item 8 of Part II, “Financial Statements and Supplementary Data,” and the information contained in Item 7 of Part II, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Historical results are not necessarily indicative of future results.

As a result of the adoption of the amendments to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost, we have reclassified the non-service components of those costs from operations and maintenance to other expense within the consolidated statements of income for all periods. For further details, refer to Note 3 in our consolidated financial statements included in this Annual Report on Form 10-K. Accordingly, we have applied these amendments retrospectively to prior periods and the following tables include our revised selected historical consolidated statements of income data for the years ended December 31, 2017, 2016, 2015 and 2014.

Consolidated Statements of Income Data:*	Year Ended December 31, (millions, except per share data)				
	2018	2017	2016	2015	2014
Operating Revenues	\$ 6,478	\$ 5,963	\$ 6,018	\$ 4,367	\$ 4,594
Operating Income	1,127	505	1,194	599	930
Income Before Income Tax	768	123	1,009	302	707
Income tax expense (benefit)	170	(259)	377	29	275
Net Income	598	382	632	273	432
Less: Net income attributable to noncontrolling interests	3	1	—	—	—
Net Income Attributable to Avangrid, Inc.	\$ 595	\$ 381	\$ 632	\$ 273	\$ 432
Total Earnings Per Common Share, Basic and Diluted	\$ 1.92	\$ 1.23	\$ 2.04	\$ 1.07	\$ 1.71
Weighted-average Number of Common Shares Outstanding:					
Basic	309,503,319	309,502,861	309,512,553	254,588,212	252,235,232
Diluted	309,712,628	309,661,883	309,817,322	254,605,111	252,235,232

Consolidated Balance Sheet Data:*	(millions)				
	2018	2017	2016	2015	2014
As of December 31,					
(Millions)					
Total Property, Plant and Equipment	\$ 23,459	\$ 22,669	\$ 21,548	\$ 20,711	\$ 17,133
Total Other Assets	3,675	3,589	3,976	3,795	2,075
Total Assets	\$ 32,167	\$ 31,671	\$ 31,309	\$ 30,743	\$ 24,162

As of December 31, (Millions)	(millions)				
	2018	2017	2016	2015	2014
Liabilities					
Current portion of debt	\$ 394	\$ 183	\$ 349	\$ 206	\$ 148
Non-current debt	5,368	5,196	4,510	4,530	2,489
Total Liabilities	16,764	16,575	16,101	15,593	11,607
Total Stockholders' Equity	15,104	15,077	15,195	15,137	12,538
Total Equity	\$ 15,403	\$ 15,096	\$ 15,208	\$ 15,150	\$ 12,555

*Selected financial data for UIL is included from December 16, 2015.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion of our financial condition and results of operations in conjunction with the consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K. In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in Part I, Item 1A, "Risk Factors."

AVANGRID is a leading sustainable energy company with approximately \$32 billion in assets and operations in 24 states. AVANGRID has two primary lines of business - Avangrid Networks and Avangrid Renewables. Avangrid Networks owns eight electric and natural gas utilities, serving approximately 3.2 million customers in New York and New England. Avangrid Renewables owns and operates 7.2 gigawatts of electricity capacity, primarily through wind power, with a presence in 22 states across the United States. AVANGRID supports the achievement of the Sustainable Development Goals approved by the member states of the United Nations, and earned the Compliance Leader Verification certification from the Ethisphere Institute, a third party verification of its ethics and compliance program. AVANGRID employs approximately 6,500 people. Iberdrola S.A., a corporation (*sociedad anónima*) organized under the laws of the Kingdom of Spain, a worldwide leader in the energy industry, directly owns 81.5% of outstanding shares of AVANGRID common stock. AVANGRID's primary business is ownership of its operating businesses, which are described below.

Our direct, wholly-owned subsidiaries include Avangrid Networks, Inc., or Networks, and Avangrid Renewables Holdings, Inc., or ARHI. ARHI in turn holds subsidiaries including Avangrid Renewables, LLC, or Renewables. Networks owns and operates our regulated utility businesses through its subsidiaries, including electric transmission and distribution and natural gas distribution, transportation and sales. Renewables operates a portfolio of renewable energy generation facilities primarily using onshore wind power and also solar, biomass and thermal power.

In December 2017, our management committed to a plan to sell the gas storage and trading businesses because they represented non-core businesses that are not aligned with our strategic objectives. At that time, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleon Commodities International, LLC. On May 1, 2018, the Company closed a transaction to sell Enstor Gas, LLC, which operated the AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC. The agreement included, among other things, a transition services agreement that obligates ARHI to provide certain transition services for up to one year after the closing date. Additional details on held for sale classification are provided in Note 26 to our consolidated financial statements contained in this Annual Report on Form 10-K.

On December 16, 2015, we completed our acquisition of UIL. Immediately following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola owned the remaining shares. The acquisition was accounted for as a business combination. The results of operations of UIL since December 16, 2015, the acquisition date, have been included in the consolidated results of AVANGRID. Effective as of April 30, 2016, UIL and its subsidiaries were transferred to a wholly-owned subsidiary of Networks.

Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 1.0 million natural gas public utility customers as of December 31, 2018.

Networks, a Maine corporation, holds our regulated utility businesses, including electric transmission and distribution and natural gas distribution, transportation and sales. Networks serves as a super-regional energy services and delivery company through the eight regulated utilities it owns directly:

- New York State Electric & Gas Corporation, or NYSEG, which serves electric and natural gas customers across more than 40% of the upstate New York geographic area;
- Rochester Gas and Electric Corporation, or RG&E, which serves electric and natural gas customers within a nine-county region in western New York, centered around Rochester;
- The United Illuminating Company, or UI, which serves electric customers in southwestern Connecticut;
- Central Maine Power Company, or CMP, which serves electric customers in central and southern Maine;
- The Southern Connecticut Gas Company, or SCG, which serves natural gas customers in Connecticut;
- Connecticut Natural Gas Corporation, or CNG, which serves natural gas customers in Connecticut;
- The Berkshire Gas Company, or BGC, which serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation, or MNG, which serves natural gas customers in several communities in central and southern Maine.

Through Renewables, we had a combined wind, solar and thermal installed capacity of 7,218 megawatts, or MW, as of December 31, 2018, including Renewables' share of joint projects, of which 6,466 MW was installed wind capacity. Approximately 71% of the capacity was contracted as of December 31, 2018, for an average period of 8.5 years. Being among the top three largest wind operators in the United States based on installed capacity as of December 31, 2018, Renewables strives to lead the transformation of the U.S. energy industry to a sustainable, competitive, clean energy future. Renewables currently operates 57 wind farms in 21 states across the United States.

Summary of Results of Operations

Our operating revenues increased by 9%, from \$5,963 million for the year ended December 31, 2017, to \$6,478 million for the year ended December 31, 2018.

Networks business revenues increased due to the impact of higher customer rates and an increase in degree days. Renewables had an increase in revenue mainly due to an increase in wind generation along with higher average prices in the period.

Net income attributable to AVANGRID increased by 56% from \$381 million for the year ended December 31, 2017, to \$595 million for the year ended December 31, 2018, which is driven primarily by loss from measurement of assets held for sale in connection with the sale of the gas trading and storage businesses recorded in 2017. Networks net income slightly decreased primarily due to higher non-deferrable storm costs and the associated impacts including lower capitalized labor in the period. Lower net income of Renewables is primarily driven by an impact from remeasurement due to Tax Act implications in 2017.

Adjusted net income (a non-GAAP financial measure) increased by less than 1%, from \$682 million for the year ended December 31, 2017 to \$684 million for the year ended December 31, 2018. The increase is primarily due to a \$65 million increase in Renewables due to increased wind generation in the period, offset by a \$21 million decrease in Networks driven by higher non-deferrable storm costs and the associated impacts including lower capitalized labor in the period, \$42 million decrease in Corporate mainly driven by lower interest income on intercompany loans due to the sale of the gas business in 2018 and higher income tax expense from an effective tax rate adjustment.

For additional information and reconciliation of the non-GAAP adjusted net income to net income attributable to AVANGRID, see “— *Non-GAAP Financial Measures*”.

See “—*Results of Operations*” for further analysis of our operating results for the year.

Our financial condition and financing capability will be dependent on many factors, including the level of income and cash flow of its subsidiaries, conditions in the bank and capital markets, economic conditions, interest rates and legislative and regulatory developments.

Networks

Electric Transmission and Distribution and Natural Gas Distribution

The operating subsidiaries of Networks are regulated electric distribution and transmission and natural gas transportation and distribution utilities whose structure and operations are significantly affected by legislation and regulation. The FERC regulates, under the FPA, the interstate transmission and wholesale sale of electricity by these regulated utilities, including transmission rates and allowed ROE on transmission assets. Further, the distribution rates and allowed ROEs for Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the NYPSC, the MPUC, PURA and DPU, respectively. Legislation and regulatory decisions implementing legislation establish a framework for Networks' operations. Other

factors affecting Networks' financial results are operational matters, such as the ability to manage expenses, uncollectibles and capital expenditures, in addition to major weather disturbances and environmental regulation. Networks expects to continue to make significant capital investments in its distribution and transmission infrastructure.

Pursuant to Maine law, CMP earns revenue for the delivery of energy to its retail customers, but is prohibited from selling power to them. CMP generally does not enter into purchase or sales arrangements for power with ISO-NE, the New England power pool, or any other ISO or similar entity. CMP generally sells all of its power entitlements under its nonutility generator and other PPAs to unrelated third parties under bilateral contracts. If the MPUC does not approve the terms of bilateral contracts, it can direct CMP to sell power entitlements that it receives from those contracts on the spot market through ISO-NE. NYSEG and RG&E enter into power purchase and sales transactions with the NYISO to have adequate supplies for their customers who choose to purchase energy directly from them. Customers may also choose to purchase energy from other energy supply companies.

Under Connecticut law, UI's retail electricity customers are able to choose their electricity supplier while UI remains their electric distribution company. UI purchases power for those of its customers under standard service rates who do not choose a retail electric supplier and have a maximum demand of less than 500 kilowatts and its customers under supplier of last resort service for those who are not eligible for standard service and who do not choose to purchase electric generation service from a retail electric supplier. The cost of the power is a "pass-through" to those customers through the generation services charge on their bills.

UI has wholesale power supply agreements in place for its entire standard service load for the first half of 2019, 80% of its standard service load for the second half of 2019 and 20% of its standard service load for the first half of 2020. Supplier of last resort service is procured on a quarterly basis and UI has a wholesale power supply agreement in place for the second quarter of 2019. However, from time to time there are no bidders in the procurement process for supplier of last resort service and in such cases UI manages the load directly.

For additional information regarding Networks, including a comprehensive overview of our regulated businesses, please see the section entitled, "Business—Networks" in Part I, Item 1 in this report.

Revenues

Networks utilizes regulatory deferrals to evaluate its financial condition and operating performance by reconciling differences between actual revenue received or cost incurred with the rate allowances provided under the tariffs set by the state utilities commissions and the FERC. Regulatory deferrals create regulatory assets and liabilities under the FERC, consistent with generally accepted accounting principles for financial reporting in the United States, or U.S. GAAP. Regulatory deferrals in New York include electric and gas supply costs, PPAs, net plant reconciliations (downward only), revenue decoupling, system benefit charges, RPS, energy efficiency portfolio standards, economic development programs, earnings sharing mechanism, low income programs, pension costs, other post-employment benefits costs, environmental remediation costs, major storm costs, distribution vegetation management costs (downward only), research and development, incremental maintenance initiatives (downward only), property taxes, Reforming the Energy Vision, or REV, initiatives, Nuclear Electric Insurance Limited credits, credit and debit card fees, exogenous costs and certain legislative, accounting, regulatory and tax related actions. Regulatory deferrals in Maine include stranded costs, revenue decoupling, power tax regulatory asset, environmental remediation, storm reserve accounting, electric thermal storage pilot costs, standard offer retainage costs, AMI opt-out program costs, AMI deferral costs, AMI legal / health proceeding costs, conservation program costs, demand side management costs, low income program costs, electric lifeline program costs, make-ready line extension costs, electric vehicle pilot program costs and transmission planning and related cost allocation.

Regulatory deferrals in Connecticut include electric and gas supply costs, PPAs, revenue decoupling, earnings sharing mechanism, system benefit charges, certain hardship bad debt expense, transmission revenue requirements, gas distribution integrity management program costs, gas system expansion costs, certain public policy costs, certain environmental remediation costs, major storm costs and certain legislative, accounting, regulatory and tax related actions.

Regulatory deferrals in Massachusetts include gas supply costs, gas supply-related bad debt costs, environmental remediation costs, arrearage management program costs, gas system enhancement program costs, energy efficiency program costs and certain other public policy costs.

NYSEG's and RG&E's electric and natural gas rate plans and CMP's and UI's electric rates and CNG's gas rates, each contain an RDM under which their actual energy delivery revenues are compared on a periodic basis with the authorized delivery revenues and the difference accrued, with interest, for refund to or recovery from customers, as applicable. Effective January 1, 2018, SCG has implemented an RDM pursuant to the PURA approved amended settlement agreement dated June 30, 2017.

NYSEG, RG&E and UI are energy delivery companies and also provide energy supply as providers of last resort. Energy costs that are set on the wholesale markets are passed on to consumers. The difference between actual energy costs that are incurred

and those that are initially billed are reconciled in a process that results in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional, such as the effects of extreme weather conditions, environmental factors, regulatory and accounting changes and treatment of vulnerable customers, that are offset in the tariff process.

Pursuant to agreements with, or decisions of the NYPSC and the MPUC, Networks' Maine and New York regulated utilities are each subject to a minimum equity ratio requirement that is tied to the capital structure assumed in establishing revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. The minimum equity ratio requirement has the effect of limiting the amount of dividends that can be paid if the minimum equity ratio is not maintained and can, under certain circumstances, require that AVANGRID contribute equity capital. For CMP and MNG, equity distributions that would result in equity falling below the minimum level are prohibited. For NYSEG and RG&E, equity distributions that would result in a 13-month average common equity less than maximum equity ratio, utilized for the earnings sharing mechanism, or ESM, are prohibited if the credit rating of NYSEG, RG&E, AVANGRID or Iberdrola are downgraded by a nationally recognized rating agency to the lowest investment grade with a negative watch or downgraded to noninvestment grade. UI, SCG, CNG and BGC may not pay dividends if paying such dividend would result in a common equity ratio lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. In addition, UI, SCG, CNG and BGC are prohibited from paying dividends to their parent if the utility's credit rating, as rated by any of the three major credit rating agencies, falls below investment grade, or if the utility's credit rating, as determined by two of the three major credit rating agencies, falls to the lowest investment grade and there is a negative watch or review downgrade notice. We believe that these minimum equity ratio requirements do not present any material risk with respect to our performance, cash flow or ability to pay quarterly dividends. In the ordinary course, Networks utilities manage their capital structures to allow the maximum level of returns consistent with the levels of equity authorized to set rates, and accordingly, compliance with these requirements does not alter ordinary equity level management. Additionally, the lower monthly minimum equity ratio requirement (a cushion of 300 basis points) provides flexibility to have short-term fluctuations that result in temporary shortfalls of the maximum equity ratio in any given month. The regulated utility subsidiaries are also prohibited by regulation from lending to unregulated affiliates.

Rates

In December 2016, PURA approved distribution rate schedules for UI for three years that became effective January 1, 2017, and which, among other things, provides for annual tariff increases and an ROE of 9.10% based on a 50% equity ratio, continued UI's existing ESM pursuant to which UI and its customers share on a 50/50 basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism, and approved the continuation of the requested storm reserve. Any dollars due to customers from the ESM continue to be first applied against any storm regulatory asset balance (if one exists at that time) or refunded to customers through a bill credit if such storm regulatory asset balance does not exist.

In December 2017, PURA approved new tariffs for SCG effective January 1, 2018, for a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019, and 2020, respectively. The new tariffs also include an RDM and Distribution Integrity Management Program, or DIMP, a mechanism similar to the mechanisms authorized for CNG, ESM, the amortization of certain regulatory liabilities (most notably accumulated hardship deferral balances and certain accumulated deferred income taxes) and tariff increases based on a ROE of 9.25% and approximately 52% equity level. Any dollars due to customers from the ESM will be first applied against any environmental regulatory asset balance as defined in the settlement agreement (if one exists at that time) or refunded to customers through a bill credit if such environmental regulatory asset balance does not exist.

On June 29, 2018, CNG filed an application with PURA for new tariffs to become effective January 1, 2019. On August 30, 2018, CNG entered into a settlement agreement with the Office of Consumer Counsel and PURA prosecutorial staff that provides for new rates effective January 1, 2019. The settlement agreement was approved by PURA on December 19, 2018. The settlement agreement included an increase in rates of \$9.9 million in 2019, an incremental increase of \$4.6 million in 2020 and an incremental increase of \$5.2 million in 2021, for a total increase of \$19.7 million over the three-year rate plan. The settlement agreement is based on an ROE of 9.30%, and an equity ratio of 54% in 2019, 54.50% in 2020 and 55% in 2021.

BGC's rates are established by the DPU. BGC's ten-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan.

On May 17, 2018, BGC filed a petition with the DPU seeking approval of a distribution rate increase to be effective January 1, 2019. On December 4, 2018, BGC and the Massachusetts Attorney General's Office filed a settlement agreement with the DPU. The settlement agreement provides for a \$1.6 million distribution base rate increase effective January 1, 2019, or February 1, 2019.

if the DPU did not approve the settlement agreement prior to January 1, 2019, and an additional \$0.7 million base distribution increase effective November 1, 2019, if certain investments are made by BGC. The settlement agreement contained a make-whole provision if the DPU approved the agreement after January 1, 2019. The distribution rate increase is based on a 9.70% ROE and 55% equity ratio. The settlement agreement provides for the implementation of a RDM and pension expense tracker and also provides that BGC will not file to change base distribution to become effective before November 1, 2021. The settlement agreement was approved by the DPU on January 18, 2019.

On May 20, 2015, NYSEG and RG&E initiated a distribution rate case to ensure that the companies are able to continue to provide safe, adequate and reliable service, continue to make investments to modernize infrastructure, enhance low income programs and improve both gas and electric reliability, while maintaining their financial integrity. On February 19, 2016, the NYSEG, RG&E and other signatory parties filed a Joint Proposal, with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016, which was approved on June 15, 2016 by the NYPSC. The Joint Proposal balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The proposal reflects many customer attributes including acceleration of the companies' natural gas leak prone main replacement programs and increased electric vegetation management to provide continued safe and reliable service. The delivery rate increase in the proposal can be summarized as follows:

Utility	May 1, 2016		May 1, 2017		May 1, 2018	
	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %
NYSEG Electric	\$ 29.6	4.10%	\$ 29.9	4.10%	\$ 30.3	4.10%
NYSEG Gas	\$ 13.1	7.30%	\$ 13.9	7.30%	\$ 14.8	7.30%
RG&E Electric	\$ 3.0	0.70%	\$ 21.6	5.00%	\$ 25.9	5.70%
RG&E Gas	\$ 8.8	5.20%	\$ 7.7	4.40%	\$ 9.5	5.20%

The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%; however, the actual equity ratio of up to 50% is used for earnings sharing calculation purposes. The customer share of any earnings above allowed levels increases as ROE increases, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% ROE, respectively, in the first rate year covering the period May 1, 2016 – April 30, 2017. The earnings sharing levels increase in rate year two (May 1, 2017 – April 30, 2018) to 9.65%, 10.15% and 10.65% ROE, respectively. The earnings sharing levels further increase in rate year three (May 1, 2018 – April 30, 2019) to 9.75%, 10.25% and 10.75% ROE, respectively. The Joint Proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million will be amortized over ten years and the remaining \$139 million will be amortized over five years. The Joint Proposal also continues reserve accounting for qualifying major storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the major storm reserve provided they meet certain thresholds.

The NYSEG and RG&E 2016 three-year rate plan end in April 2019. The companies intend to file rate cases in New York in the second quarter of 2019 for new tariffs effective in the second quarter of 2020.

On August 25, 2014, the MPUC approved a stipulation agreement for a CMP rate change which provided for a distribution rate increase of approximately \$24.3 million effective July 1, 2014 with an allowed ROE of 9.45% and an allowed equity ratio of 50%. The stipulation provided for the implementation of an RDM, reserve accounting and sharing of incremental storm costs, a separate proceeding for recovery of a new billing system and no earnings sharing. On March 1, 2018, the MPUC issued a Notice of Investigation initiating a summary investigation into CMP's metering, billing, and customer communications practices. Due to the highly technical nature of CMP's customer billing system, on March 22, 2018 the MPUC issued an Order Initiating Audit commencing a forensic audit of CMP's customer billing system to identify any errors that have, or continue to be resulting in billing inaccuracies. On July 10, 2018, the MPUC issued an Order Modifying Scope of Audit, which expanded the scope of the audit to include the customer communication practices that were originally identified in the Commission's Notice of Investigation. On May 29, 2018, a ten-person complaint was filed with the MPUC against CMP, Networks and AVANGRID. The complaint requested that the MPUC open a rate case to determine if CMP is making excessive returns on investment and, therefore, whether CMP's retail rates should be lower. The complaint also requested the MPUC deny certain costs associated with the October 2017 windstorm. On July 24, 2018, the MPUC issued an order dismissing the complaint and its associated request to deny the recovery of costs associated with the October 2017 windstorm. The order initiated an investigation into CMP's rates and revenue requirement and directed CMP to make a filing consistent with the requirements for a general rate case no later than October 15, 2018. Consistent with the order in the ten-person complaint proceeding, on August 7, 2018, the MPUC issued a Notice of Investigation, opening

the proceeding in which CMP would make its rate case filing and through which the MPUC will examine the rates and revenue requirements of CMP. On October 15, 2018, CMP filed a general rate case as directed by the MPUC requesting a ROE of 10% and an equity ratio of 55%. The company is proposing to use savings arising out of changes in federal taxation pursuant to the Tax Act, to keep its distribution prices stable while making its electric system more reliable. The MPUC has established a ten-month process to review CMP's filing and we expect a decision in October of 2019. CMP's general rate case filing includes a proposal to enhance the resiliency of the energy grid by expanding vegetation management and pursuing additional reliability measures such as pole replacements and addition of tree wire in selected areas. Such investments are designed to strengthen CMP's power grid so it can better stand up to severe weather. CMP is planning to use savings from the federal Tax Act to pay for the costs of resiliency programs, other investments in infrastructure and certain cost increases since 2014. On December 20, 2018, the MPUC released the findings of the forensic audit of CMP's customer billing system and customer communication practices. On January 14, 2019, the MPUC issued an Order and Notice of Investigation initiating an investigation of CMP's metering and billing practices and initiating a separate investigation of the audit of CMP's customer service and communication practices and incorporating such investigation into the general rate case. We cannot predict the outcome of this matter.

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service. On May 3, 2016, all active parties to the case filed a stipulation which settled all matters at issue in the case and reflected a ten-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a ten-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge which increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation. The reserve of \$6 million for this case was reversed in May 2016.

CMP's and UI's electric transmission rates are determined by a tariff regulated by the FERC and administered by ISO-NE. Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, including return of and on investment in assets. The FERC currently provides an initial base ROE of 10.57% and additional incentive adders applicable to assets based upon vintage, voltage, and other factors.

In September 2011, several New England governmental entities, including PURA, the Connecticut Attorney General and the Connecticut Office of Consumer Counsel, or OCC, filed a joint complaint with the FERC against ISO-NE and several New England Transmission Owners, or NETOs, (including CMP and UI) claiming that the current approved base ROE used in calculating formula rates for transmission service under the ISO-NE Open Access Transmission Tariff, or OATT, by the NETOs of 11.14% was not just and reasonable and seeking a reduction of the base ROE with refunds to customers for the 15-month refund periods beginning October 1, 2011 (Complaint I), December 27, 2012 (Complaint II), July 31, 2014 (Complaint III) and April 29, 2016 (Complaint IV).

Following various intermediate hearings, orders, and appellate decisions, on October 16, 2018, the FERC issued an order directing briefs and proposing a new methodology to calculate the NETOs ROE that is contained in NETOs' transmission formula rate on file at the FERC, or the October 2018 Order. The FERC proposes to use this new methodology to resolve Complaints I, II, III and IV filed by the New England state consumer advocates.

The new proposed ROE methodology set forth in the October 2018 Order considers more than just the two-step discounted cash flow, or DCF, analysis adopted in the FERC order on Complaint I vacated by the Court. The new proposed ROE methodology uses three financial analyses (i.e., DCF, the capital-asset pricing model and the expected earnings analysis) to produce a range of returns to narrow the zone of reasonableness when assessing whether a complainant has met its initial burden of demonstrating that the utility's existing ROE is unjust and unreasonable. The new proposed ROE methodology establishes a range of just and reasonable ROEs of 9.60% to 10.99% and proposes a just and reasonable base ROE of 10.41% with a new ROE cap of 13.08%. Pursuant to the October 2018 Order, the NETOs filed briefs on the proposed methodology in all four Complaints on January 11, 2019. We cannot predict the outcome of this proceeding.

Merger Settlement Agreement – Connecticut and Massachusetts

As part of the process of seeking and obtaining regulatory approval of the acquisition of UIL by AVANGRID in Connecticut and Massachusetts, AVANGRID and UIL reached settlement agreements with the OCC in Connecticut and with the Attorney General of the Commonwealth of Massachusetts and the Department of Energy Resources in Massachusetts, which settlement agreements included commitments of actions to be taken after the transaction closed.

As a result, the following commitments were made in Connecticut:

- A one-time, \$20 million rate credit to customers in 2016, allocated among UI, SCG and CNG customers based on the total number of retail customers.
- Additional rate credits of \$1.25 million/year for ten years (2018-2027) to CNG customers.
- Additional rate credits of \$0.75 million/year for ten years (2018-2027) to SCG customers.
- \$1.6 million in savings to SCG customers, associated with SCG making additional infrastructure capital investments over a three-year period without seeking recovery until the next SCG rate case.
- Agreement not to seek to increase UI distribution base rates effective before January 1, 2017, and agreement not to seek to increase CNG and SCG distribution base rates effective before January 1, 2018.
- Contribution of \$2 million/year for three years to the Connecticut Department of Energy and Environmental Protection, or DEEP, to stimulate investment in energy efficiency and clean energy technologies.
- \$5 million in benefits to customers resulting from UI recovering only the debt rate rather than the equity return for two years, on an increased \$50 million of investment in storm resiliency programs.
- Contribution of \$1 million for disaster relief entities.
- Maintaining charitable contribution at historical contribution levels (between \$500,000 and \$800,000) for at least four years.
- Upon the resolution of all appeals of the PURA decision approving the acquisition, UI will withdraw its appeals of two PURA dockets relating to PURA's disallowance of certain reconciliation amounts. The appeals were withdrawn by UI in June 2016.

In connection with the acquisition proceeding, UI signed the partial consent order related to the investigation and remediation of the English Station site. To the extent that the investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such costs and \$30 million, to be applied to a public purpose as determined at the discretion of the Governor, the Attorney General of Connecticut and the Commissioner of DEEP. However, UI is obligated to comply with the consent order even if the cost of such compliance exceeds \$30 million. The state may discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding.

The following commitments were made in Massachusetts:

- Customers of BGC will receive a total of \$4.0 million in rate credits, to be spread over the months of November through April 2016-2017 and November through April 2017-2018.
- BGC will contribute \$1 million to alternative heating programs.
- BGC will not seek to increase distribution base rates effective before June 1, 2018.

As a result of the merger settlement agreement we have recorded \$44 million as regulatory liabilities relating to the rate credits and an additional \$19.8 million as liabilities in 2015.

New England Clear Energy Connect

On February 14, 2018, the New England Clean Energy Connect, or NECEC, transmission project, proposed in a joint bid by CMP and Hydro-Québec, was selected by the Massachusetts electric utilities and the Massachusetts Department of Energy Resources, or DOER, in the Commonwealth of Massachusetts's 83D clean energy Request for Proposal, or RFP, to move forward as the alternative to the Northern Pass Transmission project which failed to win approval from the New Hampshire Site Evaluation Committee by March 27, 2018. On March 28, 2018, the DOER informed CMP that the conditional selection of Northern Pass Transmission project had been terminated, making the NECEC transmission project the lone winning bid in the RFP. The proposed NECEC transmission project includes a 145-mile transmission line linking the electrical grids in Québec, Canada and New England. The project, which has an estimated cost of approximately \$950 million, would add 1,200 MW of transmission capacity to supply New England with power from reliable hydroelectric generation.

On June 13, 2018, CMP entered into transmission service agreements, or TSAs, with the purchasing Massachusetts electric distribution companies, or the EDCs, and H.Q. Energy Services (U.S.) Inc., or HQUS, an affiliate of Hydro-Québec, which govern the terms of service and revenue recovery for the NECEC transmission project. Simultaneous with the execution of the TSAs with CMP, the EDCs have executed certain PPAs with HQUS for sales of electricity and environmental attributes to the EDCs. The EDCs submitted the TSAs and PPAs to the DPU for approval on July 23, 2018, and CMP filed the TSAs for approval by the FERC on August 20, 2018. On October 19, 2018, FERC issued an order accepting the TSAs for filing as CMP rate schedules effective as of October 20, 2018. The DPU proceedings are ongoing with a decision from the agency expected in the second quarter of 2019.

The NECEC project requires a Certificate of Public Convenience and Necessity, or CPCN, from the MPUC in order to proceed to construction. CMP filed its petition for a certificate on September 27, 2017. In September and October, 2018, the MPUC

held three public witness hearing on the NECEC transmission project. In October 2018 and January 2019, the MPUC held six days of evidentiary hearings, involving the cross examination of witnesses for CMP and intervening parties. As part of the hearings, the MPUC considered certain ring-fencing measures including whether CMP should be ordered to transfer the NECEC transmission project to a special project entity to separate the project's construction and operation from CMP's other transmission and distribution activities.

On February 21, 2019, CMP, along with the Maine Office of the Public Advocate, the Governor's Energy Office, Industrial Energy Consumer Group, Conservation Law Foundation, Acadia Center, Western Mountains & Rivers Corporation, City of Lewiston, Maine State Chamber of Commerce and International Brotherhood of Electrical Workers, filed a settlement stipulation agreeing that the MPUC should grant a CPCN for the NECEC transmission project, subject to certain agreed-upon conditions. The settlement conditions provide for the transfer of the NECEC transmission project from CMP to NECEC Transmission LLC, a new subsidiary of Networks.; the funding by NECEC Transmission LLC, CMP and HQUS of certain funds to provide benefits to the State of Maine, totaling approximately \$241 million over the 40-year useful life of the NECEC transmission project; and other commitments. NECEC Transmission LLC is required to put in place and maintain a guaranty by AVANGRID or its successor to guarantee certain of the payment obligations of NECEC Transmission LLC under the settlement stipulation. Such guaranty will guarantee the payment of approximately \$81 million. The settlement stipulation also requires CMP, NECEC Transmission LLC and HQUS to enter into a support agreement reflecting, among other, that HQUS will (i) pay NECEC Transmission LLC \$3.5 million per year for 40 years beginning upon the commercial operation date of the NECEC transmission project, or the NECEC COD, which funds are to be used to fund a portion of NECEC Transmission LLC's share of the benefit commitments agreed in the settlement stipulation, (ii) contribute an additional \$30 million over the first five years after the NECEC COD to fund HQUS's share of the benefit commitments, and (iii) the granting of a guaranty by Hydro-Québec or other appropriate credit support to guarantee HQUS's payment obligations under the support agreement. CMP expects a MPUC decision on its CPCN petition in March 2019.

The NECEC project also requires certain permits, including environmental, from multiple state and federal agencies and a presidential permit from the U.S. Department of Energy, authorizing the construction, operation, maintenance and connection of facilities for the transmission of electric energy at the international border between the United States and Canada. These permitting activities are ongoing. CMP expects to obtain the applicable state and federal permits by year end 2019.

New England Clean Energy Request for Proposals

On May 25, 2017, UI entered into six 20-year PPAs, totaling approximately 32 MW with developers of wind and solar generation. These PPAs originated from a three-state Clean Energy RFP, and were entered into pursuant PA 13-303, which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 13, 2017.

On June 20, 2017, UI entered into twenty-two 20-year PPAs totaling approximately 72 MW with developers of wind and solar generation. These PPAs originated from an RFP issued by the DEEP under PA 15-107 1(b) which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 7, 2017. One contract was terminated on October 24, 2017, resulting in UI having twenty-one remaining contracts from this solicitation totaling approximately 70 MW.

In October of 2018, UI entered into five PPAs totaling approximately 50 MW from developers of offshore wind and fuel cell generation. These PPAs originated from an RFP issued by DEEP, under PA 17-144 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were filed for PURA approval on October 25, 2018. On December 19, 2018, PURA issued its final decision approving the five PPAs and approved UI's use of the non by-passable federally mandated congestion charges for all customers to recover the net costs of the PPAs.

On December 28, 2018, DEEP issued a directive to UI to negotiate and enter into PPAs with twelve projects, totaling approximately 12 million MWh, which were selected as a result of the Zero Carbon RFP issued by DEEP pursuant to PA 17-3, which provides that the net costs of the PPAs are recoverable through electric rates. One of the selected projects is the Millstone nuclear facility located in Waterford, Connecticut and owned by Dominion Energy, Inc. DEEP's directive provides that UI should file these PPAs for PURA by March 31, 2019. UI has not yet entered into any of these PPAs.

Reforming the Energy Vision

In April 2014, the NYPSC instituted its REV proceeding, the goals of which are to improve electric system efficiency and reliability, encourage renewable energy resources, support distributed energy resources, or DER, and empower customer choice. In this proceeding, the NYPSC is examining the establishment of a Distributed System Platform, or DSP, to manage and coordinate DER, and provide customers with market data and tools to manage their energy use. The NYPSC is also examining how its regulatory practices should be modified to incentivize utility practices to promote REV objectives. REV has been divided into two tracks, Track 1 for market design and technology, and Track 2 for regulatory reform. REV proposes regulatory changes that are intended to promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar,

and wider deployment of DER, such as micro grids, on-site power supplies and storage. The NYPSC order on Track 1 affirmed that utilities would serve as the DSP and required utilities to file implementation plans before the end of 2015. Track 2 is undertaken in parallel with the Track 1, and examines changes in current regulatory, tariff, market design and incentive structures to better align utility interests with achieving NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for earnings adjustment mechanisms, or EAMs, platform service revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of system efficiency, energy efficiency, interconnections and clean air. A collaborative process to review the companies' petition was suspended in 2017 and the companies expect to renew their EAM requests in their rate case filings expected in 2019.

All electric utilities were ordered to file an initial Distributed System Implementation Plan, or DSIP, by June 30, 2016. An initial DSIP was filed by NYSEG and RG&E and included information regarding the potential deployment of Automated Metering Infrastructure, or AMI. A separate petition for the cost recovery associated with full deployment of AMI was filed by NYSEG and RG&E in December 2016. In March, 2017, the NYPSC issued three separate REV-related orders. These orders created a series of filing requirements for NYSEG and RG&E beginning in March 2017 and extending through the end of 2018. The three orders involve: 1) modifications to the electric utilities' proposed interconnection earnings adjustment mechanism framework; 2) further DSIP requirements, including filing of an updated DSIP plan by mid-2018 and implementing two energy storage projects at each company by the end of 2018; and 3) Net Energy Metering Transition including implementation of Phase One of the Value of DER. In September 2017, the NYPSC issued another order related to the Value of DER, requiring tariff filings, changes to standard interconnection requirements and planning for the implementation of automated consolidated billing. In July 2018, NYSEG and RG&E submitted an updated DSIP plan consistent with guidance received from the NY Department of Public Service. As of the end of 2018, both NYSEG and RG&E had deployed two energy storage projects each, consistent with the March 2017 NYPSC order requirements. In December 2018, the NYPSC staff submitted whitepapers on standby and buyback service rate design, future value stack compensation and capacity value compensation. It is expected that the NYPSC will rule on the proposals set forth in the whitepapers in 2019. An additional staff whitepaper on rate design for mass market on-site DER projects interconnected after January 1, 2020 is scheduled to be submitted by the NYPSC Staff in the first quarter of 2019.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm

On March 11, 2017, the New York State Department of Public Service, or the Department, commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 NYSEG and RG&E customers. The Department Staff issued a report (the Staff Report) of the findings from their investigation on November 16, 2017. The Staff Report made several recommendations for future storm response and also alleged that NYSEG and RG&E had violated their own emergency response plan in a number of respects.

Also on November 16, 2017, the NYPSC issued an Order Instituting Proceeding and to Show Cause (the Order) requiring the companies to address whether the NYPSC should mandate, reject or modify, in whole or in part, the recommendations made in the Staff Report. The Order also required the companies to show cause why the NYPSC should not commence an administrative penalty proceeding. On May 18, 2018, NYSEG and RG&E filed a settlement joint proposal and investment joint proposal before the NYPSC to settle potential penalties and avoid litigation related to the March 2017 windstorm, pursuant to which, among other things, NYSEG and RG&E agreed to make \$3.9 million in investments in 2018 designed to increase resiliency and improve emergency response in the areas impacted by the storm. The investments will not be reflected in rate base or operating expenses in establishing future delivery rates. The joint proposals were subject to public comment and await NYPSC approval. We cannot predict the final outcome of this matter.

MPUC Investigation into the Response by Public Utilities to the October 2017 Storm

On December 19, 2017, the MPUC issued a Notice of Investigation regarding utility response to the October 2017 storm. The wind storm of October 2017 was unprecedented in the number of customers impacted and the magnitude of the damage across the entire CMP service territory. During the event, thousands of trees were broken or uprooted and many caused damage to the electrical delivery system. The vast majority of tree related damage was from trees that were located outside of the maintenance clearance zone. Damage occurred on nearly every CMP distribution circuit, resulting in more than 1,400 broken poles. On January 18, 2018, CMP submitted a filing in compliance with the MPUC's Notice. The MPUC investigation into restoration efforts is ongoing. CMP incurred total incremental costs of approximately \$68.6 million, of which approximately \$24.7 million are capital costs associated with the replacement of damaged infrastructure, including poles, cross arms, transformers and related equipment and after applying the agreed upon capitalization method contained in the approved stipulation. Accordingly, the net incremental operating and maintenance costs for restoration of the distribution system were approximately \$43.9 million. On June 29, 2018, the MPUC approved a stipulation agreement, which provides for the recovery of incremental storm restoration costs through CMP's distribution rates. The stipulation agreement included a revised storm capitalization amount and the value of recovery was reduced by approximately \$531,000 of cumulative underspent funds on non-cycle vegetation management activities.

On October 4, 2018, the MPUC issued an Order stating that based on the weather forecast information and the availability of storm restoration crew resources, that both CMP and Emera Maine acted reasonably in their preparation for and response to a major wind and rain storm in October 2017 and that no further investigation of this aspect of the utilities response is warranted. The MPUC also stated that there are potential improvements for future storm performance of the utilities, their systems and with respect to coordination and communication with other involved entities. On December 1, 2018, CMP filed a report required by the MPUC that details its improvement plans.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2018 Winter Storms

In March 2018, following two severe winter storms that impacted over more than a million electric utility customers in New York, including 520,000 NYSEG and RG&E customers, the NYPSC initiated a comprehensive investigation of all the New York electric utilities' preparation and response to those events. The investigation has been expanded to include other 2018 New York spring storm events. We cannot predict the final outcome of this matter.

CMP Customer Billing System Investigation and Class Action

On March 1, 2018, the MPUC issued a Notice of Investigation initiating a summary investigation into CMP's metering, billing, and customer communications practices. Due to the highly technical nature of CMP's customer billing system, on March 22, 2018 the MPUC issued an Order Initiating Audit commencing a forensic audit of CMP's customer billing system to identify any errors that have, or continue to be resulting in billing inaccuracies. On July 10, 2018, the MPUC issued an Order Modifying Scope of Audit, which expanded the scope of the audit to include CMP's customer communication practices. On December 20, 2018, the MPUC released the findings of the forensic audit of CMP's customer billing system and customer communication practices. On January 14, 2019, the MPUC issued an Order and Notice of Investigation initiating an investigation of CMP's metering and billing practices and initiating a separate investigation of the audit of CMP's customer service and communication practices and incorporating such investigation into CMP's general rate case. We cannot predict the outcome of these matters.

On August 16, 2018, an amended class action lawsuit was filed against CMP and the Company in the Cumberland County Superior Court on behalf of all CMP customers alleging that CMP's new billing software and metering system improperly overcharged customers. The plaintiff asserts this claim under the common law of unjust enrichment, breach of contract and fraudulent and intentional misrepresentation and seeks damages, punitive damages, attorney fees and costs. On September 21, 2018, we filed a Motion to Dismiss all of the claims that was opposed by the plaintiffs. On November 14, 2018, the plaintiff filed a motion for a preliminary and permanent injunction enjoining CMP from sending putative class members disconnection notices and/or disconnecting their power until this litigation is resolved. A hearing on all pending motions was held on January 29, 2019. On February 22, 2019, the Cumberland County Superior Court ordered that the proceedings be stayed until November 1, 2019 to allow resolution of the MPUC's formal investigation of CMP's billing practices and denied the plaintiff's motion for a temporary restraining order. We cannot predict the outcome of this class action lawsuit.

Tax Act Proceedings

The Tax Act significantly changed the federal taxation of business entities including, among other things, implementing a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rates will result in amounts previously and currently collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The NYPSC, MPUC, PURA, DPU and the FERC have instituted separate proceedings in New York, Maine, Connecticut, Massachusetts and the FERC, respectively, to review and address the implications of the Tax Act on the utilities.

In New York, the NYPSC staff issued a proposal on March 29, 2018, whereby the staff recommended that Tax Act benefits be returned to customers beginning October 1, 2018. Comments on this staff proposal were submitted by the Joint Utilities of New York with a separate Appendix by each respective major utility on June 27, 2018, including our New York utility companies. NYSEG and RG&E have stated that they believe Tax Act benefits should be utilized for utility programs for the benefit of customers, including for new projects such as Automated Metering Infrastructure, or AMI, other future resiliency investments and to recover deferred regulatory assets. On August 9, 2018, the NYPSC issued an Order requiring sur-credits effective October 1, 2018. The sur-credits for NYSEG and RG&E reflected the lower effective tax rate of 21%. For NYSEG Gas, RG&E Electric and RG&E Gas the NYPSC also required the sur-credit to include the return to customers of the January - September 2018 Tax Act savings over three years. The NYPSC allowed NYSEG Electric to continue to defer the January - September 2018 Tax Act savings as well as to continue to preserve the protected and unprotected Tax Act savings until the companies' next rate cases. In Connecticut, UI and SCG expect Tax Act savings to be deferred until they are reflected in tariffs in a future rate case, unless PURA determines otherwise. CNG and BGC included Tax Act savings in rate cases that were filed with PURA and the DPU, respectively, in the second quarter of 2018. In Maine, CMP adjusted rates beginning July 1, 2018 to pass back to customers the Tax Act savings after offsetting for recovery of deferred 2017 storm costs and in the general rate case filing with the MPUC is proposing to use savings

arising out of the Tax Act to keep its distribution prices stable while making its electric system more reliable. At the FERC, CMP transmission and UI transmission adjusted their tariffs in June 2018 to reflect the income statement value of Tax Act savings.

Power Tax Audits

In 2015, we implemented power tax software to track and measure deferred tax amounts for CMP, NYSEG and RG&E. In connection with this change, we identified historical updates needed with deferred taxes recognized by CMP, NYSEG and RG&E. We increased our deferred tax liabilities in 2015, with a corresponding increase to regulatory assets, to reflect the updated amounts calculated by the power tax software. Since 2015, the NYPSC and MPUC accepted certain adjustments to deferred taxes and associated regulatory assets for this item in recent distribution rate cases, resulting in a regulatory asset balance of approximately \$157 million and \$160 million for this item at December 31, 2018 and 2017, respectively.

In 2017, audits of the power tax regulatory assets were commenced by the NYPSC and MPUC. On January 11, 2018, the NYPSC issued an order opening an operations audit on NYSEG and RG&E and certain other New York utilities regarding tax accounting. The audit report is expected to be completed in 2019. In January 2018, the MPUC published the power tax audit report with respect to CMP, which indicated that the auditor was unable to verify the "acquisition value" of the power tax regulatory assets. The audit report requires that CMP must provide support for the beginning balance of the regulatory assets or will be unable to recover the value of the assets, which is approximately \$10 million. CMP responded in to the audit report in its rate case filing and noted that it could reconcile 99% of the tax values and therefore requested full recovery of the power tax regulatory asset. We cannot predict the outcome of this proceeding.

Ginna Reliability Support Service Agreement

Ginna Nuclear Power Plant, LLC, or GNPP, which is a subsidiary of Constellation Energy Nuclear Group, LLC, or CENG, owns and operates the R.E. Ginna Nuclear Power Plant, or Ginna Facility, and together with GNPP, Ginna, a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, the NYISO and then the NYPSC ruled that the Ginna Facility was required to maintain system reliability and ordered RG&E and GNPP to negotiate a Reliability Support Service Agreement, or RSSA.

On October 21, 2015, RG&E, GNPP, New York Department of Public Service, Utility Intervention Unit and Multiple Intervenors filed a joint proposal with the NYPSC for approval of the RSSA, as modified. On February 23, 2016, the NYPSC unanimously adopted the joint proposal, which provided for a term of the RSSA from April 1, 2015, through March 31, 2017 and RG&E monthly payments to Ginna in the amount of \$15.4 million. In addition, RG&E was entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna was entitled to 30% of such revenues. The NYPSC also authorized RG&E to implement a rate surcharge effective January 1, 2016, to recover amounts paid to Ginna pursuant to the RSSA. The FERC issued an order authorizing the FERC settlement agreement in the Settlement Docket on March 1, 2016 at which point the rate surcharge went into effect. RG&E used deferred rate credit amounts (regulatory liabilities) to offset the full amount of the deferred collection amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed \$2.3 million per month, not to exceed a total use of credits in the amount of \$110 million, applicable through June 30, 2017. The available credits were insufficient to satisfy the final payment amount from RG&E to Ginna, and consistent with the agreement with the NYPSC, the RSSA surcharge continues past March 31, 2017, to recover up to \$2.3 million per month until the final payment amount has been recovered by RG&E from customers.

New York TransCo

Networks holds an approximate 20% ownership interest in New York TransCo, LLC. New York TransCo was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. In December 2014, New York TransCo filed for regulatory approval of its rates, terms and conditions with the FERC.

On April 2, 2015, the FERC issued an order granting, inter alia, New York TransCo's owners' request for a 50-basis point adder for New York TransCo's membership in the NYISO RTO, subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected New York TransCo's owners' cost allocation method for the transmission owner transmission solutions, or TOTS, projects because it would allocate costs to Power Supply Long Island and New York Power Authority that they did not voluntarily agree to pay.

On November 5, 2015, New York TransCo's owners filed the settlement with the FERC to resolve all outstanding issues associated with the TOTS projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed TOTS projects, including the base ROE of 9.50%, and

a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the NYISO OATT for the TOTS projects. On March 17, 2016, the FERC approved the settlement.

On August 21, 2017, New York TransCo filed a settlement with the FERC to resolve all outstanding issues associated with the alternate current transmission project, or AC Project, for which selection of the developer remains pending with NYISO. The issues contained in the settlement include those related to the AC Project that were set for hearing and issues pending on rehearing. The settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the AC Project, including the base ROE of 9.65%, and a 100-basis point ROE adder, an equity ratio in the capital structure of up to 53%, risk sharing for project cost overruns, and the cost allocation under the NYISO OATT for the AC Project. On November 16, 2017, the FERC approved the settlement.

Weather Impact

The demand for electric power and natural gas is affected by seasonal differences in the weather. Statewide demand for electricity in New York, Connecticut and Maine tends to increase during the summer months to meet cooling load or in winter months for heating load while statewide demand for natural gas tends to increase during the winter to meet heating load. Market prices for both electricity and natural gas reflect the demand for these products and their availability at that time. Overall operating results of Networks do not fluctuate due to commodity costs as the regulated utilities generally recover those costs coincident with their expense or defer any differences for future recovery. Networks has historically sold less power when weather conditions are milder and may also be affected by severe weather, such as ice and snow storms, hurricanes and other natural disasters which may result in additional cost or loss of revenues that may not be recoverable from customers. However, Networks' regulated utilities, other than MNG and BGC, have approved RDMs as part of the NYPSC, PURA and MPUC rate plans in place for the period ended December 31, 2018. Effective February 1, 2019, new tariffs became effective for BGC, which include an approved RDM. The RDM allows the regulated utilities to defer for future recovery and shortfall from projected revenues whether due to weather, economic conditions, conservation or other factors.

New Renewable Source Generation

Under Connecticut law Public Act 11-80, or PA, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I Renewable Energy Credits, or RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over an approximate 21-year period. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates. PA 17-144 and PA 18-50 added seventh and eighth years and up to \$48 million in additional commitments by UI to the program.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, through which UI has developed 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for The Connecticut Light & Power Company (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which is expected to equate to approximately 25 basis points on a levelized basis over the life of the program. The cost of this project, a 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, all of which are now operational, was \$41.5 million.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15 year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provides that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or RECs, from qualifying resources. The MPUC is further authorized to order Maine transmission and distribution utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, or Evergreen Power, on March 31, 2010, to purchase capacity and energy from Evergreen Power's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs

and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Pursuant to Maine law 35-A M.R.S.A §3604, the MPUC is authorized to direct Maine transmission and distribution utilities to enter into long-term contracts to purchase capacity, energy and RECs from up to 50 MW of qualifying community-based renewable energy facilities. In accordance with §3604, on October 22, 2016, CMP commenced purchases from Athens Energy LLC for a contract term of three years. CMP purchase obligations under the Athens contract are approximately \$6 million per year. Under the provisions of §3604 and MPUC implementing orders, CMP will periodically auction the purchased products from Athens for resale to wholesale market purchasers and recover any differences between power purchase costs and resale revenues through a reconcilable component of its retail distribution rates. Although the MPUC has certified several additional community-based renewable energy generation projects under §3604 and authorized similar PPAs between these sellers and CMP, no additional facilities have advanced to operational status.

Renewables

Renewable Energy Incentives

Renewables relies, in part, upon government policies that support utility-scale renewable energy and enhance the economic feasibility of development and operating wind energy projects in regions in which Renewables operates or plans to develop and operate renewable energy facilities. In support of this, on December 18, 2015, Congress passed and President Obama signed into law the Consolidated Appropriations Act, Public Law 114-113. This law extends the qualifying dates for the production tax credit available to wind energy generating facilities (Internal Revenue Code Section 45) and the investment tax credit available to commercial solar generating facilities (Internal Revenue Code Section 48). The law also extends an option for wind generation facilities to elect to receive an investment tax credit in lieu of the production tax credit. In general, both provisions allow new wind and solar facilities to qualify for the respective credits at full value over the next several years, with reductions in the value of the authorized tax credits for facilities phased in during subsequent periods. Production tax credits were reduced to 80% for facilities commenced construction in 2017, reduced to 60% for facilities commencing construction in 2018 and will be reduced to 40% for facilities commencing construction in 2019. Investment tax credits will be 30% for projects commencing construction through 2019, then reduce to 26%, 22% and 10% for projects commencing construction in 2020, 2021 and 2022, respectively. The Internal Revenue Service, or IRS, updated its guidance related to which projects will qualify for the production tax credits, including criteria for the beginning of construction for a project and the continuous program of construction or the continuous efforts to advance the project to completion. Multi-year extension of these credits provides opportunities for Renewables to develop, construct and market new renewable generating facilities and partially repower existing renewable generating facilities in several U.S. markets.

Additionally, the federal government and many states and local jurisdictions have policies or other mechanisms, such as tax incentives or RPS that support the sale of energy from utility-scale renewable energy facilities, such as wind and solar energy facilities. As a result of budgetary constraints, political factors or otherwise, U.S., state or local governments from time to time may review their policies and other mechanisms that support renewable energy and consider actions that would make them less conducive to the development and operation of renewable energy facilities. Any reductions to, or the elimination of, governmental policies or other mechanisms that support renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in, among other items, the lack of a satisfactory market for the development of new renewable energy projects, Renewables abandoning the development of new renewable energy projects, a loss of Renewables' investments in the projects and reduced project returns, any of which could have a material adverse effect on Renewables' business, financial condition, results of operations and prospects.

Renewable Energy Demand

Since the transmission and distribution of electricity is highly concentrated in most jurisdictions, there are a limited number of possible purchasers for utility-scale quantities of electricity in a given geographic location, including transmission grid operators, state and investor-owned power companies, public utility districts, cooperatives and large commercial and industrial customers. As a result, there is a concentrated pool of potential buyers for electricity generated by Renewables' business, which may restrict their ability to negotiate favorable terms under new PPAs, and could impact their ability to find new customers for the electricity generated by their generation facilities should this become necessary. Furthermore, if the financial condition of these utilities and/or power purchasers deteriorated or the RPS programs, climate change programs or other regulations to which they are currently subject and that compel them to source renewable energy supplies change, demand for electricity produced by Renewables' businesses could be negatively impacted.

Energy Prices

Renewables has exposure to commodity price movements through its “natural” long positions in electricity from its generation. Renewables manages the exposure to risks of commodity price movements through internal risk management policies, enforcement of established risk limits and risk management procedures.

A portion of Renewables’ fuel and energy output arrangements qualify as derivative contracts. Such derivative contracts are carried at fair value, with changes in fair value recognized to earnings as the changes occur. In 2015, Renewables began designating certain qualifying derivatives contracts as hedges. These hedge designations result in deferral of changes in fair value, to the extent the hedge is effective, to accumulated other comprehensive income until the contract settles, at which point the deferred amount is recognized to earnings.

Wind Conditions

If wind conditions are unfavorable, or if Renewables’ wind turbines are not available for operation, Renewables electricity generation and related revenue may be substantially below our expectations. Renewables’ wind projects are sited, developed and operated to maximize wind performance. Prior to siting a wind facility, detailed studies are conducted to measure the wind resource in order to estimate future production. However, wind patterns or wind resource in the future might deviate from historical patterns. These events could also degrade equipment or components and the interconnection and transmission facilities’ lives or maintenance costs. Historically, Renewables wind production is greater in the first, second and fourth quarters.

Wind Turbine Supply

Replacement and spare parts for wind turbines and key pieces of electrical equipment may be difficult or costly to acquire or may be unavailable. Although Renewables has expanded and diversified its supplier base, the loss of any of these suppliers or service providers or inability to find replacement suppliers or service providers or to purchase turbines at rates currently offered by Renewables’ existing suppliers or a change in the terms of Renewables’ supply or operations and maintenance agreements, such as increased prices for maintenance services or for spare parts, could have a material adverse effect on Renewables’ ability to construct and maintain wind farms or the profitability of wind farm development and operation.

Results of Operations

The following table sets forth financial information by segment for each of the periods indicated. Based on the quantitative assessment and due to the disposition of gas trading and storage businesses (see Note 26 to our consolidated financial statements contained in this Annual Report on Form 10-K for further discussion), the Gas business no longer meets the reportable segment criteria effective in the first quarter of 2018. As a result, the prior periods segment information has been restated to conform to the 2018 presentation. Additionally, as a result of the adoption of the amendments to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost, we have reclassified the non-service components of those costs from operations and maintenance to other expense within the consolidated statements of income and applied these amendments retrospectively to prior periods. For further details, refer to Note 3 to our consolidated financial statements contained in this Annual Report on Form 10-K.

Results of operations discussed herein are based on the revised financial results for the years ended December 31, 2017 and 2016.

	Year Ended December 31, 2018			
	Total	Networks	Renewables	Other(1)
	(in millions)			
Operating Revenues	\$ 6,478	\$ 5,310	\$ 1,139	\$ 29
Operating Expenses				
Purchased power, natural gas and fuel used	1,653	1,423	228	2
Operations and maintenance	2,248	1,880	366	2
Loss from assets held for sale	16	—	—	16
Depreciation and amortization	855	503	352	—
Taxes other than income taxes	579	529	57	(7)
Total Operating Expenses	5,351	4,335	1,003	13
Operating Income	1,127	975	136	16
Other Income (Expense)				
Other income (expense)	(66)	(79)	18	(5)
Earnings (losses) from equity method investments	10	13	(3)	—
Interest expense, net of capitalization	(303)	(260)	(33)	(10)
Income (Loss) Before Income Tax	768	649	118	1
Income tax expense (benefit)	170	169	(31)	32
Net Income (Loss)	598	480	149	(31)
Less: Net income attributable to noncontrolling interests	3	2	1	—
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 595	\$ 478	\$ 148	\$ (31)

	Year Ended December 31, 2017			
	Total	Networks	Renewables	Other(1)
	(in millions)			
Operating Revenues	\$ 5,963	\$ 4,961	\$ 1,047	\$ (45)
Operating Expenses				
Purchased power, natural gas and fuel used	1,338	1,153	225	(40)
Operations and maintenance	2,091	1,721	354	16
Loss from assets held for sale	642	—	—	642
Depreciation and amortization	824	474	325	25
Taxes other than income taxes	563	499	51	13
Total Operating Expenses	5,458	3,847	955	656
Operating Income (Loss)	505	1,114	92	(701)
Other Income (Expense)				
Other income (expense)	(62)	(72)	4	6
Earnings (losses) from equity method investments	(40)	15	(55)	—
Interest expense, net of capitalization	(280)	(244)	(28)	(8)
Income (Loss) Before Income Tax	123	813	13	(703)
Income tax (benefit) expense	(259)	316	(320)	(255)
Net Income (Loss)	382	497	333	(448)
Less: Net income attributable to noncontrolling interests	1	1	—	—
Net Income (loss) Attributable to Avangrid, Inc.	\$ 381	\$ 496	\$ 333	\$ (448)

	Year Ended December 31, 2016			
	Total	Networks	Renewables	Other(1)
	(in millions)			
Operating Revenues	\$ 6,018	\$ 5,030	\$ 1,015	\$ (27)
Operating Expenses				
Purchased power, natural gas and fuel used	1,286	1,174	152	(40)
Operations and maintenance	2,206	1,839	351	16
Depreciation and amortization	804	466	313	25
Taxes other than income taxes	528	465	50	13
Total Operating Expenses	4,824	3,944	866	14
Operating Income (Loss)	1,194	1,086	149	(41)
Other Income (Expense)				
Other income	76	46	30	—
Earnings (losses) from equity method investments	7	15	(8)	—
Interest expense, net of capitalization	(268)	(252)	(50)	34
Income Before Income Tax	1,009	895	121	(7)
Income tax expense (benefit)	377	415	7	(45)
Net Income	632	480	114	38
Less: Net income attributable to noncontrolling interests	—	—	—	—
Net Income Attributable to Avangrid, Inc.	\$ 632	\$ 480	\$ 114	\$ 38

(1) Other amounts represent Corporate, Gas and intersegment eliminations.

Comparison of Period to Period Results of Operations

Our operating revenues increased by 9%, from \$5,963 million for the year ended December 31, 2017, to \$6,478 million for the year ended December 31, 2018.

Our purchased power, natural gas and fuel used increased by 24%, from \$1,338 million for the year ended December 31, 2017, to \$1,653 million for the year ended December 31, 2018.

Our operations and maintenance increased by 8%, from \$2,091 million for the year ended December 31, 2017, to \$2,248 million for the year ended December 31, 2018.

Details of the period to period comparison are described below at the segment level.

Year Ended December 31, 2018 Compared to the Year Ended December 31, 2017

Networks

Operating revenues for the year ended December 31, 2018 increased by \$349 million, or 7%, from \$4,961 million for the year ended December 31, 2017, to \$5,310 million. Electricity and gas revenues increased by \$82 million and \$27 million, primarily due to the impact, respectively, of increased electric and gas customer rates in the year ended December 31, 2018 compared to the same period in 2017. Electricity and gas revenues for the year ended December 31, 2018 compared to the same period in 2017, increased by \$87 million and \$94 million due to increased commodity prices and higher volumes largely driven by an increase in degree days. Wholesale electricity and capacity revenues increased by \$59 million for the year ended December 31, 2018 compared to the same period of 2017 due to an increase in average prices. Revenue related regulatory activities in the period increased primarily due to \$65 million increase in pass through components and \$31 million increase in appliance revenue, both offset in operations and maintenance, increase of \$13 million in earnings sharing, which is primarily offset by an adjustment of \$14 million to unfunded future income tax to reflect the change from a flow through to normalization method, which was recorded in 2017 as an increase to revenue, with an offsetting and equal increase to income tax expense, a decrease of \$78 million from deferrals of excess deferred income taxes due to changes in federal tax rates as a result of the Tax Act and \$16 million in non-bypassable charges in the period.

Purchased power, natural gas and fuel used for the year ended December 31, 2018 increased by \$270 million, or 23%, from \$1,153 million for the year ended December 31, 2017, to \$1,423 million. The increase is primarily driven by \$175 million and

\$86 million increases in average commodity prices and overall increase in the units of electricity and gas, respectively, procured due to an increase in degree days combined with an \$8 million increase in other power supply purchases.

Operations and maintenance during the year ended December 31, 2018 increased by \$159 million, or 9%, from \$1,721 million for the year ended December 31, 2017, to \$1,880 million. The increase is primarily due to a \$65 million increase in operations pass through costs and \$31 million of costs related to appliance revenue, both offset in revenue, a \$20 million increase due to non-deferrable storm costs, a \$13 million increase in uncollectible expenses and lower capitalized labor costs of \$37 million in the period, offset by a \$6 million decrease in personnel costs driven by lower termination settlements compared to the same period of 2017.

Renewables

Operating revenues for the year ended December 31, 2018 increased by \$92 million, or 9% from \$1,047 million for the year ended December 31, 2017, to \$1,139 million. The increase in operating revenues was primarily due to an increase of \$88 million with wind generation output increasing 1,730 GWh, an increase in thermal revenue of \$12 million driven by higher prices, an increase of \$25 million resulting from the sale of a claim from a bankruptcy proceeding with a customer, an increase of \$6 million resulting from the settlement of a lawsuit in the period, offset by \$8 million decrease driven by cancellation of First Energy PPAs combined with unfavorable mark-to-market, or MtM, changes of \$32 million on energy derivative transactions entered into for economic hedging purposes.

Purchased power, natural gas and fuel used for the year ended December 31, 2018 increased by \$3 million, or 1%, from \$225 million for the year ended December 31, 2017, to \$228 million. The increase is primarily driven by an increase of \$25 million in power purchases and transmission costs due to the addition of new capacity, offset by MtM changes on derivatives of \$22 million that were favorable due to market price changes in the current period.

Operations and maintenance for the year ended December 31, 2018 increased by \$12 million, or 3%, from \$354 million for the year ended December 31, 2017, to \$366 million, which is primarily due to a \$9 million increase in wind farm operations costs driven by new capacity with the remaining increase attributable to higher intercompany charges in 2018.

Depreciation, Amortization and Impairment

Depreciation, amortization and impairment expenses for the year ended December 31, 2018 decreased by \$595 million, or 41%, from \$1,466 million for the year ended December 31, 2017, to \$871 million. The decrease is driven by lower loss from assets held for sale of \$626 million recorded in connection with management's decision in 2017 to sell the gas trading and storage businesses. Net plant additions in Networks increased depreciation expense by \$27 million in the period. Renewables added \$34 million to depreciation expense due to a new operating capacity and \$2 million of accelerated depreciation driven by repowering, offset by \$9 million lower depreciation expense due to assets lives increase recorded in 2017 and \$24 million of lower depreciation expense in Other driven by the cessation of depreciation of assets held for sale.

Other Income and (Expense) and Equity Earnings

Other income and (expense) and equity earnings for the year ended December 31, 2018 increased by \$46 million, or 45%, from \$(102) million for the year ended December 31, 2017, to \$(56) million, primarily due to the impact of an other than temporary impairment, or OTTI, of \$49 million on an equity method investment and a \$3 million lower write-off of certain development projects in Renewables in 2017, a \$10 million gain from the sale of our interest in Coyote Ridge in 2018, offset by an \$8 million increase in non-service component of pension and other post-retirement cost and a decrease of \$6 million in allowance for funds used during construction and other regulatory deferrals in Networks.

Interest Expense, Net of Capitalization

Interest expense for the year ended December 31, 2018 increased by \$23 million or 8% from \$280 million for the year ended December 31, 2017, to \$303 million. Networks and Other added \$13 million and \$18 million of interest expense from new debt issued in 2018 and 2017. In addition, Renewables interest expense increased by \$16 million due to an intercompany loan in the current period. This is offset by \$24 million lower interest expense in Other driven by sale of the gas business in 2018.

Income Tax Expense

The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2018 was 22.1%, which is higher than the 21% statutory federal income tax rate applicable in 2018, predominantly due to \$20.7 million of tax expense recorded in connection with the disposal of the Gas business and discrete adjustments recorded during the period, offset by the recognition of production tax credits associated with wind production. The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2017, was (210.6)%, which is lower than the 35% statutory federal income tax rate

predominately due to a \$328 million tax benefit from measurement of deferred income tax balances as a result of the Tax Act. Additionally, a \$14 million increase in income tax expense is due to unfunded future income tax to reflect the change from a flow through to normalization method, which was recorded as an increase to revenue, with an offsetting and equal increase to income tax expense during the year ended December 31, 2017. This increase was partially offset by other discrete tax adjustments and recognition of production tax credits associated with wind production during the same period.

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016

Networks

Operating revenues for the year ended December 31, 2017 decreased by \$69 million, or 1%, from \$5,030 million for the year ended December 31, 2016, to \$4,961 million. Electricity and gas revenues increased by \$113 million and \$83 million, respectively, due to primarily the impact of higher average rates in the year ended December 31, 2017 compared to the same period of 2016, from rate case activities in New York and Connecticut. Electricity revenue for the same period decreased by \$11 million due to lower volumes largely driven by decrease in cooling degree days, while gas revenues increased by \$49 million in the same period due to a migration in customers moving from retail access to full service and colder weather. Additionally, wholesale electricity revenue decreased by \$33 million for the year ended December 31, 2017 compared to the same period of 2016 due to a decrease in overall units sold caused by a decrease in cooling degree days. Revenue related regulatory activities decreased by \$269 million primarily due to an adjustment of \$126 million in 2016 and an adjustment of \$14 million in 2017, to unfunded future income tax to reflect the change from a flow through to normalization method, which were recorded as an increase to revenue, with an offsetting and equal increase to income tax expense in both periods, decreases in the energy supply reconciliation of \$35 million, amortization of regulatory deferrals from previous rate case of \$23 million that ended in 2016, decreases in recoveries on the Ginna RSSA of \$75 million, property and power tax deferral of \$17 million, stranded costs of \$22 million, revenue decoupling mechanism of \$11 million, \$16 million in transmission true-ups, offset by an increase in non by-passable charges of \$42 million.

Purchased power, natural gas and fuel used for the year ended December 31, 2017 decreased by \$21 million, or 2%, from \$1,174 million for the year ended December 31, 2016, to \$1,153 million. The decrease is primarily driven by \$50 million decrease in purchases from contracts that expired in December 2016 and \$59 million decreases in overall units of electricity procured due to a reduction in cooling degree days, offset by \$78 million increase in average gas prices and overall units of gas procured combined with \$11 million increase in gas transportation related activity driven by a higher demand in the period.

Operations and maintenance during the year ended December 31, 2017 decreased by \$118 million, or less than 1%, from \$1,839 million for the year ended December 31, 2016, to \$1,721 million. The decrease is primarily due to a \$109 million decrease in the Ginna RSSA driven by its completion and \$120 million of the non-service component of pension and other post-retirement cost reclassified from operations and maintenance to other income (expense) in 2017 due to adoption of the amendments to improve the presentation of net periodic pension cost, offset by a \$36 million increase in purchases of renewable and zero-emission energy certificates related to a new program to adopt clean energy standards, increase in personnel costs of \$32 million driven largely by overtime associated with non-deferrable storm costs, increase of \$22 million in reserves for uncollectible accounts, and \$19 million in transmission and generation charges in the period.

Renewables

Operating revenues for the year ended December 31, 2017 increased by \$32 million, or 3% from \$1,015 million for the year ended December 31, 2016, to \$1,047 million. Revenues from wind and solar facilities increased by \$33 million due to increase in wind production with output increasing 353 GWh, or 2%, also driven by addition of a new capacity, and 1% increase in average prices. Additionally, favorable MtM changes of \$13 million on energy derivative transactions entered into for economic hedging purposes were offset by a decline in thermal revenue of \$2 million due to lower merchant prices and \$12 million in other revenues mainly due to sale of transmission rights that occurred in 2016.

Purchased power, natural gas and fuel used for the year ended December 31, 2017 increased by \$73 million, or 48%, from \$152 million for the year ended December 31, 2016, to \$225 million. Klamath power plant expense was \$15 million lower due to lower production and reduced fuel costs, MtM changes on derivatives were unfavorable \$48 million due to market price changes in the current period and transmission and energy purchases were higher by \$40 million mainly due to the addition of a new capacity during the period.

Operations and maintenance for the year ended December 31, 2017 increased by \$3 million or 1% from \$351 million for the year ended December 31, 2016, to \$354 million, primarily due to increase in salary costs of \$3 million driven by headcount increases, \$5 million additional costs from new windfarm assets, offset by \$4 million lower asset retirement related expenses, as a result of the extension of the windfarm useful life in combination with revisions to expense estimates.

Depreciation, Amortization and Impairment

Depreciation, amortization and impairment expenses for the year ended December 31, 2017 increased by \$662 million or 82% from \$804 million for the year ended December 31, 2016, to \$1,466 million. The primary drivers were the loss of \$642 million from held for sale measurement in connection with the committed plan to sell the gas trading and storage businesses. Net plant additions in Networks increased depreciation expense by \$14 million, and updates to asset lives from the rate case activities decreased depreciation expense by \$9 million. Renewables added \$18 million to depreciation expense due to a new operating capacity, and had \$3 million favorable changes primarily due to assets lives increase driven by new contracts.

Other Income and (Expense) and Equity Earnings

Other income and (expense) and equity earnings for the year ended December 31, 2017 decreased by \$185 million, or 223%, from \$83 million for the year ended December 31, 2016, to \$(102) million, primarily due to the impact of a \$31 million gain from the sale of the Iroquois equity investment during the year ended December 31, 2016, other than temporary impairment of \$49 million on a Renewables equity method investment and \$120 million of the non-service component of pension and other post-retirement cost reclassified from operations and maintenance to other income (expense) in 2017 due to adoption of the amendments to improve the presentation of net periodic pension cost, offset by \$13 million for increased allowance for funds used during construction and other regulatory deferrals in Networks.

Interest Expense, Net of Capitalization

Interest expense for the year ended December 31, 2017 increased by \$12 million or 4% from \$268 million for the year ended December 31, 2016, to \$280 million. Networks and Other added \$14 million and \$23 million of interest expense from outstanding debt during the period. Gas was \$1 million favorable as a result of intercompany notes in the period. Renewables was \$21 million favorable, as a result of lower tax equity investment obligations and intercompany notes. In addition, Networks had \$3 million of lower interest expense on regulatory deferrals in the current period.

Income Tax Expense

The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2017 was (210.6)%, which is lower than the 35% statutory federal income tax rate predominately due to a \$328 million tax benefit from measurement of deferred income tax balances as a result of the Tax Act. Additionally, a \$14 million increase in income tax expense is due to unfunded future income tax to reflect the change from a flow through to normalization method, which was recorded as an increase to revenue, with an offsetting and equal increase to income tax expense during the year ended December 31, 2017. This increase was partially offset by other discrete tax adjustments and recognition of production tax credits associated with wind production during the same period. The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2016, was 37.6%, which is slightly higher than the 35% statutory federal income tax rate due to offsetting income tax matters. Increases were predominantly due to the impact of an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method following the approval of the Joint Proposal by the NYPSC, which was recorded in the second quarter of 2016 as an increase to income tax expense and an offsetting increase to revenue. This was offset by the recognition of production tax credits associated with wind and state income tax amounts including unitary filing amounts for our various states of operations.

Non-GAAP Financial Measures

To supplement our consolidated financial statements presented in accordance with U.S. GAAP, we consider adjusted net income and adjusted earnings per share as non-GAAP financial measures that are not prepared in accordance with U.S. GAAP. The non-GAAP financial measures we use are specific to AVANGRID and the non-GAAP financial measures of other companies may not be calculated in the same manner. We use these non-GAAP financial measures, in addition to U.S. GAAP measures, to establish operating budgets and operational goals to manage and monitor our business, evaluate our operating and financial performance and to compare such performance to prior periods and to the performance of our competitors. We believe that presenting such non-GAAP financial measures is useful because such measures can be used to analyze and compare profitability between companies and industries by eliminating the impact of certain non-cash charges. In addition, we present non-GAAP financial measures because we believe that they and other similar measures are widely used by certain investors, securities analysts and other interested parties as supplemental measures of performance.

We define adjusted net income as net income adjusted to exclude restructuring charges, mark-to-market adjustments to reflect the effect of MtM changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity, loss from held for sale measurement, impact of the Tax Act, accelerated depreciation derived from repowering of a windfarm, gain on the sale of equity method and other investment, other than temporary impairment, or OTTI, and adjustments for the non-core Gas storage business.

We believe adjusted net income is more useful in understanding and evaluating actual and projected financial performance and contribution of AVANGRID core lines of business and to more fully compare and explain our results. The most directly comparable U.S. GAAP measure to adjusted net income is net income. We also define adjusted earnings per share, or adjusted EPS, as adjusted net income converted to an earnings per share amount.

The use of non-GAAP financial measures is not intended to be considered in isolation or as a substitute for, or superior to, AVANGRID's U.S. GAAP financial information, and investors are cautioned that the non-GAAP financial measures are limited in their usefulness, may be unique to AVANGRID and should be considered only as a supplement to AVANGRID's U.S. GAAP financial measures. The non-GAAP financial measures may not be comparable to other similarly titled measures of other companies and have limitations as analytical tools.

Non-GAAP financial measures are not primary measurements of our performance under U.S. GAAP and should not be considered as alternatives to operating income, net income or any other performance measures determined in accordance with U.S. GAAP.

The following tables provide a reconciliation between Net Income attributable to AVANGRID and adjusted net income (non-GAAP) by segment for the years ended December 31, 2018, 2017 and 2016, respectively:

	Year Ended December 31, 2018				
	Total	Networks	Renewables	Corporate *	Gas Storage
	<i>(in millions)</i>				
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 595	\$ 478	\$ 148	\$ (12)	\$ (19)
Adjustments:					
Mark-to-market adjustments - Renewables	25	—	25	—	—
Restructuring charges	4	4	—	—	—
Loss from held for sale measurement	16	—	—	—	16
Impact of the Tax Act	46	5	16	25	—
Accelerated depreciation from repowering	3	—	3	—	—
Income tax impact of adjustments (1)	6	(1)	(7)	—	14
Gas Storage, net of tax	(11)	—	—	—	(11)
Adjusted Net Income (2)	\$ 684	\$ 486	\$ 185	\$ 13	\$ —
	Year Ended December 31, 2017				
	Total	Networks	Renewables	Corporate *	Gas Storage
	<i>(in millions)</i>				
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 381	\$ 496	\$ 333	\$ 60	\$ (508)
Adjustments:					
Mark-to-market adjustments - Renewables	15	—	15	—	—
Restructuring charges	20	20	—	—	—
Loss from held for sale measurement	642	—	—	—	642
Impact of the Tax Act	(328)	(2)	(301)	(5)	(20)
Impairment of equity method investment	49	—	49	—	—
Income tax impact of adjustments (1)	(162)	(8)	24	—	(179)
Gas Storage, net of tax	64	—	—	—	64
Adjusted Net Income (2)	\$ 682	\$ 507	\$ 120	\$ 55	\$ —

Year Ended December 31, 2016

	Total	Networks	Renewables	Corporate *	Gas Storage
	<i>(in millions)</i>				
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 632	\$ 480	\$ 114	\$ 80	\$ (42)
Adjustments:					
Sale of equity method and other investments	(36)	—	(3)	(33)	—
Impairment of investment	3	3	—	—	—
Mark-to-market adjustments - Renewables	(20)	—	(20)	—	—
Income tax impact of adjustments (1)	22	(1)	9	14	—
Gas Storage, net of tax	42	—	—	—	42
Adjusted Net Income (2)	\$ 643	\$ 482	\$ 100	\$ 61	\$ —

(1) Income tax impact of adjustments: \$(6) million from MtM adjustment, \$(1) million from accelerated depreciation, \$(1) million from restructuring charges, \$14 million from loss from held for sale measurement for the year ended December 31, 2018. Income tax impact of \$(5) million from MtM adjustment, \$(8) million from restructuring charges, \$(13) million from OTTI on an equity method investment, \$(179) million from loss from held for sale measurement and \$43 million from adjustment to unitary income taxes as a result of expected future sale of Gas for the year ended December 31, 2017. Income tax impact of \$14 million from sale of equity method investment, \$1 million from sale of other investment, \$(1) million on impairment of investment and \$8 million from MtM adjustment for the year ended December 31, 2016.

(2) Adjusted Net Income is a non-GAAP financial measure and is presented after excluding restructuring charges, gain on the sale of equity method and other investments, OTTI on equity method and other investment, loss from held for sale measurement, impact of the Tax Act, accelerated depreciation derived from repowering of a wind farm, MtM activities in Renewables and Gas storage businesses.

* Includes corporate and other non-regulated entities as well as intersegment eliminations.

Comparison of Period to Period Results of Operations

Year Ended December 31, 2018 Compared to the Year Ended December 31, 2017

Adjusted net income

Our adjusted net income increased by \$2 million, or less than 1%, from \$682 million for the year ended December 31, 2017 to \$684 million for the year ended December 31, 2018. The increase is primarily due to a \$65 million increase in Renewables due to increased wind generation in the period, offset by a \$21 million decrease in Networks driven by higher non-deferrable storm costs and the associated impacts including lower capitalized labor in the period, \$42 million decrease in Corporate mainly driven by lower interest income on intercompany loans due to the sale of the gas business in 2018 and higher income tax expense due to decreased unitary benefit driven by sale of gas business.

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016

Adjusted net income

Our adjusted net income increased by \$38 million, or 6%, from \$643 million for the year ended December 31, 2016 to \$682 million for the year ended December 31, 2017. The increase is primarily due to a \$25 million increase in Networks primarily due to the impact of higher average rates from rate case activities in New York and Connecticut, \$20 million increase in Renewables due primarily to increased wind generation along with the addition of a new capacity, offset by \$6 million decrease in Corporate mainly driven by higher interest expense from outstanding debt during the period and higher income tax expense from an effective tax rate adjustment.

The following tables reconcile Net Income attributable to AVANGRID to Adjusted Net Income (non-GAAP), and EPS attributable to AVANGRID to adjusted EPS (non-GAAP) for the years ended December 31, 2018, 2017 and 2016, respectively:

	Years Ended December 31,		
	2018	2017	2016
	(in millions)		
Networks	\$ 478	\$ 496	\$ 480
Renewables	148	333	114
Corporate (1)	(12)	60	80
Gas Storage	(19)	(508)	(42)
Net Income Attributable to Avangrid, Inc.	\$ 595	\$ 381	\$ 632
Adjustments:			
Sale of equity method and other investments	—	—	(36)
Impairment of equity method and other investment (2)	—	49	3
Restructuring charges (3)	4	20	—
Mark-to-market adjustments - Renewables (4)	25	15	(20)
Loss from held for sale measurement (5)	16	642	—
Impact of the Tax Act (6)	46	(328)	—
Accelerated depreciation from repowering (7)	3	—	—
Income tax impact of adjustments	6	(162)	22
Gas Storage, net of tax	(11)	64	42
Adjusted Net Income (8)	\$ 684	\$ 682	\$ 643

	Years Ended December 31,		
	2018	2017	2016
	(in dollars)		
Networks	\$ 1.54	\$ 1.60	\$ 1.55
Renewables	0.48	1.08	0.37
Corporate (1)	(0.04)	0.19	0.26
Gas Storage	(0.06)	(1.64)	(0.14)
Earnings Per Share	\$ 1.92	\$ 1.23	\$ 2.04
Adjustments:			
Sale of equity method and other investments	—	—	(0.12)
Impairment of equity method and other investment (2)	—	0.16	0.01
Restructuring charges (3)	0.01	0.07	—
Mark-to-market adjustments - Renewables (4)	0.08	0.05	(0.06)
Loss from held for sale measurement (5)	0.05	2.08	—
Impact of the Tax Act (6)	0.15	(1.06)	—
Accelerated depreciation from repowering (7)	0.01	—	—
Income tax impact of adjustments	0.02	(0.52)	0.07
Gas Storage, net of tax	(0.04)	0.21	0.14
Adjusted Earnings Per Share (8)	\$ 2.21	\$ 2.20	\$ 2.08

- (1) Includes corporate and other non-regulated entities as well as intersegment eliminations.
- (2) Includes OTTI on equity method investment recorded in 2017.
- (3) Restructuring and severance related charges relate to costs resulted from restructuring actions involving initial targeted voluntary workforce reductions and related costs in our plan to vacate a lease, predominantly within the Networks segment.
- (4) MtM adjustments relate to changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity and gas.
- (5) Represents loss from measurement of assets and liabilities held for sale in connection with the sale of the gas trading and storage businesses.
- (6) Represents the impact from measurement of deferred income tax balances as a result of the Tax Act enacted by the U.S. federal government on December 22, 2017.
- (7) Represents the amount of accelerated depreciation derived from repowering of a wind farm in Renewables.
- (8) Adjusted Net Income and Adjusted Earnings Per Share are non-GAAP financial measures and are presented after excluding restructuring charges, gain on the sale of equity method and other investments, OTTI on equity method and other investment, loss from held for sale measurement, impact of the Tax Act, accelerated depreciation derived from the repowering of a wind farm, MtM activities in Renewables and Gas storage businesses.

Liquidity and Capital Resources

Our operations, capital investment and business development require significant short-term liquidity and long-term capital resources. Historically, we have used cash from operations, and borrowings under our credit facilities and commercial paper program as our primary sources of liquidity. Our long-term capital requirements have been met primarily through retention of earnings and borrowings in the investment grade debt capital markets. Continued access to these sources of liquidity and capital are critical to us. Risks may increase due to circumstances beyond our control, such as a general disruption of the financial markets and adverse economic conditions.

Liquidity Resources

At December 31, 2018, we had cash and cash equivalents of \$36 million, as compared to \$41 million at December 31, 2017. In addition to cash on hand, we have the capacity to borrow from third parties through a \$2 billion commercial paper program, the \$2.5 billion AVANGRID Credit Facility which backstops the commercial paper program and \$0.5 billion from an Iberdrola Group Credit Facility, which are described below.

We optimize our liquidity within the United States through a series of arms-length intercompany lending arrangements with our subsidiaries and among our regulated utilities to provide for lending of surplus cash to subsidiaries with liquidity needs, subject to the limitation that the regulated utilities may not lend to unregulated affiliates.

We manage our overall liquidity position as part of the group of companies controlled by Iberdrola, or the Iberdrola Group, and are a party to a liquidity agreement with Bank of America, N.A. along with certain members of the Iberdrola Group. The liquidity agreement aids the Iberdrola Group in efficient cash management and reduces the need for external borrowing by the pool participants. Parties to the agreement, including us, may deposit funds with or borrow from the financial institution, provided that the net balance of funds deposited or borrowed by all pool participants in the aggregate is not less than zero. The balance in this account at December 31, 2018 was zero. Any deposit amounts would be reflected in our consolidated balance sheets under cash and cash equivalents because our deposited surplus funds under the cash pooling agreement are highly-liquid short-term investments. We also have a bilateral demand note agreement with a Canadian affiliate of the Iberdrola Group under which we had notes payable balance outstanding of \$0 and \$29 million at December 31, 2018 and December 31, 2017, respectively.

AVANGRID Commercial Paper Program

On May 13, 2016, AVANGRID established a commercial paper program with a limit of \$1 billion that is backstopped by the AVANGRID Credit Facility (described below). On July 30, 2018, AVANGRID increased this limit from \$1 billion to \$2 billion. As of December 31, 2018 and February 27, 2019, there was \$589 million and \$766 million of commercial paper outstanding, respectively.

AVANGRID Credit Facility

On June 29, 2018, AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC entered into a revolving credit facility with a syndicate of banks, or the AVANGRID Credit Facility, that provides for maximum borrowings of up to \$2.5 billion in the aggregate. This AVANGRID Credit Facility replaces and supersedes the prior revolving credit facility entered into by AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC, with a syndicate of banks on April 5, 2016 with a maturity date of April 5, 2021, which provided for maximum borrowings of up to \$1.5 billion in the aggregate on substantially similar terms as the AVANGRID Credit Facility.

Under the terms of the AVANGRID Credit Facility, each joint borrower has a maximum borrowing entitlement, or sublimit, which can be periodically adjusted to address specific short-term capital funding needs, subject to the maximum limit contained in the agreement. AVANGRID's maximum sublimit is \$2 billion, NYSEG, RG&E, CMP and UI have maximum sublimits of \$400 million, CNG and SCG have maximum sublimits of \$150 million and BGC has a maximum sublimit of \$40 million. Under the AVANGRID Credit Facility, each of the borrowers will pay an annual facility fee that is dependent on their credit rating. The initial facility fees will range from 12.5 to 17.5 basis points. The maturity date for the AVANGRID Credit Facility is June 29, 2023.

Since the facility is a backstop to the AVANGRID commercial paper program, the amounts available under the facility as of December 31, 2018 and February 27, 2019, were \$1,911 million and \$1,734 million, respectively.

Iberdrola Group Credit Facility

On June 18, 2018, AVANGRID entered into a credit facility with Iberdrola Financiacion, S.A.U., a company of the Iberdrola Group. The facility has a limit of \$500 million and matures on June 18, 2023. AVANGRID pays a facility fee of 10.5 basis points

annually on the facility. As of both December 31, 2018 and February 27, 2019, there was no outstanding amount under this credit facility.

Long-Term Capital Resources

We expect to meet our long-term capital requirements through the use of our cash balances, credit facilities, cash from operations and long-term borrowing. We have investment grade ratings from Standard and Poor's, Moody's and Fitch and we believe that we can raise capital on competitive terms in the investment grade debt capital and/or bank markets.

On June 29, 2018, NYSEG and RG&E remarketed \$326 million in aggregate principal amount of Pollution Control Revenue Bonds, issued through the New York State Energy Research and Development Authority, with mandatory tender and maturity dates ranging from 2023 to 2029 and interest rates ranging from 2.625% to 3.50%.

On October 2, 2018, UI remarketed \$64.5 million in aggregate principal amount of Pollution Control Refunding Revenue Bonds, issued through the Business Finance Authority of the State of New Hampshire, with a mandatory tender date in 2023 and an interest rate of 2.80%.

In the third and fourth quarters of 2018, UI, CNG, SCG, BGC and CMP offered a total of \$645 million of debt securities in the private placement market. On October 4, 2018, each of UI, CNG and BGC executed separate note purchase agreements to issue senior unsecured notes, and SCG executed a bond purchase agreement to issue first mortgage bonds. On October 4, 2018, UI issued \$100 million of senior unsecured notes maturing in 2028 at an interest rate of 4.07%, and on January 15, 2019, UI, CNG, SCG and BGC issued \$195 million in aggregate amount of notes/bonds with maturity dates ranging from 2029 to 2049 and interest rates ranging from 4.07% to 4.52%.

On December 12, 2018, UI issued an additional \$50 million of senior unsecured notes maturing in 2025 at a fixed interest rate of 3.96% under a separate note purchase agreement. In addition, on December 27, 2018, CMP executed a bond purchase agreement to issue \$300 million of first mortgage bonds and issued \$60 million of such bonds maturing in 2028 at a fixed interest rate of 3.95%. The remaining \$240 million in aggregate amount of CMP first mortgage bonds are expected to be issued in June 2019. Maturities range from seven to 15 years and interest rates range from 3.87% to 4.20%.

At December 31, 2018, we had \$4,657 million of long-term debt (including the current portion thereof) outstanding in the Networks segment consisting of first mortgage bonds, senior unsecured notes, tax-exempt bonds and various other forms of debt. Networks' regulated utilities are required by regulatory order to maintain a minimum ratio of common equity to total capital that is tied to the capital structure used in the establishment of their revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. UI, SCG, CNG and BGC are restricted from paying dividends if paying such dividend would result in their respective common equity ratio being lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. The regulated utilities periodically pay dividends to, or receive capital contributions from, AVANGRID in order to maintain the minimum equity ratio requirement. They each independently incur indebtedness by issuing investment grade debt securities. Networks' regulated utilities were in compliance with these regulatory orders as of December 31, 2018.

At December 31, 2018, we had \$52 million of long-term debt (including the current portion thereof) outstanding in the Renewables segment relating to a sale-leaseback arrangement on a solar generation facility. Renewables has also sourced capital through tax equity financing arrangements associated with particular wind farm projects. The arrangements allocate taxable income and production tax credits to the tax equity investor in exchange for an initial contribution. Effective January 1, 2018, tax equity financing arrangements are recorded as a noncontrolling interest. On May 3, 2018, Renewables closed on the sale of a tax equity interest in its El Cabo wind project which resulted in proceeds of \$213 million.

At December 31, 2018, we had \$1,053 million of long-term debt (including the current portion thereof) outstanding in corporate. Long-term debt in corporate consists mainly of \$450 million of 4.625% notes due in 2020 originally issued by UIL in 2010 and transferred to Avangrid, Inc. in December 2016 and \$600 million of 3.150% notes due 2024 issued in November 2017.

In our credit facilities, long-term borrowing and tax-equity partnerships, we and our affiliates that are parties to the agreements are subject to covenants that are standard for such agreements. Affirmative covenants impose certain obligations on the borrower and negative covenants limit certain activities by the borrower. The agreements also define certain events of default, including but not limited to non-compliance with the covenants that may automatically in some circumstances, or at the option of the lenders in other circumstances, trigger acceleration of the obligations. We and our affiliates were in compliance with all such covenants at December 31, 2018.

Capital Requirements

Funding Future Common Dividend Payments

We expect to fund any quarterly shareholder dividends primarily from the cash provided by operations of our businesses in the future. We have revolving credit facilities and a commercial paper program, as described above, to fund short-term liquidity needs and we believe that we will have access to the capital markets should additional, long-term growth capital be necessary.

Capital Expenditures

The regulated utilities' capital expenditures over the last three years have been as follows:

	2018	2017	2016
	<i>(in millions)</i>		
NYSEG	\$ 517	\$ 364	\$ 282
RG&E	283	303	268
CMP	212	252	207
MNG	7	3	3
UI	153	176	170
SCG	57	53	54
CNG	55	70	73
BGC	17	18	17
Total	\$ 1,301	\$ 1,239	\$ 1,074

Renewables' capital expenditures for the years set forth below were as follows:

	2018	2017	2016
	<i>(in millions)</i>		
Wind & solar	\$ 277	\$ 902	\$ 751
Thermal	25	17	8
Corporate(1)	13	10	7
Total capital expenditures	\$ 315	\$ 929	\$ 766

(1) Includes information technology and facilities and safety (security).

Networks increased its capital expenditures during the period from 2016 to 2018 to upgrade and expand electricity and natural gas transmission and distribution infrastructure. In 2018, NYSEG and RG&E continued their capital investments in a number of programs disclosed in Appendix P Schedule I of the Joint Proposal, including the grid automation project, distribution line project, Columbia County transmission project, Rochester Area Reliability Project, or RARP, and Gas Distribution Mains and Leak Prone Main replacement project. In 2018, CMP made capital investments in developing its new customer relationship management and billing system. UIL's capital projects remained relatively flat for the same period, and the most relevant projects were the ones related to new customers, system and corrective reliability, system resiliency, infrastructure replacement and system operations.

Renewables also made capital investments during this three-year period. In 2018, there were capital expenditures of \$232 million on construction of Otter Creek, Karankawa, Montague, WyEast Solar and other wind and solar assets, \$25 million in capital expenditures on the Klamath gas-fired cogeneration facility, or the Klamath Plant, \$17 million on improvements to operating wind assets and \$28 million in development costs.

In 2017, there were capital expenditures of \$856 million on construction of El Cabo, Tule, Twin Buttes II, Deerfield and other wind assets, \$17 million in capital expenditures on the Klamath Plant, \$11 million on improvements to operating wind assets and \$35 million in development costs.

In 2016, there were capital expenditures of \$728 million on construction of the Amazon Wind Farm US - East (formerly Desert Wind) and other wind assets, \$8 million in capital expenditures on the Klamath Plant, \$10 million on improvements to operating wind assets and \$13 million in development costs.

Capital Improvement Projects

An important part of our business strategy involves capital improvement projects. Through Networks we plan to invest a total of approximately \$7.99 billion from 2019 to 2023 to upgrade and expand electricity and natural gas transmission and distribution infrastructure. In the next 12 months, Networks plans to invest \$330 million in Maine, including the NECEC, Spectrum Project, Fleet Services, Physical and Cyber Security, Line Inspection and Waterville-Winslow Reliability Project. In addition, CMP plans to continue developing its new customer relationship management and billing system and new transmission investments in the Maine Electric Power Corporation, or MEPCO, 388 rebuild. MEPCO plans to invest \$18 million in the next 12 months. NYSEG plans to invest \$580 million in the next 12 months, including a number of programs disclosed in Appendix P Schedule I of the Joint Proposal dated June 15, 2016, the most relevant ones: NYSEG Grid Automation, AMI Project, NY WAN Expansion Project, BES Program - FERC Compliance, NYSEG Breaker Program, NYSEG Distribution Line Project, Phelps South Gas Replacement Project, Gas Distribution Mains and Leak Prone Main replacement. RG&E plans to invest \$382 million in the next 12 months, including a number of programs disclosed in Appendix P Schedule I of the Joint Proposal dated June 15, 2016, the most relevant ones: RARP, BES Program - FERC Compliance, Station 23 115kV Substation, Telcom NY WAN Buildout, Gas Distribution Mains and Leak Prone Main replacement. UIL plans to invest \$345 million in the next 12 months, including a number of programs and projects related to new customer connections, replacement of aging infrastructure, and improvement of system operations, reliability and resiliency. For gas operations, the most notable investments include cast iron/bare steel pipe replacement, infrastructure expansion and the connection of new customers, and Milford LNG facility upgrades.

Through Renewables we plan to invest a total of approximately \$4.0 billion from 2019 to 2023 and add approximately 2,200 MW of generation capacity. 1,300 MW are approved for construction in 2019 and 2020 and these projects are under long-term PPA or hedge contracts.

In December 2018, Renewables, through its joint venture in Vineyard Wind, was awarded a second Massachusetts offshore lease. In February 2019, a contribution was made to a new offshore development project of \$100 million to enter into the lease contract.

We expect to fund these capital improvement projects through a combination of retained earnings, cash provided by operations and access to the capital markets, including debt borrowings at either the subsidiary or holding company level. Additionally, we have a revolving credit facility, as described above, to fund short-term liquidity needs.

Cash Flows

Our cash flows depend on many factors, including general economic conditions, regulatory decisions, weather, commodity price movements and operating expense and capital spending control.

The following is a summary of the cash flows by activity for the years ended December 31, 2018, 2017 and 2016, respectively:

	Year Ended December 31,		
	2018	2017	2016
	<i>(in millions)</i>		
Cash Flows			
Net cash provided by operating activities	\$ 1,791	\$ 1,763	\$ 1,561
Net cash used in investing activities	(1,564)	(2,341)	(1,527)
Net cash (used in) provided by financing activities	(230)	528	(372)
Net decrease in cash, cash equivalents and restricted cash	\$ (3)	\$ (50)	\$ (338)

Operating Activities

Our primary sources of operating cash inflows are proceeds from transmission and distribution of electricity and natural gas and sales of wholesale energy and energy related products and services. Our primary operating cash outflows are power and natural gas purchases and transmission operating and maintenance expenses, as well as personnel costs and other employee-related expenditures. As our business has expanded, our working capital requirements have grown. We expect our working capital to grow as we continue to grow our business.

In 2018, net cash provided by operating activities was \$1.8 billion. During the period, Renewables contributed \$522 million of operating cash flow associated with wholesale sales of energy, Networks contributed \$980 million of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas. Additionally, \$11 million in cash was used associated with corporate operating expenses in support of the operating segments and changes in working capital provided \$303 million in cash. The cash from operating activities in 2018 compared to 2017 increased by \$28 million, primarily attributable to increased operating revenues. The net \$12 million change in operating assets and liabilities in 2018 was primarily attributable to

a net increase of \$12 million in accounts receivable and payable due to impacts from sales and purchases, increase in inventories of \$14 million, cash distributions from equity method investments of \$14 million, net increase of \$49 million in other assets/liabilities and taxes accrued of \$30 million, offset by net decrease in regulatory assets/liabilities of \$79 million.

In 2017, net cash provided by operating activities was \$1.8 billion. During the period, Renewables contributed \$734 million of operating cash flow associated with wholesale sales of energy, Networks contributed \$970 million of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas. Additionally, \$60 million in cash was provided in support of the operating segments and changes in working capital used \$100 million in cash. The cash from operating activities in 2017 compared to 2016 increased by \$202 million, primarily attributable to increased operating revenues, excluding the impact of a non-cash adjustment of unfunded future income tax discussed above. The net change in operating assets and liabilities in 2017 was primarily attributable to a net increase of \$33 million in accounts receivable and payable due to impacts from sales and purchases, cash distributions from equity method investments of \$16 million, increase in taxes accrued of \$41 million, offset by decrease in inventories of \$12 million, net decrease of \$55 million in other assets/liabilities and regulatory assets/liabilities of \$47 million.

In 2016, net cash provided by operating activities was \$1.6 billion. During the period, Renewables contributed \$420 million of operating cash flow associated with wholesale sales of energy, Networks contributed \$1.0 billion of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas. Additionally, \$82 million in cash was provided in support of the operating segments and changes in working capital provided \$40 million in cash. The cash from operating activities in 2016 compared to 2015 increased by \$198 million, primarily attributable to the increased operating revenues. The \$338 million net change in operating assets and liabilities in 2016 was primarily attributable to a net increase of \$26 million in accounts receivable and payable due to impacts from sales and purchases, cash distributions from equity method investments of \$14 million, offset by net decrease of \$340 million in other assets/liabilities, decrease in inventories of \$46 million and regulatory assets/liabilities of \$81 million.

Investing Activities

Our investing activities have primarily focused on enhancing, automating and reinforcing the asset base to support safety, reliability and customer growth in accordance with the regulatory markets within which we operate, as well as constructing solar and wind assets and spending on gas generation assets.

In 2018, net cash used in investing activities was \$1,564 million, which was comprised of \$1,377 million associated with capital expenditures at Networks and \$410 million of capital expenditures at Renewables primarily associated with payments in support of the new capacity construction projects. This was offset by \$60 million of contributions in aid of construction, \$4 million of cash distributions from equity method investments, and proceeds from sale of assets of \$204 million primarily related to the sale of assets held for sale.

In 2017, net cash used in investing activities was \$2,341 million, which was comprised of \$1,305 million associated with capital expenditures at Networks and \$1,097 million of capital expenditures at Renewables primarily associated with payments in support of the new capacity construction projects. This was offset by \$57 million of contributions in aid of construction, \$4 million of cash distributions from equity method investments and proceeds of \$12 million from the sale of property, plant and equipment.

In 2016, net cash used in investing activities was \$1.5 billion, which was comprised of \$1.1 billion associated with capital expenditures at Networks and \$561 million of capital expenditures at Renewables primarily associated with payments in support of the Amazon Wind Farm US - East (formerly Desert Wind) construction project and safe harbor payments for turbines. This was offset by \$69 million of contributions in aid of construction, proceeds of \$57 million from the sale of our equity method investment in Iroquois and other investment, \$43 million from asset sale to the New York TransCo and \$7 million from sale of property.

Financing Activities

Our financing activities have primarily consisted of using our credit facilities and long-term debt issued or redeemed by our regulated Networks subsidiaries.

In 2018, financing activities used \$230 million in cash reflecting primarily an issuance of non-current debt at NYSEG, RG&E, CMP and UI with the net proceeds of \$597 million, contributions from non-controlling interests of \$223 million, offset by a net decrease in non-current debt and current notes payable of \$418 million, distributions to non-controlling interests of \$76 million, payments on capital leases of \$13 million and dividends of \$537 million.

In 2017, financing activities provided \$528 million in cash reflecting primarily an issuance of non-current debt at RG&E with the net proceeds of \$294 million and notes at Avangrid, Inc. with net proceeds of \$594 million, after price discount and

issuance-related expenses, a net increase in non-current debt and current notes payable of \$320 million, payments on the tax equity financing arrangements of \$113 million, capital lease of \$33 million and dividends of \$535 million.

In 2016, cash used in financing activities was \$372 million reflecting primarily an increase in non-current notes payable of \$493 million less maturities and redemptions of \$355 million, \$88 million in payments on the tax equity financing arrangements, repurchase of common stock of \$5 million and dividends of \$401 million.

Contractual Obligations

As of December 31, 2018, our contractual obligations (excluding any tax reserves) were as follows:

	Total	2019	2020	2021	2022	2023	Thereafter
	<i>(in millions)</i>						
Operating leases(1)	\$ 911	\$ 31	\$ 39	\$ 38	\$ 35	\$ 33	\$ 735
Projected future pension benefit plan contributions(2)	337	63	67	61	78	68	—
Long-term debt (including current maturities)(3)	5,762	394	720	308	365	489	3,486
Interest payments(4)	2,290	234	217	189	176	159	1,315
Material purchase commitments(5)	1,827	1,307	211	118	54	37	100
Total Contractual Obligations	\$ 11,127	\$ 2,029	\$ 1,254	\$ 714	\$ 708	\$ 786	\$ 5,636

- (1) Represents lease contracts relating to operational facilities, office building leases, and vehicle and equipment leases. These amounts represent our expected unadjusted portion of the costs to pay as amounts related to contingent payments are predominantly linked to electricity generation at the respective facilities.
- (2) The qualified pension plans' contributions are generally based on the estimated minimum pension contributions required under the Employee Retirement Income Security Act of 1974, as amended, and the Pension Protection Act of 2006, as well as contributions necessary to avoid benefit restrictions and at-risk status and agreements with state regulatory agencies. These amounts represent estimates that are based on assumptions that are subject to change. The minimum required contributions for years after 2023 are not included as projections beyond 2023 are not available.
- (3) Includes sinking fund obligations and obligations under capital leases. See debt payment discussion in "Long-term Capital Resources."
- (4) Interest payments are estimated based on final maturity dates of debt securities outstanding at December 31, 2018, and do not reflect anticipated future refinancing, early redemptions or debt issuances. Variable rate interest obligations are estimated based on rates as of December 31, 2018.
- (5) Represents forward purchase commitments under power, gas and other arrangements and contractual obligations for material and services on order but not yet delivered at December 31, 2018.

Critical Accounting Policies and Estimates

The financial statements provided herein have been prepared in accordance with U.S. GAAP and include the accounts of AVANGRID and its consolidated subsidiaries.

In preparing the accompanying financial statements, our management has made certain estimates and assumptions that affect the reported amounts of assets, liabilities, shareholder's equity, revenues and expenses and the disclosures thereof. The following accounting policies represent those that management believes are particularly important to the consolidated financial statements and that require the use of estimates, assumptions and judgments to determine matters that are inherently uncertain. Our management recorded the net assets of ARHI in these consolidated financial statements at the historical accounting basis of AVANGRID. The historical accounting basis of AVANGRID includes purchase accounting adjustments related to AVANGRID's acquisition of ARHI in 2007. Prior to the 2013 reorganization of AVANGRID, Networks was not considered to be a substantive operating entity as it did not hold any direct operations and had always been a part of AVANGRID. As a result, the net assets of Networks in these consolidated financial statements are recorded at the historical accounting basis of AVANGRID, which do not include purchase accounting adjustments related to Iberdrola, S.A.'s acquisition of AVANGRID in 2008.

Accounting for Regulated Public Utilities

U.S. GAAP allows regulated entities to give accounting recognition to the actions of regulatory authorities. In order to apply such regulatory accounting treatment and record regulatory assets and liabilities, certain criteria must be met. In determining whether the criteria are met for our operations, our management makes significant judgments, which involve (i) determining whether rates for services provided to customers are subject to approval by an independent, third-party regulator, (ii) determining whether the regulated rates are designed to recover specific costs of providing the regulated service, (iii) considering relevant historical precedents and recent decisions of the regulatory authorities and (iv) considering the fact that decisions made by regulatory commissions or legislative changes at a later date could vary from earlier interpretations made by management and that the impact of such variations could be material. Our regulated subsidiaries have deferred recognition of costs (a regulatory asset) or have recognized obligations (a regulatory liability) if it is probable that such costs will be recovered or obligations relieved in the future through the ratemaking process. Management regularly reviews our regulatory assets and liabilities to determine whether

adjustments to its previous conclusions are necessary based on the current regulatory environment as well as recent rate orders. If our regulated subsidiaries, or a portion of their assets or operations, were to cease meeting the criteria for application of these accounting rules, accounting standards for businesses in general would become applicable and immediate recognition of any previously deferred costs would be required in the year in which such criteria are no longer met.

Accounting for Pensions and Other Post-retirement Benefits

We provide pensions and other post-retirement benefits for a significant number of employees, former employees and retirees. We account for these benefits in accordance with the accounting rules for retirement benefits. In accounting for its pension and other post-retirement benefit plans, or the AVANGRID plans, assumptions are made regarding the valuation of benefit obligations and the performance of plan assets. Delayed recognition of differences between actual results and those assumed allows for a smoother recognition of changes in benefit obligations and plan performance over the working lives of the employees who benefit under the AVANGRID plans. The primary assumptions include the discount rate, the expected return on plan assets, health care cost trend rate, mortality assumptions and demographic assumptions. We apply consistent estimation techniques regarding our actuarial assumptions, where appropriate, across the AVANGRID plans of our operating subsidiaries. The estimation technique utilized to develop the discount rate for the AVANGRID plans is based upon the settlement of such liabilities as of December 31, 2018, utilizing a hypothetical portfolio of actual, high quality bonds, which would generate cash flows required to settle the liabilities. We believe such an estimate of the discount rate accurately reflects the settlement value for plan obligations and results in cash flows which closely match the expected payments to participants.

We reflect all unrecognized prior service costs and credits and unrecognized actuarial gains and losses for the regulated utilities of Networks as regulatory assets or liabilities as it is probable that such items will be recovered through the ratemaking process in future periods.

During 2018, the Society of Actuaries issued updated mortality tables and projection scales. AVANGRID, in conjunction with its actuaries, performed an analysis to determine the appropriateness of adopting these tables and the related mortality projections. As a result, our pension and post-retirement plan liabilities as of December 31, 2018, reflect updated mortality assumptions.

Business Combinations and Assets Acquisitions

We apply the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair value of the assets transferred, the liabilities incurred by the acquirer to former owners of acquiree and the equity interests issued by the acquirer. Acquisition related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the consideration transferred over the fair value of the identifiable net assets acquired is recorded as goodwill. We recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

In contrast to a business combination, we classify a transaction as an asset acquisition when substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets or otherwise does not meet the definition of a business.

Goodwill

Goodwill is not amortized, but is subject to an assessment for impairment at least annually or more frequently if events occur or circumstances change that will more likely than not reduce the fair value of the reporting unit below its carrying amount. A reporting unit is an operating segment or one level below an operating segment and is the level at which goodwill is tested for impairment.

In assessing goodwill for impairment, we have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary, or step zero. If it is determined, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If we bypass step zero or perform the qualitative assessment but determine that it is more likely than not that its fair value is less than its carrying amount, a quantitative two step, fair value based test is performed. Step one compares the fair value of the reporting unit to its carrying amount, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, step two is performed. Step two requires an allocation of fair value to the individual assets and liabilities using business combination accounting guidance to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than its carrying amount, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense.

Our step zero qualitative assessment involves evaluating key events and circumstances that could affect the fair value of our reporting units, as well as other factors. Events and circumstances evaluated include macroeconomic conditions, industry, regulatory and market considerations, cost factors and their effect on earnings and cash flows, overall financial performance as compared with projected results and actual results of relevant prior periods, other relevant entity specific events, and events affecting a reporting unit.

Our step one impairment testing, and step two if required, includes various assumptions, primarily the discount rate, which is based on an estimate of our marginal, weighted average cost of capital, and forecasted cash flows. We test the reasonableness of the conclusions of our step one impairment testing using a range of discount rates and a range of assumptions for long term cash flows.

Impairment of Long Lived Assets

We evaluate property, plant and equipment and other long lived assets for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is required to be recognized if the carrying amount of the asset exceeds the undiscounted future net cash flows associated with that asset.

We determine the fair value of a long-lived asset (asset group) by applying the approaches prescribed under the fair value measurement accounting framework. Generally, the market approach and income approach are most relevant in the fair value measurement of our long-lived assets; however, due to the lack of available relevant observable market information in many circumstances, we often rely on the income approach. We develop the underlying assumptions consistent with our internal budgets and forecasts for such valuations. We use an internal discounted cash flow valuation model, or the DCF model, based on the principles of present value techniques, to estimate the fair value of our long-lived assets under the income approach. The DCF model estimates fair value by discounting AVANGRID's cash flow forecasts at an appropriate discount rate. Management applies considerable judgment in selecting several input assumptions during the development of our internal budgets and cash flow forecasts. Examples of the input assumptions that our budgets and forecasts are sensitive to include macroeconomic factors such as growth rates, industry demand, inflation, power prices and commodity prices. Whenever appropriate, management obtains these input assumptions from observable market data sources and extrapolates the market information if an input assumption is not observable for the entire forecast period. Many of these input assumptions are dependent on other economic assumptions, which are often derived from statistical economic models with inherent limitations such as estimation differences. Further, several input assumptions are based on historical trends which often do not recur. The input assumptions most significant to our budgets and cash flows are based on expectations of macroeconomic factors which may be volatile. The use of a different set of input assumptions could produce significantly different budgets and cash flow forecasts.

A considerable amount of judgment is also applied in the estimation of the discount rate used in the DCF model. To the extent practical, inputs to the discount rate are obtained from market data sources.

Fair value of a long-lived asset (asset group) is sensitive to both input assumptions related to our budgets and cash flow forecasts and the discount rate. Further, estimates of long-term growth and terminal value are often critical to the fair value determination. As part of the impairment evaluation process, management analyzes the sensitivity of fair value to various underlying assumptions. The level of scrutiny increases as the gap between fair value and carrying amount decreases. Changes in any of these assumptions could result in management reaching a different conclusion regarding the potential impairment, which could be material. Our impairment evaluations inherently involve uncertainties from uncontrollable events that could positively or negatively impact the anticipated future economic and operating conditions.

Capitalization and Recovery of Project Development Costs

Development and construction of our various facilities are carried out in stages. Project costs are expensed during early stage development activities. Once certain development milestones are achieved and it is probable that we can obtain future economic benefits from a project, salaries and wages for persons directly involved in the project, and engineering, permits, licenses, wind measurement and insurance costs are capitalized.

Development projects in construction are reviewed periodically for any indications of impairment. Furthermore, we assess the recoverability of development costs that have been capitalized using several criteria to assess economic recoverability and probability of future economic benefit including energy prices, government regulation, and the internal rate of return to be earned on the project. If based on these factors, we conclude that we will not proceed with the related project, or that the project is no longer viable, the cost of the project is expensed in full.

Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in either the principal market for the asset or liability, or, in the absence of a principal market, in the most advantageous market for the asset or liability.

We use valuation techniques and methodologies that maximize the use of observable inputs and minimize the use of unobservable inputs. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices are not available, valuation models are applied to estimate the fair value using the available observable inputs. The valuation techniques involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

To increase consistency and enhance disclosure of the fair value of financial instruments, the fair value measurement standard includes a fair value hierarchy to prioritize the inputs used to measure fair value into three categories. An asset or liability's level within the fair value hierarchy is based on the lowest level of input significant to the fair value measurement, where Level 1 is the highest and Level 3 is the lowest.

Income Tax

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2018 tax period, which is consistent with the 2017 and 2016 tax periods.

For the 2015 tax year, AVANGRID filed a consolidated federal income tax return, which included the UIL taxable income or loss for the period from December 17, 2015 to December 31, 2015. UIL filed a separate consolidated federal income tax return for the period from January 1, 2015 to December 16, 2015.

AVANGRID filed a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries (excluding UIL), including ARHI, which are 80% or more owned for the 2014 tax period. UIL filed separate consolidated federal income tax returns including the income or loss of its subsidiaries for all tax years including the filed 2014 return.

AVANGRID (excluding ARHI and UIL) and ARHI each filed separate consolidated federal income tax returns that included the taxable income or loss of all their respective subsidiaries, which are 80% or more owned, for all tax periods prior to 2013.

We use the liability method of accounting for income taxes. Deferred tax assets and liabilities reflect the expected future tax consequences based on enacted tax law of temporary differences between the tax basis of assets and liabilities and their financial reporting amounts. In accordance with U.S. GAAP for regulated industries, our regulated subsidiaries have established a regulatory asset for the net revenue requirements to be recovered from customers for the related future tax expense associated with certain of these temporary differences. The investment tax credits are deferred when used and amortized over the estimated lives of the related assets.

Deferred tax assets and liabilities are measured at the expected tax rate for the period in which the asset or liability will be realized or settled, based on legislation enacted as of the balance sheet date. Changes in deferred income tax assets and liabilities that are associated with components of other comprehensive income, or OCI, are charged or credited directly to OCI. Significant judgment is required in determining income tax provisions and evaluating tax positions. Our tax positions are evaluated under a more-likely-than-not recognition threshold before they are recognized for financial reporting purposes. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that all or a portion of a tax benefit will not be realized.

The excess of state franchise tax computed as the higher of a tax based on income or a tax based on capital is recorded in "Taxes other than income taxes" and "Taxes accrued" in the accompanying consolidated financial statements.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties. Interest and penalties related to unrecognized tax benefits are recorded within "Interest expense, net of capitalization" and "Other income and (expense)" of the consolidated statements of income.

Uncertain tax positions have been classified as noncurrent unless expected to be paid within one year. Our policy is to recognize interest and penalties on uncertain tax positions as a component of interest expense in the consolidated statements of income.

Federal production tax credits applicable to our renewable facilities, that are not part of a tax equity financing arrangement, are shown in the financial statements as a reduction in income tax expense and as a reduction in deferred income tax liabilities.

Our income tax expense, deferred tax assets and liabilities and liabilities for unrecognized tax benefits reflect management's best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required in determining the consolidated income tax components of the financial statements.

Upon enactment of the Tax Act, the Company remeasured its existing deferred income tax balances as of December 31, 2017 to reflect the decrease in the corporate income tax rate from 35% to 21%, which resulted in a material decrease to its net deferred income tax liability balances. In connection with the Tax Act, the U.S. Securities and Exchange Commission issued guidance in Staff Accounting Bulletin 118, or SAB 118, which clarified accounting for income taxes under ASC 740, Income Taxes, if information was not yet available or complete and provided up to a one year measurement period in which to complete the required analyses and accounting. Following SAB 118 guidance, the Company recorded provisional income tax amounts as of December 31, 2017 related to the Tax Act based on reasonable estimates that could be determined at that time. As of December 31, 2018, the Company has completed the measurement and accounting of certain effects of the Tax Act which have been reflected in the December 31, 2018 financial statements.

Off-Balance Sheet Arrangements

December 31, 2018, we had approximately \$2.8 billion of standby letters of credit, surety bonds, guarantees and indemnifications outstanding, which include guarantees of our own performance. These instruments provide financial assurance to the business and trading partners of AVANGRID and its subsidiaries in their normal course of business. The instruments only represent liabilities if AVANGRID or its subsidiaries fail to deliver on contractual obligations. We therefore believe it is unlikely that any material liabilities associated with these instruments will be incurred and, accordingly, as of December 31, 2018, neither we nor our subsidiaries have any liabilities recorded for these instruments.

New Accounting Standards

For discussion of new accounting pronouncements that affect AVANGRID, refer to Note 3 to our consolidated financial statements contained in this Annual Report on Form 10-K.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk.*

We are exposed to risks associated with adverse changes in commodity prices, interest rates and equity prices. Financial instruments and positions affecting our financial statements described below are held primarily for purposes other than trading. Market risk is measured as the potential loss in fair value resulting from hypothetical reasonably possible changes in commodity prices, interest rates or equity prices over the next year. Management has established risk management policies to monitor and manage such market risks, as well as credit risks.

Commodity Price Risk

Renewables faces a number of energy market risk exposures, including fixed price, basis (both location and time) and heat rate risk.

Long-term supply contracts reduce our exposure to market fluctuations. We have electricity commodity purchases and sales contracts for energy (physical contracts) that have been designated and qualify for the normal purchase normal sale exemption in accordance with the accounting requirements concerning derivative instruments and hedging activities.

Renewables merchant wind facilities are subject to fixed price power risk, which is hedged with fixed price power trades. Its combined cycle power plant is subject to heat rate risk, which is hedged with fixed price power and fixed price gas and basis positions. Those measures mitigate our commodity price exposure, but do not completely eliminate it. Some long-term hedges do not qualify for hedge accounting. This introduces some MtM volatility into yearly profit and losses accounts.

Renewables uses a Monte Carlo simulation value-at-risk, or VaR, technique to measure and control the level of risk it undertakes. VaR is a statistical technique used to measure and quantify the level of risk within a portfolio over a given timeframe and within a specified level of confidence. VaR is primarily composed of three variables: the measured amount of potential loss, the probability of not exceeding the amount of potential loss and the portfolio holding period.

Renewables uses a 99% probability level over a five-day holding period, indicating that it can be 99% confident that losses over five days would not exceed that value. The average VaR for 2018 was \$18.7 million compared to a 2017 average of \$15.0 million.

As noted above, VaR is a statistical technique and is not intended to be a guarantee of the maximum loss Renewables may incur.

Networks also experiences commodity price risk, due to volatility in the wholesale energy markets. Networks manages that risk through a combination of regulatory mechanisms, such as the pass-through of the market price of electricity and natural gas to customers, and through comprehensive risk management processes. Those measures mitigate our commodity price exposure, but do not completely eliminate it. Networks also uses electricity contracts as deemed appropriate, both physical and financial, to manage fluctuations in electricity commodity prices in order to provide price stability to customers. It also uses natural gas futures and forwards to manage fluctuations in natural gas commodity prices in order to provide price stability to customers. It includes the cost or benefit of those contracts in the amount expensed for electricity or natural gas purchased when the related electricity is sold.

Because all gains or losses on Networks' commodity contracts will ultimately be passed on to retail customers, no sensitivity analysis is performed for Networks. Further information regarding the derivative financial instruments and sensitivity analysis is provided in Notes 11 and 12 of our consolidated financial statements contained in this Annual Report on Form 10-K.

Interest Rate Risk

Total debt outstanding, including commercial paper of \$589 million, was \$6.3 billion at December 31, 2018, of which \$589 million had a floating interest rate; a change of 25 basis points in this interest rate would result in an interest expense fluctuation of approximately \$1.5 million annually. The estimated fair value of our long-term debt at December 31, 2018 was \$5.9 billion, in comparison to a book value of \$5.8 billion.

AVANGRID uses financial derivative instruments from time to time to alter its fixed and floating rate debt balances or to hedge fixed rates in anticipation of future fixed rate issuances. In the second quarter of 2018, AVANGRID entered into two forward interest rate swaps, with a total notional amount of \$500 million, to hedge the issuance of forecasted fixed rate debt in 2019. The forward interest rate swaps are designated and qualify as cash flow hedges, have mandatory termination dates of June 28, 2019, and are expected to be settled upon the forecasted debt issuance. The effective portion of the gain or loss on the interest rate swap derivative is reported as a component of accumulated OCI and reclassified into earnings in the period or periods during which related interest payments of the forecasted debt will occur. Further information regarding the interest rate derivative financial instruments is provided in Note 12 of our consolidated financial statements contained in this Annual Report on Form 10-K. There were no interest rate derivative contracts outstanding at December 31, 2017.

Pension and Post-Retirement Plans

We provide pensions and other post-retirement benefits for a significant number of employees, former employees and retirees. In applying relevant accounting policies, we have made critical estimates related to actuarial assumptions, including assumptions of expected returns on plan assets, discount rates, health care cost trends and future compensation. The cost of pension and other post-retirement benefits in future periods will depend on actual returns on plan assets, assumptions for future periods, contributions and benefit experience. In 2018, we contributed \$48 million to our pension plans. Our contribution to the pension plans in 2019 is expected to be approximately \$62 million.

The discount rate used in accounting for pension and other benefit obligations in 2018 ranged from 3.63% to 4.09%. The expected rate of return on plan assets for qualified pension benefits in 2018 ranged from 5.50% to 7.40%. The following tables reflect the estimated sensitivity associated with a change in certain significant actuarial assumptions (each assumption change is presented mutually exclusive of other assumption changes):

	Change in Assumption	Impact on 2018 Pension Expense Increase (Decrease)	
		Pension Benefits	Post Retirement
		(in millions)	
Increase in discount rate	50 basis points	\$ (18)	\$ (2)
Decrease in discount rate	50 basis points	\$ 18	\$ 2
Increase in return on plan asset	50 basis points	\$ (14)	\$ (1)
Decrease in return on plan asset	50 basis points	\$ 14	\$ 1

Credit Risk

This risk is defined as the risk that a third party will not fulfill its contractual obligations and, therefore, generate losses for AVANGRID. Networks is exposed to nonpayment of customer bills. Standard debt recovery procedures are in place, in accordance

with best practices and in compliance with applicable state regulations and embedded tariff mechanisms to manage uncollectable expense. Our credit department, based on guidelines approved by our board, establishes and manages its counterparty credit limits. We have developed a matrix of unsecured credit thresholds that are dependent on a counterparty's or the counterparty guarantor's applicable credit rating. Credit risk is mitigated by contracting with multiple counterparties and limiting exposure to individual counterparties or counterparty families to clearly defined limits based upon the risk of counterparty default. At the counterparty level, we employ specific eligibility criteria in determining appropriate limits for each prospective counterparty and supplement this with netting and collateral agreements, including margining, guarantees, letters of credit and cash deposits, where appropriate.

Renewables is also exposed to credit risk through its energy management operations. We manage counterparty credit risk for our subsidiaries with energy management through established policies, including counterparty credit limits, and in some cases credit enhancements, such as cash prepayments, letters of credit, cash and other collateral and guarantees.

Some relevant considerations when assessing the credit risk exposure of the energy management are as follows:

- Operations are primarily concentrated in the energy industry.
- Trade receivables and other financial instruments are predominately with energy, utility and financial services related companies, as well as municipalities, cooperatives and other trading companies in the U.S., although there is a growing segment of long term power sales (PPAs) signed with commercial and industrial customers of high credit quality.
- Overall credit risk is managed through established credit policies by a Credit Risk Management group that is independent of the energy management function.
- Prospective and existing customers are reviewed for creditworthiness based upon established standards, with customers not meeting minimum standards providing various credit enhancements or secured payment terms, such as guarantees, letters of credit or the posting of margin cash collateral.
- Master netting agreements are used, where appropriate, to offset cash and non-cash gains and losses arising from derivative instruments with the same counterparty.

Based on our policies and risk exposures related to credit risk from its management in Renewables, we do not anticipate a material adverse effect on our financial statements as a result of counterparty nonperformance. As of December 31, 2018, approximately 97% of our energy management counterparty credit risk exposure is associated with companies that have investment grade credit ratings.

The following table displays the credit quality of our energy management counterparties as of December 31, 2018:

	Credit Exposure Before Cash Collateral	Cash Collateral	Net Credit Exposure
	<i>(in millions)</i>		
A- and Greater	\$ 1,904	\$ —	\$ 1,904
BBB+ and BBB	345	—	345
BBB- (5)	22	—	22
Total Investment Grade(1) (5)	2,271	—	2,271
Non-investment grade(2) (3) (4)	72	11	61
Total	\$ 2,343	\$ 11	\$ 2,332

- (1) This category includes counterparties with minimum credit ratings of Baa3 assigned by Moody's and BBB- assigned by Standard & Poor's, if rated by both agencies. The five largest counterparty exposures, combined, for this category represented approximately 37.6% of the total gross credit exposure.
- (2) This category includes one counterparty with a credit ratings that is below investment grade which represents less than 0.1% of the total gross credit exposure.
- (3) This category includes counterparties that have not been rated by Moody's or Standard & Poor's, but are considered investment grade based on our internal evaluation of the counterparty's creditworthiness. The five largest counterparty exposures, combined, represented approximately 0.5% of the total gross credit exposure.
- (4) This category includes counterparties that have not been rated by Moody's or Standard & Poor's, and are considered non-investment grade based on our internal evaluation of the counterparty's creditworthiness. The five largest counterparty exposures, combined, represented approximately 2.4% of the total gross credit exposure.
- (5) This category includes exposure under four separate agreements, the counterparty of which filed for bankruptcy under Chapter 11 subsequent to December 31, 2018. The current combined estimated termination value under the four agreements represents less than 2% of the total gross credit exposure.

Treasury Management (including Liquidity Risk)

We manage our overall liquidity position as part of the group of companies controlled by the Iberdrola Group, and are a party to a liquidity agreement with a financial institution, along with certain members of the Iberdrola Group. We optimize our liquidity within the United States through a series of arms-length intercompany lending arrangements with our subsidiaries and among the regulated utilities to provide for lending of surplus cash to subsidiaries with liquidity needs, subject to the limitation

that the regulated utilities may not lend to unregulated affiliates. These arrangements minimize overall short-term funding costs and maximize returns on the temporary cash investments of the subsidiaries. We also have a bi-lateral demand note agreement with a Canadian affiliate of the Iberdrola Group. We have the capacity to borrow from third parties through a \$2 billion commercial paper program, the \$2.5 billion AVANGRID Credit Facility which backstops the commercial paper program and \$0.5 billion from an Iberdrola Group Credit Facility. For more information, see the section entitled “—Liquidity and Capital Resources—Liquidity Resources” of this Annual Report on Form 10-K.

Networks

Networks’ regulated utilities fund their operations independently, except to the extent that they borrow on a short-term basis from unregulated affiliates and from each other when circumstances warrant in order to minimize short-term funding costs and maximize returns on temporary cash investments. The regulated utilities are prohibited by regulatory order from lending to unregulated affiliates. Networks’ regulated utilities each independently access the investment grade debt capital markets for long-term funding and each are borrowers under the AVANGRID Credit Facility described in “—Liquidity and Capital Resources—Liquidity Resources” of this Annual Report on Form 10-K.

Networks’ regulated utilities are subjected by regulatory order to certain credit quality maintenance measures, including minimum equity ratios, that are linked to the level of equity assumed in the establishment of revenue requirements. The companies maintain their equity ratios at or above the minimum through dividend declarations or, when necessary, capital contributions from AVANGRID.

Renewables

Prior to becoming a subsidiary of AVANGRID in November 2013, Renewables was principally funded by equity contributions from Iberdrola, S.A. The last such equity contribution of \$800 million was made in February 2013. Renewables has also raised a small percentage of its capital through tax equity partnerships, project loans and sale-leaseback arrangements. The obligations created under the tax equity financing arrangements effective January 1, 2018, are recorded as a noncontrolling interest. The outstanding balance of leases was \$52 million at December 31, 2018.

Presently, Renewables is a party to a cash pooling arrangement with Avangrid, Inc. All Renewables revenues are concentrated in and all Renewables disbursements are made from Avangrid, Inc. Net cash surpluses or deficits at Renewables are recorded as intercompany receivables or payables and these balances are periodically reduced to zero through dividends or capital contributions. In July 2018, Renewables recorded a net dividend of \$758 million to Avangrid, Inc. to zero out account balances that had principally accumulated prior to June 2018.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors

Avangrid, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Avangrid, Inc. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2018, and the related notes and financial statement schedule I (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 1, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2017.

New York, New York
March 1, 2019

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors

Avangrid, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Avangrid, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2018, and the related notes and financial statement schedule I (collectively, the consolidated financial statements), and our report dated March 1, 2019 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

New York, New York
March 1, 2019

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Avangrid, Inc.

We have audited the accompanying consolidated statements of income, comprehensive income, changes in equity and cash flows of Avangrid, Inc. and subsidiaries (the "Company") for the year ended December 31, 2016. Our audit also included the financial statement schedule listed in the Index at Item 15(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated results of operations of Avangrid, Inc. and subsidiaries and its cash flows for the year ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ Ernst & Young LLP

New York, New York
March 10, 2017

except for the paragraph in Note 2 titled Previously Reported Immaterial Corrections to Prior Periods, as to which the date is
March 26, 2018

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Income

Years Ended December 31,	2018	2017	2016
(Millions, except for number of shares and per share data)			
Operating Revenues	\$ 6,478	\$ 5,963	\$ 6,018
Operating Expenses			
Purchased power, natural gas and fuel used	1,653	1,338	1,286
Operations and maintenance	2,248	2,091	2,206
Loss from assets held for sale	16	642	—
Depreciation and amortization	855	824	804
Taxes other than income taxes, net	579	563	528
Total Operating Expenses	5,351	5,458	4,824
Operating Income	1,127	505	1,194
Other Income and (Expense)			
Other (expense) income	(66)	(62)	76
Earnings from equity method investments	10	(40)	7
Interest expense, net of capitalization	(303)	(280)	(268)
Income Before Income Tax	768	123	1,009
Income tax expense (benefit)	170	(259)	377
Net Income	598	382	632
Less: Net income attributable to noncontrolling interests	3	1	—
Net Income Attributable to Avangrid, Inc.	\$ 595	\$ 381	\$ 632
Earnings Per Common Share, Basic	\$ 1.92	\$ 1.23	\$ 2.04
Earnings Per Common Share, Diluted	\$ 1.92	\$ 1.23	\$ 2.04
Weighted-average Number of Common Shares Outstanding:			
Basic	309,503,319	309,502,861	309,512,553
Diluted	309,712,628	309,661,883	309,817,322

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income

Years Ended December 31,	2018	2017	2016
(Millions)			
Net Income	\$ 598	\$ 382	\$ 632
Other Comprehensive (Loss) Income, Net of Tax			
Gain on defined benefit plans, net of income taxes of \$1.1 and \$4.3, respectively	3	—	7
Amortization of pension cost for nonqualified plans, net of income taxes of \$0.3, \$0.2 and \$0.4, respectively	1	1	1
Unrealized (losses) gains during the year on derivatives qualifying as cash flow hedges, net of income taxes of \$(6.6), \$15.2 and \$(15.8), respectively	(21)	25	(26)
Reclassification to net income of (gains) losses on cash flow hedges, net of income taxes of \$(6.5), \$9.3 and \$(11.0), respectively	(8)	14	(16)
Total Other Comprehensive (Loss) Income, Net of Tax	(25)	40	(34)
Comprehensive Income	573	422	598
Less: Net income attributable to noncontrolling interests	3	1	—
Comprehensive Income Attributable to Avangrid, Inc.	\$ 570	\$ 421	\$ 598

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Balance Sheets

As of December 31,	2018	2017
(Millions)		
Assets		
Current Assets		
Cash and cash equivalents	\$ 36	\$ 41
Accounts receivable and unbilled revenues, net	1,142	1,040
Accounts receivable from affiliates	6	10
Derivative assets	16	18
Fuel and gas in storage	109	99
Materials and supplies	126	115
Prepayments and other current assets	229	273
Assets held for sale	—	357
Regulatory assets	299	307
Total Current Assets	1,963	2,260
Total Property, Plant and Equipment (\$726 and \$1,303 related to VIEs, respectively)	23,459	22,669
Equity method investments	366	352
Other investments	58	63
Regulatory assets	2,640	2,738
Deferred income taxes regulatory	6	—
Other Assets		
Goodwill	3,127	3,127
Intangible assets	323	328
Derivative assets	63	63
Other	162	71
Total Other Assets	3,675	3,589
Total Assets	\$ 32,167	\$ 31,671

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Balance Sheets

As of December 31,	2018	2017
(Millions, except share information)		
Liabilities		
Current Liabilities		
Current portion of debt	\$ 394	\$ 183
Tax equity financing arrangements - VIEs	—	38
Notes payable	587	757
Notes payable to affiliates	—	29
Interest accrued	62	57
Accounts payable and accrued liabilities	1,132	1,071
Accounts payable to affiliates	58	89
Dividends payable	136	134
Taxes accrued	59	89
Derivative liabilities	44	22
Liabilities held for sale	—	137
Other current liabilities	327	330
Regulatory liabilities	205	178
Total Current Liabilities	3,004	3,114
Regulatory liabilities	3,223	3,239
Deferred income taxes regulatory	—	13
Other Non-current Liabilities		
Deferred income taxes	1,530	1,452
Deferred income	1,385	1,446
Pension and other postretirement	1,102	1,049
Tax equity financing arrangements - VIEs	—	60
Derivative liabilities	97	92
Asset retirement obligations	217	196
Environmental remediation costs	339	358
Other	499	360
Total Other Non-current Liabilities	5,169	5,013
Non-current debt	5,368	5,196
Total Non-current Liabilities	13,760	13,461
Total Liabilities	16,764	16,575
Commitments and Contingencies	—	—
Equity		
Stockholders' Equity:		
Common stock, \$.01 par value, 500,000,000 shares authorized, 309,752,140 and 309,670,932 shares issued; 309,005,272 shares outstanding, respectively	3	3
Additional paid-in capital	13,657	13,653
Treasury stock	(12)	(8)
Retained earnings	1,528	1,475
Accumulated other comprehensive loss	(72)	(46)
Total Stockholders' Equity	15,104	15,077
Noncontrolling interests	299	19
Total Equity	15,403	15,096
Total Liabilities and Equity	\$ 32,167	\$ 31,671

The accompanying notes are an integral part of our consolidated financial statements.

Consolidated Statements of Cash Flows
Avangrid, Inc. and Subsidiaries
Consolidated Statements of Cash Flows

Years Ended December 31,	2018	2017	2016
(Millions)			
Cash Flow from Operating Activities:			
Net income	\$ 598	\$ 382	\$ 632
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	855	824	804
Loss from assets held for sale	16	642	—
Accretion expenses	12	10	10
Regulatory assets/liabilities amortization	64	47	49
Regulatory assets/liabilities carrying cost	9	15	13
Pension cost	123	112	110
Stock-based compensation	2	1	1
Earnings from equity method investments	(10)	40	(7)
Amortization of debt premium	(4)	(5)	(28)
Gain on disposal of property and equity method investment	(10)	(2)	(33)
Unrealized losses (gains) on marked to market derivative contracts	22	17	(4)
Deferred taxes	151	(251)	375
Other non-cash items	(25)	(69)	(23)
Changes in operating assets and liabilities:			
Accounts receivable and unbilled revenues	(97)	(48)	(158)
Inventories	(14)	12	46
Other assets	(54)	(3)	107
Cash distribution from equity method investments	14	16	14
Accounts payable and accrued liabilities	85	81	184
Other liabilities	103	(52)	(447)
Taxes accrued	30	41	(3)
Regulatory assets/liabilities	(79)	(47)	(81)
Net Cash Provided by Operating Activities	1,791	1,763	1,561
Cash Flow from Investing Activities:			
Capital expenditures	(1,787)	(2,416)	(1,707)
Contributions in aid of construction	60	57	69
Proceeds from sale of equity method and other investment	186	—	57
Proceeds from sale of property, plant and equipment	18	12	50
Receipts from affiliates	—	—	6
Cash distribution from equity method investments	4	4	6
Other investments and equity method investments, net	(45)	2	(8)
Net Cash Used in Investing Activities	(1,564)	(2,341)	(1,527)
Cash Flow from Financing Activities:			
Non-current note issuances	597	888	493
Repayments of non-current debt	(217)	(305)	(355)
(Repayments) proceeds of other short-term debt, net	(201)	625	(2)
Repayments of capital leases	(13)	(33)	(12)
Payments on tax equity financing arrangements	—	(113)	(88)
Repurchase of common stock	(4)	(3)	(5)
Issuance of common stock	(2)	(1)	(2)
Distributions to noncontrolling interests	(76)	—	—
Contributions from noncontrolling interests	223	5	—
Dividends paid	(537)	(535)	(401)
Net Cash (Used in) Provided by Financing Activities	(230)	528	(372)
Net Decrease in Cash, Cash Equivalents and Restricted Cash	(3)	(50)	(338)
Cash, Cash Equivalents and Restricted Cash, Beginning of Year	46	96	434
Cash, Cash Equivalents and Restricted Cash, End of Year	\$ 43	\$ 46	\$ 96
Supplemental Cash Flow Information			
Cash paid for interest, net of amounts capitalized	\$ 224	\$ 202	\$ 229

Cash (refund) payment for income taxes	\$	(13)	\$	13	\$	9
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The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Changes in Equity

Avangrid, Inc. Stockholders									
(Millions, except for number of shares)	Number of shares (*)	Common Stock	Additional paid-in capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity	Non-controlling Interests	Total Equity
Balances, December 31, 2015	308,864,609	\$ 3	\$ 13,653	\$ —	\$ 1,533	\$ (52)	\$ 15,137	\$ 13	\$ 15,150
Net income	—	—	—	—	632	—	632	—	632
Other comprehensive loss, net of tax of \$(22.1)	—	—	—	—	—	(34)	(34)	—	(34)
Comprehensive income									598
Dividends declared, \$1.728/share	—	—	—	—	(535)	—	(535)	—	(535)
Release of common stock held in trust	135,014	—	—	—	—	—	—	—	—
Issuance of common stock	109,357	—	(2)	—	—	—	(2)	—	(2)
Repurchase of common stock	(115,831)	—	—	(5)	—	—	(5)	—	(5)
Stock-based compensation	—	—	2	—	—	—	2	—	2
Balances, December 31, 2016	308,993,149	3	13,653	(5)	1,630	(86)	15,195	13	15,208
Net income	—	—	—	—	381	—	381	1	382
Other comprehensive income, net of tax of \$24.7	—	—	—	—	—	40	40	—	40
Comprehensive income									422
Dividends declared, \$1.728/share	—	—	—	—	(535)	—	(535)	—	(535)
Release of common stock held in trust	5,649	—	—	—	—	—	—	—	—
Issuance of common stock	70,493	—	(1)	—	—	—	(1)	—	(1)
Repurchase of common stock	(64,019)	—	—	(3)	—	—	(3)	—	(3)
Stock-based compensation	—	—	1	—	—	—	1	—	1
Transaction with noncontrolling interests	—	—	—	—	(1)	—	(1)	5	4
Balances, December 31, 2017	309,005,272	3	13,653	(8)	1,475	(46)	15,077	19	15,096
Adoption of accounting standards	—	—	—	—	(3)	(1)	(4)	140	136
Net income	—	—	—	—	595	—	595	3	598
Other comprehensive loss, net of tax of \$(11.7)	—	—	—	—	—	(25)	(25)	—	(25)
Comprehensive income									573
Dividends declared, \$1.744/share	—	—	—	—	(540)	—	(540)	—	(540)
Issuance of common stock	81,208	—	1	—	(3)	—	(2)	—	(2)
Repurchase of common stock	(81,208)	—	—	(4)	—	—	(4)	—	(4)
Stock-based compensation	—	—	3	—	—	—	3	—	3
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(76)	(76)
Contributions from noncontrolling interests	—	—	—	—	4	—	4	213	217
Balances, December 31, 2018	309,005,272	\$ 3	\$ 13,657	\$ (12)	\$ 1,528	\$ (72)	\$ 15,104	\$ 299	\$ 15,403

(*) Par value of share amounts is \$.01

The accompanying notes are an integral part of our consolidated financial statements.

Note 1. Background and Nature of Operations

Avangrid, Inc., formerly Iberdrola USA, Inc. (AVANGRID, we or the Company), is an energy services holding company engaged in the regulated energy distribution business through its principal subsidiary Avangrid Networks, Inc. (Networks) and in the renewable energy generation business through its principal subsidiary, Avangrid Renewables Holding, Inc. (ARHI). ARHI in turn holds subsidiaries including Avangrid Renewables, LLC (Renewables). Iberdrola, S.A. (Iberdrola), a corporation organized under the laws of the Kingdom of Spain, owns 81.5% of the outstanding common stock of AVANGRID. The remaining outstanding shares are publicly traded on the New York Stock Exchange and owned by various shareholders. AVANGRID was organized in 1997 as NGE Resources, Inc. under the laws of New York as the holding company for its principal operating utility companies.

In December 2017, management committed to a plan to sell the gas storage and trading businesses because they represented non-core businesses that were not aligned with our strategic objectives. At that time, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC (CCI). On May 1, 2018, the Company closed a transaction to sell Enstor Gas, LLC (Gas), which operated AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC. Additional details on held for sale classification are provided in Note 26 to our consolidated financial statements.

Note 2. Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with U.S. GAAP and are presented on a consolidated basis, and therefore include the accounts of AVANGRID and its consolidated subsidiaries, Networks and ARHI. All intercompany transactions and accounts have been eliminated in all periods presented.

Previously Reported Immaterial Corrections to Prior Periods

As previously reported in the consolidated financial statements included in the 2017 Annual Report on Form 10-K, during 2017 we identified immaterial corrections to prior periods related to our deferred income tax liabilities associated with our tax equity financing arrangements in our Renewables reportable segment. We evaluated the effects of these corrections on our previously-issued consolidated financial statements, individually and in the aggregate, and concluded that no prior period was materially misstated. Accordingly, we revised our consolidated financial statements for the prior periods presented in the 2017 Annual Report on Form 10-K.

Note 3. Summary of Significant Accounting Policies, New Accounting Pronouncements and Use of Estimates

Significant Accounting Policies

We consider the following policies to be the most critical in understanding the judgments that are involved in preparing our consolidated financial statements:

(a) Principles of consolidation

We consolidate the entities in which we have a controlling financial interest, after the elimination of intercompany transactions. Investments in common stock where we have the ability to exercise significant influence, but not control, are accounted for using the equity method of accounting.

(b) Revenue recognition

We recognize revenues when we transfer control of promised goods or services to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. Refer to Note 4 for further details.

(c) Regulatory accounting

We account for our regulated utilities operations in accordance with the authoritative guidance applicable to entities with regulated operations that meet the following criteria: (i) rates are established or approved by a third-party regulator; (ii) rates are designed to recover the entity's cost of providing regulated services or products and; (iii) there is a reasonable expectation that rates are set at levels that will recover the entity's costs and be collected from customers. Regulatory assets represent incurred costs that have been deferred because of their probable future recovery from customers through regulated rates. Regulatory liabilities represent:

(i) the excess recovery of costs or accrued credits that have been deferred because it is probable such amounts will be returned to customers through future regulated rates; or (ii) billings in advance of expenditures for approved regulatory programs.

Regulatory assets and liabilities are amortized and the related expense or revenue is recognized in the consolidated statements of income consistent with the recovery or refund included in customer rates. We believe that it is probable that our currently recorded regulatory assets and liabilities will be recovered or settled in future rates.

(d) Business combinations and assets acquisitions

We apply the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair value of the assets transferred, the liabilities incurred by the acquirer to former owners of acquiree and the equity interests issued by the acquirer. Acquisition related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the consideration transferred over the fair value of the identifiable net assets acquired is recorded as goodwill. We recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

In contrast to a business combination, we classify a transaction as an asset acquisition when substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets or otherwise does not meet the definition of a business.

(e) Noncontrolling interests

Noncontrolling interests represent the portion of our net income (loss), comprehensive income (loss) and net assets that is not allocable to us and is calculated based on our ownership percentage. For holdings where the economic allocations are not based pro rata on ownership percentages, we use the balance sheet-oriented hypothetical liquidation at book value (HLBV) method, to reflect the substantive profit sharing arrangement.

Under the HLBV method, the amounts reported as "Noncontrolling interests" and "Net income (loss) attributable to noncontrolling interests" in the consolidated balance sheets and consolidated statements of income represent the amounts the noncontrolling interest would hypothetically receive at each balance sheet reporting date under the liquidation provisions of each holding's ownership agreement assuming the net assets of the projects were liquidated at recorded amounts determined in accordance with U.S. GAAP and distributed to the investors. The noncontrolling interest in the statements of income and comprehensive income is determined as the difference in noncontrolling interests in the consolidated balance sheets at the start, or at inception of the noncontrolling interest if applicable, and end of each reporting period, after taking into account any capital transactions between the holdings and the third party. The noncontrolling interest balances in the holdings are reported as a component of equity in the consolidated balance sheets.

(f) Equity method investments

We account for joint ventures that do not meet consolidation criteria using the equity method. We reflect earnings (losses) recognized under the equity method in the consolidated statements of income as "Earnings (losses) from equity method investments." We recognize dividends received from joint ventures as a reduction in the carrying amount of the investment and not as dividend income. We assess and record an impairment of our equity method investments in earnings for a decline in value that is determined to be other than temporary (OTTI).

(g) Goodwill and other intangible assets

Goodwill represents future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred, the fair value of any noncontrolling interest and the acquisition date fair value of any previously held equity interest in the acquiree over the fair value of the net identifiable assets acquired and liabilities assumed.

Goodwill is not amortized, but is subject to an assessment for impairment at least annually or more frequently if events occur or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. A reporting unit is an operating segment or one level below an operating segment and is the level at which goodwill is tested for impairment. In assessing goodwill for impairment, we have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary (step zero). If it is determined, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If we bypass step zero or perform the qualitative assessment, but determine that it is more likely than not that its fair value is less than its carrying amount, a quantitative two step fair value based test is performed. Step one compares the fair value of the reporting unit to its carrying amount, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, step two is performed. Step two

requires an allocation of fair value to the individual assets and liabilities using business combination accounting guidance to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than its carrying amount, an impairment loss is recorded as a reduction to goodwill and a charge to operating expenses.

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and impairment losses. The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized on a straight-line basis over the useful economic life, which ranges from four to forty years, and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization expense on intangible assets with finite lives is recognized in the consolidated statements of income as the expense category that is consistent with the function of the intangible assets.

(h) Property, plant and equipment

Property, plant and equipment are accounted for at historical cost. In cases where we are required to dismantle installations or to recondition the site on which they are located, the estimated cost of removal or reconditioning is recorded as an asset retirement obligation (ARO) and an equal amount is added to the carrying amount of the asset.

Development and construction of our various facilities are carried out in stages. Project costs are expensed during early stage development activities. Once certain development milestones are achieved and it is probable that we can obtain future economic benefits from a project, salaries and wages for persons directly involved in the project, and engineering, permits, licenses, wind measurement and insurance costs are capitalized. Development projects in construction are reviewed periodically for any indications of impairment.

Assets are transferred from “Construction work in progress” to “Property, plant and equipment” when they are available for service.

Wind turbine and related equipment costs, other project construction costs and interest costs related to the project are capitalized during the construction period through substantial completion. AROs are recorded at the date projects achieve commercial operation.

The cost of plant and equipment in use is depreciated on a straight-line basis, less any estimated residual value. The main asset categories are depreciated over the following estimated useful lives:

Major class	Asset Category	Estimated Useful Life (years)
Plant	Combined cycle plants	35-75
	Hydroelectric power stations	35-90
	Wind power stations	20-40
	Transport facilities	40-75
	Distribution facilities	5-82
Equipment	Conventional meters and measuring devices	10-41
	Computer software	4-25
Other	Buildings	30-82
	Operations offices	5-75

Networks determines depreciation expense using the straight-line method, based on the average service lives of groups of depreciable property, which include estimated cost of removal, in service at each operating company. Consistent with FERC accounting requirements, Networks charges the original cost of utility plant retired or otherwise disposed of to accumulated depreciation. The Networks composite rates for depreciation were 2.8% of average depreciable property for 2018 and 2.9% for 2017.

We charge repairs and minor replacements to operating expenses, and capitalize renewals and betterments, including certain indirect costs.

Allowance for funds used during construction (AFUDC), applicable to Networks' entities applying regulatory accounting, is a noncash item which represents the allowed cost of capital, including a return on equity (ROE), used to finance construction projects. The portion of AFUDC attributable to borrowed funds is recorded as a reduction of interest expense and the remainder is recorded as other income.

(i) Impairment of long lived assets

We evaluate property, plant and equipment and other long lived assets for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is required to be recognized if the carrying amount of the asset exceeds the undiscounted future net cash flows associated with that asset.

The impairment loss to be recognized is the amount by which the carrying amount of the long lived asset exceeds the asset's fair value. Depending on the asset, fair value may be determined by use of a discounted cash flow model, or DCF.

(j) Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in either the principal market for the asset or liability, or, in the absence of a principal market, in the most advantageous market for the asset or liability.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest. A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset according to its highest and best use, or by selling it to another market participant that would use the asset according to its highest and best use.

We use valuation techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs. All assets and liabilities for which fair value is measured or disclosed in the consolidated financial statements are categorized within the fair value hierarchy based on the transparency of input to the valuation of an asset or liability as of the measurement date.

The three input levels of the fair value hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability either directly or indirectly, for substantially the full term of the contract.
- Level 3 - one or more inputs to the valuation methodology are unobservable or cannot be corroborated with market data.

Categorization within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. Certain investments are not categorized within the fair value hierarchy. These investments are measured based on the fair value of the underlying investments but may not be readily redeemable at that fair value.

(k) Equity investments with readily determinable fair values

We measure equity investments with readily determinable fair values at fair value, with changes in fair value reported in net income.

(l) Derivatives and hedge accounting

Derivatives are recognized on the balance sheets at their fair value, except for certain electricity commodity purchases and sales contracts for both capacity and energy (physical contracts) that qualify for, and are elected under, the normal purchases and normal sales exception. To be a derivative under the accounting standards for derivatives and hedging, an agreement would need to have a notional and an underlying, require little or no initial net investment and could be net settled. Changes in the fair value of a derivative contract are recognized in earnings unless specific hedge accounting criteria are met.

Derivatives that qualify and are designated for hedge accounting are classified as cash flow hedges. For cash flow hedges, the portion of the derivative gain or loss that is effective in offsetting the change in the hedged cash flows of the underlying exposure is deferred in Other Comprehensive Income (OCI) and later reclassified into earnings when the underlying transaction occurs. For all designated and qualifying hedges, we maintain formal documentation of the hedge and effectiveness testing in accordance with the accounting standards for derivatives and hedging. If we determine that the derivative is no longer highly effective as a hedge, hedge accounting will be discontinued prospectively. For cash flow hedges of forecasted transactions, we estimate the future cash flows of the forecasted transactions and evaluate the probability of the occurrence and timing of such transactions. If we determine it is probable that the forecasted transaction will not occur, hedge gains and losses previously recorded in OCI are immediately recognized in earnings.

Changes in conditions or the occurrence of unforeseen events could require discontinuance of the hedge accounting or could affect the timing of the reclassification of gains or losses on cash flow hedges from OCI into earnings. Gains and losses from the ineffective portion of any hedge are recognized in earnings immediately. Changes in the fair value of electric and natural gas hedge contracts are recorded to derivative assets or liabilities with an offset to regulatory assets or regulatory liabilities for our regulated operations.

We offset fair value amounts recognized for derivative instruments and fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral arising from derivative instruments executed with the same counterparty under a master netting arrangement.

(m) Cash and cash equivalents

Cash and cash equivalents comprises cash, bank accounts, and other highly-liquid short-term investments. We consider all highly liquid investments with a maturity date of three months or less when acquired to be cash equivalents and those investments are included in "Cash and cash equivalents." Restricted cash represents cash legally set aside for a specified purpose or as part of an agreement with a third party. Restricted cash is included in "Other non-current assets" on the consolidated balance sheets. Book overdrafts representing outstanding checks in excess of funds on deposit are classified as "Accounts payable and accrued liabilities" on the consolidated balance sheets. Changes in book overdrafts are reported in the operating activities section of the consolidated statements of cash flows.

(n) Accounts receivable and unbilled revenue, net

We record accounts receivable at amounts billed to customers. Certain accounts receivable and payable related to our wholesale activities associated with generation and delivery of electric energy and associated environmental attributes, origination and marketing, natural gas storage, hub services, and energy management, are subject to master netting agreements with counterparties, whereby we have the legal right to offset the balances, which are settled on a net basis. Receivables and payables subject to such agreements are presented in our consolidated balance sheets on a net basis.

Accounts receivable include amounts due under Deferred Payment Arrangements (DPA). A DPA allows the account balance to be paid in installments over an extended period of time without interest, which generally exceeds one year, by negotiating mutually acceptable payment terms. The utility companies generally must continue to serve a customer who cannot pay an account balance in full if the customer (i) pays a reasonable portion of the balance; (ii) agrees to pay the balance in installments; and (iii) agrees to pay future bills within thirty days until the DPA is paid in full. Failure to make payments on a DPA results in the full amount of a receivable under a DPA being due. These accounts are part of the regular operating cycle and are classified as short term.

The allowance for bad debts account is established by using both historical average loss percentages to project future losses, and a specific allowance is established for known credit issues. Amounts are written off when we believe that a receivable will not be recovered.

(o) Variable interest entities

An entity is considered to be a variable interest entity (VIE) when its total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support, or its equity investors, as a group, lack the characteristics of having a controlling financial interest. A reporting company is required to consolidate a VIE as its primary beneficiary when it has both the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, and the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE. We evaluate whether an entity is a VIE whenever reconsideration events as defined by the accounting guidance occur (See Note 19).

We have undertaken several structured institutional partnership investment transactions that bring in external investors in certain of our wind farms in exchange for cash. Following an analysis of the economic substance of these transactions, we classify the consideration received at the inception of the arrangement as noncontrolling interests in the consolidated balance sheets. Subsequently, the HLBV method allocates earnings to the noncontrolling interest, which considers the cash and tax benefits provided to the tax equity investors.

(p) Debentures, bonds and bank borrowings

Bonds, debentures and bank borrowings are recorded as a liability equal to the proceeds of the borrowings. The difference between the proceeds and the face amount of the issued liability is treated as discount or premium and is accreted as interest expense or income over the life of the instrument. Incremental costs associated with issuance of the debt instruments are deferred and amortized over the same period as debt discount or premium. Bonds, debentures and bank borrowings are presented net of unamortized discount, premium and debt issuance costs on the consolidated balance sheets.

(q) Inventory

Inventory comprises fuel and gas in storage and materials and supplies. Through our gas trading operations, we own natural gas that is stored in both self-owned and third-party owned underground storage facilities. This gas is recorded as inventory. Injections of inventory into storage are priced at the market purchase cost at the time of injection, and withdrawals of working gas from storage are priced at the weighted-average cost in storage. We continuously monitor the weighted-average cost of gas value to ensure it remains at the lower of cost and net realizable value. Inventories to support gas operations are reported in the consolidated balance sheets within "Fuel and gas in storage."

We also have materials and supplies inventories that are used for construction of new facilities and repairs of existing facilities. These inventories are carried and withdrawn at the lower of cost and net realizable value and reported in the consolidated balance sheets within "Materials and supplies."

Inventory items are combined for the statement of cash flow presentation purposes.

(r) Government grants

Our unregulated subsidiaries record government grants related to depreciable assets within deferred income and subsequently amortize them to earnings consistent with the useful life of the related asset. Our regulated subsidiaries record government grants as a reduction to utility plant to be recovered through rate base, in accordance with the prescribed FERC accounting.

In accounting for government grants related to operating and maintenance costs, amounts receivable are recognized as an offset to expenses in the consolidated statements of income in the period in which the expenses are incurred.

(s) Deferred income

Apart from government grants, we occasionally receive revenues from transactions in advance of the resulting performance obligations arising from the transaction. It is our policy to defer such revenues on the consolidated balance sheets and amortize them to earnings when revenue recognition criteria are met.

(t) Asset retirement obligations

The fair value of the liability for an ARO and a conditional ARO is recorded in the period in which it is incurred, capitalizing the cost by increasing the carrying amount of the related long lived asset. The ARO is associated with our long lived assets and primarily consists of obligations related to removal or retirement of asbestos, polychlorinated biphenyl-contaminated equipment, gas pipeline, cast iron gas mains and electricity generation facilities. The liability is adjusted periodically to reflect revisions to either the timing or amount of the original estimated undiscounted cash flows over time. The liability is accreted to its present value each period and the capitalized cost is depreciated over the useful life of the related asset. Upon settlement, the obligation will be either settled at its recorded amount or a gain or a loss will be incurred. Our regulated utilities defer any timing differences between rate recovery and depreciation expense and accretion as either a regulatory asset or a regulatory liability.

The term conditional ARO refers to an entity's legal obligation to perform an asset retirement activity in which the timing or method of settlement are conditional on a future event that may or may not be within the entity's control. If an entity has sufficient information to reasonably estimate the fair value of the liability for a conditional ARO, it must recognize that liability at the time the liability is incurred.

Our regulated utilities meet the requirements concerning accounting for regulated operations and we recognize a regulatory liability for the difference between removal costs collected in rates and actual costs incurred. These are classified as accrued removal obligations.

(u) Environmental remediation liability

In recording our liabilities for environmental remediation costs the amount of liability for a site is the best estimate, when determinable; otherwise it is based on the minimum liability or the lower end of the range when there is a range of estimated losses. Our environmental liabilities are recorded on an undiscounted basis. Our environmental liability accruals are expected to be paid through the year 2055.

(v) Post-employment and other employee benefits

We sponsor defined benefit pension plans that cover the majority of our employees. We also provide health care and life insurance benefits through various postretirement plans for eligible retirees.

We evaluate our actuarial assumptions on an annual basis and consider changes based on market conditions and other factors. All of our qualified defined benefit plans are funded in amounts calculated by independent actuaries, based on actuarial assumptions proposed by management.

We account for defined benefit pension or other postretirement plans, recognizing an asset or liability for the overfunded or underfunded plan status. For a pension plan, the asset or liability is the difference between the fair value of the plan's assets and the projected benefit obligation. For any other postretirement benefit plan, the asset or liability is the difference between the fair value of the plan's assets and the accumulated postretirement benefit obligation. Our utility operations reflect all unrecognized prior service costs and credits and unrecognized actuarial gains and losses as regulatory assets rather than in other comprehensive income, as management believes it is probable that such items will be recoverable through the ratemaking process. We use a December 31st measurement date for our benefits plans.

We amortize prior service costs for both the pension and other postretirement benefits plans on a straight-line basis over the average remaining service period of participants expected to receive benefits. For NYSEG, RG&E and UIL, we amortize unrecognized actuarial gains and losses over ten years from the time they are incurred as required by the NYPSC, PURA and DPU. For our other companies we use the standard amortization methodology under which amounts in excess of ten percent of the greater of the projected benefit obligation or market related value are amortized over the plan participants' average remaining service to retirement. Our policy is to calculate the expected return on plan assets using the market related value of assets. That value is determined by recognizing the difference between actual returns and expected returns over a five year period.

(w) Income tax

We use the asset and liability method of accounting for income taxes. Deferred tax assets and liabilities reflect the expected future tax consequences, based on enacted tax laws, of temporary differences between the tax basis of assets and liabilities and their financial reporting amounts. In accordance with generally accepted accounting principles for regulated industries, certain of our regulated subsidiaries have established a regulatory asset for the net revenue requirements to be recovered from customers for the related future tax expense associated with certain of these temporary differences. The investment tax credits are deferred when earned and amortized over the estimated lives of the related assets. We also recognize the income tax consequences of intra-entity transfers of assets other than inventory when the transfer occurs.

Deferred tax assets and liabilities are measured at the expected tax rate for the period in which the asset or liability will be realized or settled, based on legislation enacted as of the balance sheet date. Changes in deferred income tax assets and liabilities that are associated with components of OCI are charged or credited directly to OCI. Significant judgment is required in determining income tax provisions and evaluating tax positions. Our tax positions are evaluated under a more-likely-than-not recognition threshold before they are recognized for financial reporting purposes. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that all or a portion of a tax benefit will not be realized. Deferred tax assets and liabilities are classified as non-current in the consolidated balance sheets.

The excess of state franchise tax computed as the higher of a tax based on income or a tax based on capital is recorded in "Taxes other than income taxes" and "Taxes accrued" in the accompanying consolidated financial statements.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties. Interest and penalties related to unrecognized tax benefits are recorded within "Interest expense, net of capitalization" and "Other income and (expense)" of the consolidated statements of income.

Uncertain tax positions have been classified as non-current unless expected to be paid within one year. Our policy is to recognize interest and penalties on uncertain tax positions as a component of interest expense in the consolidated statements of income.

Federal production tax credits applicable to our renewable energy facilities, and not part of a tax equity financing arrangement, are recognized as a reduction in income tax expense with a corresponding reduction in deferred income tax liabilities.

Our income tax expense, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect management's best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required in determining the consolidated income tax components of the financial statements.

The "Tax Cuts and Jobs Act" (the Tax Act) enacted on December 22, 2017 includes significant changes to the Internal Revenue Code of 1986 (as amended, the Code), including amendments which significantly change the taxation of business entities, and includes specific provisions related to regulated public utilities. The most significant change that impacted the Company was the

permanent reduction in the corporate federal income tax rate from 35% to 21%, which required us to measure existing net deferred tax liabilities using the lower rate in the period of enactment, resulting in an income tax benefit. The specific provisions in the Tax Act related to regulated public utilities generally allow for the continued deductibility of interest expense, the elimination of full expensing for tax purposes of certain property acquired after September 27, 2017, and continues certain rate normalization requirements for accelerated depreciation benefits.

Upon enactment of the Company remeasured its existing deferred income tax balances as of December 31, 2017 to reflect the decrease in the corporate income tax rate from 35% to 21%, which resulted in a material decrease to its net deferred income tax liability balances. In connection with the Tax Act, the U.S. Securities and Exchange Commission (SEC) issued guidance in Staff Accounting Bulletin 118, or SAB 118, which clarified accounting for income taxes under Accounting Standards Codification (ASC) 740, Income Taxes, if information was not yet available or complete and provided up to a one year measurement period in which to complete the required analyses and accounting. Following SAB 118 guidance, the Company recorded provisional income tax amounts as of December 31, 2017 related to the Tax Act based on reasonable estimates that could be determined at that time. As of December 31, 2018, the Company has completed the measurement and accounting of certain effects of the Tax Act which have been reflected in the December 31, 2018 financial statements. The Company will continue to monitor guidance and interpretations as they are issued.

(x) Stock-based compensation

Stock-based compensation represents costs related to stock-based awards granted to employees. We account for stock-based payment transactions based on the estimated fair value of awards reflecting forfeitures when they occur. The recognition period for these costs begin at either the applicable service inception date or grant date and continues throughout the requisite service period, or until the employee becomes retirement eligible, if earlier.

(y) Assets held for sale

We record assets held for sale at the lower of the carrying value or fair value less costs to sell. The following criteria are used to determine if an entity or a group of components of an entity is held for sale: (i) management has the authority and commits to a plan to sell the entity; (ii) the entity is available for immediate sale in its present condition; (iii) there is an active program to locate a buyer and the plan to sell the entity has been initiated; (iv) the sale of the entity is probable within one year; (v) the entity is being actively marketed at a reasonable price relative to its current fair value; and (vi) it is unlikely that the plan to sell will be withdrawn or that significant changes to the plan will be made.

In determining the fair value of the assets less costs to sell, we consider factors including recent market analysis studies, recent offers and fair value models. If the estimated fair value less costs to sell of an entity is less than its current carrying value, the entity is written down to its estimated fair value less costs to sell. Due to uncertainties in the estimation process, actual results could differ from the estimates used in our historical analysis. We estimate the fair values of assets held for sale based on current market and industry conditions, which include assumptions made by management, which may differ from actual results and may result in additional impairments if market conditions deteriorate.

Once assets are classified as held for sale, we do not record depreciation or amortization for our property, plant and equipment and intangible assets.

Adoption of New Accounting Pronouncements

(a) Revenue from contracts with customers

In May 2014, the Financial Accounting Standards Board (FASB) issued ASC Topic 606, Revenue from Contracts with Customers (ASC 606) replacing the existing accounting standard and industry specific guidance for revenue recognition with a five-step model for recognizing and measuring revenue from contracts with customers. The FASB further amended ASC 606 through various updates issued thereafter. The core principle is for an entity to recognize revenue to represent the transfer of promised goods or services to customers in amounts that reflect the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted ASC 606 effective January 1, 2018, and applied the modified retrospective method, for which we did not have a cumulative effect adjustment to retained earnings for initial application of the guidance. Refer to Note 4 for further details.

(b) Clarifying the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets

The FASB issued amendments in February 2017 concerning asset derecognition and partial sales of nonfinancial assets. The amendments clarify the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets, and also define in-substance nonfinancial assets. Those amendments apply to a company that: sells nonfinancial assets (land, buildings, materials and supplies, intangible assets) to noncustomers; sells nonfinancial assets and financial assets (cash, receivables) when the value is concentrated in the nonfinancial assets; or sells partial ownership interests in nonfinancial assets. The amendments

do not apply to sales to customers or to sales of businesses. The new guidance in ASC 610-20 on accounting for derecognition of a nonfinancial asset and an in-substance nonfinancial asset applies only when the asset (or asset group) does not meet the definition of a business and is not a not-for-profit activity. An entity must apply the amendments at the same time that it applies the new ASC 606 revenue recognition standard. We adopted ASC 610-20 effective January 1, 2018, and applied the modified retrospective method, which affected the accounting for our tax equity investments. As shown in the table below, we recorded a cumulative adjustment that decreased retained earnings. The cumulative adjustment relates to the reclassification of our tax equity investments to noncontrolling interests. As a result, we recorded our tax equity investments based on the HLBV accounting method and we will record changes in the HLBV at each reporting period within net income (loss) attributable to noncontrolling interests.

The cumulative effects of the changes to our consolidated balance sheet as of January 1, 2018, for our adoption of ASC 606 and ASC 610-20 were as follows:

Balance Sheet	Balance at December 31, 2017	Adjustments Due to ASC 606	Adjustments Due to ASC 610-20	Balance at January 1, 2018
(Millions)				
Liabilities				
Tax equity financing arrangements - VIEs	\$ 98	\$ —	\$ (98)	\$ —
Deferred income taxes	1,452	—	(40)	1,412
Equity				
Retained earnings	1,475	—	(2)	1,473
Non-controlling interests	\$ 19	\$ —	\$ 140	\$ 159

We also adopted the following standards as of their effective date of January 1, 2018, none of which had a material effect on our consolidated results of operations, financial position, cash flows and disclosures.

(c) Classifying and measuring financial instruments

In January 2016, the FASB issued final guidance on the classification and measurement of financial instruments. As a result of our adoption, we reclassified immaterial amounts from AOCI to retained earnings.

(d) Certain classifications in the statement of cash flows

In August 2016, the FASB issued amendments to address existing diversity in practice concerning the classification of certain cash receipts and payments on the statement of cash flows, which must be applied on a full retrospective basis. Upon adoption, we had no changes to our cash flow classifications and disclosures in our consolidated financial statements.

(e) Improving the presentation of net periodic benefit costs

In March 2017, the FASB issued amendments to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost in the financial statements. We retrospectively adopted the amendments that require us to present the service cost component separately from the other (non-service) components of net benefit cost, to report the service cost component in the income statement line item where we report the corresponding compensation cost and to present all non-service components outside of operating cost. As a result, we have reclassified the non-service components – interest cost, expected return on plan assets, amortization of prior service cost (benefit), amortization of net loss and settlement charge – from "Operations and maintenance" to "Other income/(expense)" within the consolidated statements of income. Prospectively, from adoption, we capitalize only the service cost component when applicable (for example, as a cost of a self-constructed asset). We elected to apply the practical expedient that allows us to retrospectively apply the amendments on adoption to net benefit costs for comparative periods by using the amounts disclosed in our notes to financial statements for Post-retirement and Similar Obligations as the basis for those periods. In addition to those amounts, we included amortization of net benefit costs recorded as regulatory deferrals as a result of purchase accounting in a prior year. In connection with applying the practical expedient, in periods after adoption we continue to include in operating income all legacy net benefit costs previously capitalized as a cost of self-constructed assets and other deferred regulatory costs. Our adoption of the amendments did not affect prior period net income attributable to AVANGRID. Beginning in 2018, non-service cost components incurred by the Networks utilities are no longer eligible for construction capitalization, but such costs can be deferred and included as a component of customer rates if permitted by their regulator. For the year ended December 31, 2018, we incurred additional immaterial expense as a result of the adoption of this standard.

As a result of these amendments, "Operations and maintenance" and "Other (expense) income" decreased by \$120 million within the consolidated statement of income for the year ended December 31, 2017. The effect of the change in retrospective presentation related to the net periodic cost of our defined benefit pension and other postretirement employee benefits plans on our consolidated statement of income for the year ended December 31, 2016 was not material.

We have also revised the segment information related to our Networks reportable segment provided in Note 23 to reflect the change as a result of the adoption of these amendments.

(f) Customer accounting for implementation costs incurred in a cloud computing arrangement

The FASB issued amendments in August 2018 to clarify the accounting for implementation costs of a cloud computing arrangement (also referred to as a hosting arrangement) that is a service contract. Implementation costs, which include implementation, setup and other upfront costs, are either to be deferred or expensed as incurred, in accordance with existing internal-use software guidance for similar costs. The amendments require a customer to expense capitalized implementation costs over the contractual term of the arrangement, including any optional renewal periods the customer is reasonably certain it will exercise. An entity is to present deferred implementation costs on the balance sheet, income statement and cash flows consistent with the subscription fees associated with the arrangement. The amendments enhance disclosures to include certain qualitative and quantitative information about implementation costs for internal-use software and all hosting arrangements, not just hosting arrangements that are service contracts. The amendments are effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period for which financial statements have not been issued. An entity may apply the amendments either retrospectively or prospectively to all implementation costs incurred after the date of adoption. We early adopted the amendments as of October 1, 2018, and are applying the amendments prospectively to all implementation costs after the date of adoption. Upon adoption, there were no material effects to our consolidated results of operations, financial position, cash flows and disclosures.

Accounting Pronouncements Issued But Not Yet Adopted

The following are new accounting pronouncements issued as indicated, that we have evaluated or are evaluating to determine their effect on our consolidated financial statements.

(a) Leases

In February 2016, the FASB issued new guidance, and issued subsequent amendments during 2018, that affects all companies and organizations that lease assets, and requires them to record on their balance sheet right-of-use assets and lease liabilities for the rights and obligations created by those leases. Under the new guidance, a lease is an arrangement that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The amendments retain a distinction between finance leases and operating leases, while requiring both types of leases to be recognized on the balance sheet. The classification criteria for distinguishing between finance leases and operating leases are substantially similar to the criteria for distinguishing between capital leases and operating leases in legacy U.S. GAAP. Lessor accounting will remain substantially the same as legacy U.S. GAAP, but with some targeted improvements to align lessor accounting with the lessee accounting model and with the revised revenue recognition guidance under Topic 606. The standard and amendments require new qualitative and quantitative disclosures for both lessees and lessors. The new leases guidance, including the subsequent amendments issued during 2018, is effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early application is permitted.

We adopted the new leases guidance effective January 1, 2019, and have elected the optional transition method under which we will initially apply the standard on that date without adjusting amounts presented for prior periods, and record the cumulative effect of applying the new guidance as an adjustment to beginning retained earnings. We expect the adjustment to retained earnings will be immaterial. Concerning certain transition and other practical expedients:

- we did not elect the package of three practical expedients available under the transition provisions, including (i) not reassessing whether expired or existing contracts contain leases, (ii) lease classification, and (iii) not revaluing initial direct costs for existing leases;
- we elected the land easement practical expedient and did not reassess land easements that we did not account for as leases prior to our adoption of the new leases guidance;
- we used hindsight for specified determinations and assessments in applying the new leases guidance;
- we will not recognize lease assets and liabilities for short-term leases (less than one year), for all classes of underlying assets; and
- we did not separate lease and associated nonlease components for transitioned leases, but will instead account for them together as a single lease component.

Of our portfolio of operating leases as of December 31, 2018, we expect to recognize approximately \$85 - \$105 million of right-of-use assets and corresponding liabilities in our consolidated balance sheet as of January 1, 2019. In comparison to our operating leases obligation disclosures as of December 31, 2018, certain land easement contracts previously classified as a lease will no longer meet the definition of a lease under the new guidance and are therefore excluded from the transition adjustment. Separate from our contracts classified as leases under existing U.S. GAAP, we are still finalizing our adoption procedures as the scope of our assessment of contracts is broader than it would have otherwise been having not elected the package of three practical expedients. Overall, we expect our adoption will not materially affect our consolidated results of operations or cash flows, as we do not expect significant changes to our pattern of expense recognition. We will have expanded disclosures to comply with the new leases guidance.

(b) Measurement of credit losses on financial instruments

The FASB issued an accounting standards update in June 2016 that requires more timely recording of credit losses on loans and other financial instruments. The amendments affect entities that hold financial assets and net investment in leases that are not accounted for at fair value through net income (loans, debt securities, trade receivables, net investments in leases, off-balance-sheet credit exposures, etc.). They require an entity to present a financial asset (or group of financial assets) that is measured at amortized cost basis at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset(s) to present the net carrying value at the amount expected to be collected on the financial asset. The income statement reflects the measurement of credit losses for newly recognized financial assets, as well as the expected increases or decreases of expected credit losses that have taken place during the period. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods appropriate in its circumstances. In November 2018, the FASB issued an update to this new guidance to clarify that receivables arising from operating leases are not within the scope of the credit losses standard. Instead, impairment of receivables arising from operating leases should be accounted for in accordance with the leases standard. The amendments are effective for public entities that are SEC filers for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted. Entities are to apply the amendments on a modified retrospective basis for most instruments. We expect our adoption will not materially affect our consolidated results of operations, financial position and cash flows.

(c) Simplifying the test for goodwill impairment

In January 2017, the FASB issued amendments to simplify the test for goodwill impairment, which are required for public entities and certain other entities that have goodwill reported in their financial statements. The amendments simplify the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test, which requires the valuation of assets acquired and liabilities assumed using business combination accounting guidance. Under the new guidance, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; but the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Also, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. Certain requirements are eliminated for any reporting unit with a zero or negative carrying amount, therefore the same impairment assessment applies to all reporting units. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. The amendments are effective for public entities for annual and interim periods in fiscal years beginning after December 15, 2019, with the amendments applied on a prospective basis. Early adoption is allowed. We expect our adoption of the amendments will not materially affect our results of operations, financial position, cash flows, and disclosures.

(d) Targeted improvements to accounting for hedging activities

In August 2017, the FASB issued targeted amendments with the objective to better align hedge accounting with an entity's risk management activities in the financial statements, and to simplify the application of hedge accounting. The amendments address concerns of financial statement preparers over difficulties with applying hedge accounting and limitations for hedging both nonfinancial and financial risks and concerns of financial statement users over how hedging activities are reported in financial statements. Changes to the hedge accounting guidance to address those concerns will: 1) expand hedge accounting for nonfinancial and financial risk components and amend measurement methodologies to more closely align hedge accounting with an entity's risk management activities; 2) eliminate the separate measurement and reporting of hedge ineffectiveness, to reduce the complexity of preparing and understanding hedge results; 3) enhance disclosures and change the presentation of hedge results to align the effects of the hedging instrument and the hedged item in order to enhance transparency, comparability, and understandability of hedge results; and 4) simplify the way assessments of hedge effectiveness may be performed to reduce the cost and complexity of applying hedge accounting. The amendments are effective for public entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. For cash flow and net investment hedges existing at the date of adoption, a

company must apply a cumulative-effect adjustment related to the separate measurement of ineffectiveness to accumulated other comprehensive income (AOCI) with a corresponding adjustment to the opening balance of retained earnings as of the beginning of the fiscal year of adoption. The amended presentation and disclosure guidance is required only prospectively. In October 2018, the FASB issued amendments that are effective concurrently with the above targeted improvements. These additional amendments permit use of the Overnight Index Swap rate based on the Secured Overnight Financing Rate as a U.S. benchmark interest rate for hedge accounting purposes. Use of that rate is in addition to the already eligible benchmark interest rates, which are: interest rates on direct Treasury obligations of the U.S. government, the London Interbank Offered Rate swap rate, the OIS Rate based on the Fed Funds Effective Rate, and the Securities Industry and Financial Markets Association Municipal Swap Rate. Our adoption of the amendments on January 1, 2019, will not materially affect our consolidated results of operations, financial position or cash flows, but the amendments will ease the administrative burden of hedge documentation requirements and assessing hedge effectiveness going forward.

(e) Reclassification of certain tax effects from accumulated other comprehensive income

In February 2018, the FASB issued amendments to address a narrow-scope financial reporting issue that arose as a consequence of the Tax Cuts and Jobs Act of 2017 (the Tax Act) enacted on December 22, 2017, by the U.S. federal government. Under current guidance, the adjustment of deferred taxes for the effect of a change in tax laws or rates is required to be included in income from continuing operations, thus the associated tax effects of items within AOCI (referred to as stranded tax effects) do not reflect the appropriate tax rate. The amendments allow a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act. As a result, the amendments eliminate the stranded tax effects resulting from the Tax Act and will improve the usefulness of information reported to financial statement users. The amendments only relate to the reclassification of the income tax effects of the Tax Act, and do not affect the underlying guidance that requires the effect of a change in tax laws or rates to be included in income from continuing operations. The amendments are effective for all entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted including, for public entities, adoption in any interim period for which financial statements have not been issued. An entity has the option to apply the amendments either in the period of adoption or retrospectively to each period (or periods) in which it recognizes the effect of the change in the U.S. federal corporate income tax rate in the Tax Act. An entity is required to disclose its accounting policy election, including its policy for reclassifying material stranded tax effects in AOCI to earnings (specific identification or portfolio method). Our adoption of the amendments on January 1, 2019, will not materially affect our consolidated results of operations, financial position, cash flows and disclosures.

(f) Changes to the disclosure requirements for fair value measurement and defined benefit plans

In August 2018, the FASB issued amendments related to disclosure requirements for both fair value measurement and defined benefit plans. The amendments concerning fair value measurement remove, modify and add certain disclosure requirements, in order to improve the overall usefulness of the disclosures and reduce unnecessary costs to companies to prepare the disclosures. The amendments to fair value measurement disclosures are effective for all entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted as specified. Certain amendments are to be applied prospectively, and all others are to be applied retrospectively. We do not expect our adoption of the amendments to materially affect our disclosures.

The amendments concerning disclosure requirements for defined benefit plans are narrow in scope and apply to all employers that sponsor defined benefit pension or other postretirement plans. They remove disclosures that are no longer considered cost beneficial, add certain new relevant disclosures and clarify specific requirements of disclosures concerning information for defined benefit pension plans. The amendments to defined benefit plan disclosures are effective for fiscal years ending after December 15, 2020. Early adoption is permitted and application is to be on a retrospective basis. We do not expect our adoption of the amendments to materially affect our disclosures.

(g) Targeted improvements to related party guidance for VIEs

In October 2018, the FASB issued amendments that affect reporting entities that are required to determine whether they should consolidate a legal entity under the consolidation guidance applicable to VIEs. The targeted improvements specifically applicable to public business entities clarify that indirect interests held through related parties in common control arrangements should be considered on a proportional basis for determining whether fees paid to decision makers and service providers are variable interests. The amendments are effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted. We expect our adoption of the amendments will not materially affect our consolidated results of operations, financial position, cash flows and disclosures.

(h) Clarifying guidance for certain collaborative arrangements with respect to revenue recognition

The FASB issued amendments in November 2018 to clarify the interaction between the guidance for certain collaborative arrangements and the guidance applicable to ASC 606. A collaborative arrangement is a contractual arrangement under which two

or more parties actively participate in a joint operating activity and are exposed to significant risks and rewards that depend on the activity's commercial success. The targeted improvements clarify that certain transactions between collaborative arrangement participants are within the scope of ASC 606 and thus subject to all of its guidance. The amendments are effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period for which financial statements have not been issued. Retrospective application to the date of initial application of ASC 606 is required. We expect our adoption of the amendments will not materially affect our consolidated results of operations, financial position, cash flows and disclosures.

Use of Estimates and Assumptions

The preparation of our consolidated financial statements in conformity with U.S. GAAP requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting periods. Significant estimates and assumptions are used for, but not limited to: (1) allowance for doubtful accounts and unbilled revenues; (2) asset impairments, including goodwill; (3) investments in equity instruments; (4) depreciable lives of assets; (5) income tax valuation allowances; (6) uncertain tax positions; (7) reserves for professional, workers' compensation and comprehensive general insurance liability risks; (8) contingency and litigation reserves; (9) fair value measurements; (10) earnings sharing mechanisms; (11) environmental remediation liabilities; (12) AROs; (13) pension and other postretirement employee benefits and (14) noncontrolling interest balances. Future events and their effects cannot be predicted with certainty; accordingly, our accounting estimates require the exercise of judgment. The accounting estimates used in the preparation of our consolidated financial statements will change as new events occur, as more experience is acquired, as additional information is obtained and as our operating environment changes. We evaluate and update our assumptions and estimates on an ongoing basis and may employ outside specialists to assist in our evaluations, as necessary. Actual results could differ from those estimates.

Union collective bargaining agreements

We have approximately 48.3% of the employees covered by a collective bargaining agreement. Agreements which will expire within the coming year apply to approximately 1.6% of our employees.

Note 4. Revenue

On January 1, 2018, we adopted ASC 606 and all related amendments using the modified retrospective method, which we applied only to contracts that were not completed as of January 1, 2018. For reporting periods beginning on January 1, 2018, we present revenue in accordance with ASC 606, and have not adjusted comparative prior period information, which we continue to report under the legacy accounting standards in effect for those prior periods. For the year ended December 31, 2018, the effect of applying ASC 606 to recognize revenue as compared to applying the legacy accounting standards was not material.

We recognize revenue when we have satisfied our obligations under the terms of a contract with a customer, which generally occurs when the control of promised goods or services transfers to the customer. We measure revenue as the amount of consideration we expect to receive in exchange for providing those goods or services. Contracts with customers may include multiple performance obligations. For such contracts, we allocate revenue to each performance obligation based on its relative standalone selling price. We generally determine standalone selling prices based on the prices charged to customers. Certain revenues are not within the scope of ASC 606, such as revenues from leasing, derivatives, other revenues that are not from contracts with customers and other contractual rights or obligations, and we account for such revenues in accordance with the applicable accounting standards. We exclude from revenue amounts collected on behalf of third parties, including any such taxes collected from customers and remitted to governmental authorities. We do not have any material significant payment terms because we receive payment at or shortly after the point of sale.

The following describes the principal activities, by reportable segment, from which we generate revenue. For more detailed information about reportable segments, refer to Note 23.

Networks Segment

Networks derives its revenue primarily from tariff-based sales of electricity and natural gas service to customers in New York, Connecticut, Maine and Massachusetts, with no defined contractual term. For such revenues, we recognize revenues in an amount derived from the commodities delivered to customers. Other major sources of revenue are electricity transmission and wholesale sales of electricity and natural gas.

Tariff-based sales are subject to the corresponding state regulatory authorities, which determine prices and other terms of service through the ratemaking process. Maine state law prohibits the utility from providing the electricity commodity to customers. In New York, Connecticut and Massachusetts, customers have the option to obtain the electricity or natural gas commodity directly from the utility or from another supplier. For customers that receive their commodity from another supplier, the utility acts as an

agent and delivers the electricity or natural gas provided by that supplier. Revenue in those cases is only for providing the service of delivery of the commodity. Networks entities calculate revenue earned but not yet billed based on the number of days not billed in the month, the estimated amount of energy delivered during those days and the estimated average price per customer class for that month. Differences between actual and estimated unbilled revenue are immaterial.

Transmission revenue results from others' use of the utility's transmission system to transmit electricity and is subject to Federal Energy Regulatory Commission (FERC) regulation, which establishes the prices and other terms of service. Long-term wholesale sales of electricity are based on individual bilateral contracts. Short-term wholesale sales of electricity are generally on a daily basis based on market prices and are administered by the Independent System Operator-New England (ISO-NE) and the New York Independent System Operator (NYISO), or PJM Interconnection, L.L.C. (PJM), as applicable. Wholesale sales of natural gas are generally short-term based on market prices through contracts with the specific customer.

The performance obligation in all arrangements is satisfied over time because the customer simultaneously receives and consumes the benefits as Networks delivers or sells the electricity or natural gas or provides the transmission service. We record revenue for all of those sales based upon the regulatory-approved tariff and the volume delivered or transmitted, which corresponds to the amount that we have a right to invoice. There are no material initial incremental costs of obtaining a contract in any of the arrangements. Networks does not adjust the promised consideration for the effects of a significant financing component if it expects, at contract inception, that the time between the delivery of promised goods or service and customer payment will be one year or less. Networks does not have any material significant payment terms because it receives payment at or shortly after the point of sale. For its New York utilities, Networks assesses its deferred payment arrangements at each balance sheet date for the existence of significant financing components, but has had no material adjustments as a result.

Certain Networks entities record revenue from Alternative Revenue Programs (ARPs), which is not ASC 606 revenue. Such programs represent contracts between the utilities and their regulators. The Networks ARPs include revenue decoupling mechanisms, other ratemaking mechanisms, annual revenue requirement reconciliations, and other demand side management programs. The Networks entities recognize and record only the initial recognition of "originating" ARP revenues (when the regulatory-specified conditions for recognition have been met). When they subsequently include those amounts in the price of utility service billed to customers, they record such amounts as a recovery of the associated regulatory asset or liability. When they owe amounts to customers in connection with ARPs, they evaluate those amounts on a quarterly basis and include them in the price of utility service billed to customers and do not reduce ARP revenues.

Networks also has various other sources of revenue including billing, collection, other administrative charges, sundry billings, rent of utility property, and miscellaneous revenue. It classifies such revenues as Other ASC 606 revenues to the extent they are not related to revenue generating activities from leasing, derivatives, or ARPs.

Renewables Segment

Renewables derives its revenue primarily from the sale of energy, transmission, capacity and other related charges from its renewable wind, solar, and thermal energy generating sources. For such revenues, we will recognize revenues in an amount derived from the commodities delivered and from services as they are made available. Renewables has bundled power purchase agreements consisting of electric energy, transmission, capacity and/or renewable energy credits (RECs). The related contracts are generally long-term with no stated contract amount, that is, the customer is entitled to all of the unit's output. Renewables also has unbundled sales of electric energy and capacity, RECs and natural gas, which are generally for periods of less than a year. The performance obligations in substantially all of both bundled and unbundled arrangements for electricity and natural gas are satisfied over time, for which we record revenue based on the amount invoiced to the customer for the actual energy delivered. The performance obligation for stand-alone RECs is satisfied at a point in time, for which we record revenue when the performance obligation is satisfied upon delivery of the REC. Renewables does not have any material significant payment terms because it receives payment at or shortly after the point of sale. There are no material initial incremental costs of obtaining a contract or significant financing elements in any of the arrangements.

Renewables classifies certain contracts for the sale of electricity as either leases or derivatives, in accordance with the applicable accounting standards. Renewables also has revenue from its energy trading operations, which it generally classifies as derivative revenue. However, trading contracts not classified as derivatives are within the scope of ASC 606, with the performance obligation of the delivery of energy (electricity, natural gas) and settlement of the contracts satisfied at a point in time at which time we recognize the revenue. Renewables also has Other ASC 606 revenue, which we recognize based on the amount invoiced to the customer.

Certain customers may receive cash credits, which we account for as variable consideration. Renewables estimates those amounts based on the expected amount to be provided to customers and reduces revenues recognized. We believe that there will not be significant changes to our estimates of variable consideration.

Other

Other, which does not represent a segment, derives its revenues primarily from providing natural gas storage services to customers, gas trading operations generally classified as derivative revenue in accordance with the applicable accounting standards, gas trading contracts not classified as derivatives, and other miscellaneous revenues including intersegment eliminations. See Note 26 – Assets Held For Sale for further discussion of the sale of the gas storage and trading businesses.

Contract Costs, Contract Liabilities and Practical Expedient

We recognize an asset for incremental costs of obtaining a contract with a customer when we expect the benefit of those costs to be longer than one year. Costs incurred prior to 2018 were insignificant and not capitalized. We have contract assets for costs from development success fees, which we paid for during the solar asset development period in 2018, and will amortize ratably into expense over the 15-year life of the power purchase agreement, expected to commence in December 2021 upon commercial operation. Contract assets totaled \$9 million at December 31, 2018 and are presented in "Other non-current assets" on our consolidated balance sheet.

We have contract liabilities for revenue from transmission congestion contract (TCC) auctions, which we receive payment for at the beginning of an auction period, and amortize ratably each month into revenue over the applicable auction period. The auction periods range from six months to two years. TCC contract liabilities totaled \$9 million at December 31, 2018, and \$8 million at January 1, 2018, and are presented in "Other current liabilities". We recognized \$13 million as revenue during 2018, of which \$8 million was included in contract liabilities at January 1, 2018.

We apply a practical expedient to expense as incurred costs to obtain a contract when the amortization period is one year or less. We record costs incurred to obtain a contract within operating expenses, including amortization of capitalized costs.

Revenues disaggregated by major source for our reportable segments for the year ended December 31, 2018 are as follows:

	Year Ended December 31, 2018			
	Networks	Renewables	Other (b)	Total
(Millions)				
Regulated operations – electricity	\$ 3,641	\$ —	\$ —	\$ 3,641
Regulated operations – natural gas	1,473	—	—	1,473
Nonregulated operations – wind	—	637	—	637
Nonregulated operations – solar	—	17	—	17
Nonregulated operations – thermal	—	47	—	47
Nonregulated operations – gas storage	—	—	10	10
Other(a)	58	(68)	9	(1)
Revenue from contracts with customers	5,172	633	19	5,824
Leasing revenue	38	346	—	384
Derivative revenue	—	124	10	134
Alternative revenue programs	80	—	—	80
Other revenue	20	36	—	56
Total operating revenues	\$ 5,310	\$ 1,139	\$ 29	\$ 6,478

(a) Primarily includes certain intra-month trading activities, billing, collection, and administrative charges, sundry billings and other miscellaneous revenue.

(b) Does not represent a segment. Includes Corporate, Gas and intersegment eliminations.

As of December 31, 2018, accounts receivable balances related to contracts with customers were approximately \$1,118 million, including \$374 million of unbilled revenue, which are included in "Accounts receivable and unbilled revenues, net" on our consolidated balance sheets.

As of December 31, 2018, the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied (or partially unsatisfied) were as follows:

As of December 31, 2018	2019	2020	2021	2022	2023	Thereafter	Total
(Millions)							
Revenue expected to be recognized on multiyear retail energy sales contracts in place	\$ 5	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1	\$ 10
Revenue expected to be recognized on multiyear fixed price, fixed volume renewable energy credit sales contracts in place	17	12	9	5	4	12	59
Revenue expected to be recognized on multiyear fixed volume, fixed price carbon-free energy sales contracts in place	13	5	—	—	—	—	18
Total operating revenues	\$ 35	\$ 18	\$ 10	\$ 6	\$ 5	\$ 13	\$ 87

We do not disclose information about remaining performance obligations for contracts for which we recognize revenue in the amount to which we have the right to invoice (e.g., usage-based pricing terms).

Note 5. Industry Regulation

Electricity and Natural Gas Distribution – Maine, New York, Connecticut and Massachusetts

The Maine distribution rate case and associated proceedings, the Federal Energy Regulatory Commission (FERC) Transmission Return on Equity (ROE) case, the New York and Connecticut rate plans, Reforming Energy Vision (REV), the Storm proceedings in NY and ME and the Tax Act are some of the most important specific regulatory processes that currently affect Networks.

The revenues of Networks companies are essentially regulated, being based on tariffs established in accordance with administrative procedures set by the various regulatory bodies. The tariffs applied to the Networks companies are approved by the regulatory commissions of the different states and are based on the cost of providing service. The revenues of each of the Networks companies are set to be sufficient to cover its operating costs, including energy costs, finance costs and the costs of equity, the last of which reflects our capital ratio and a reasonable ROE.

Energy costs that are set on the New York and New England wholesale markets are passed on to consumers. The difference between energy costs that are budgeted and those that are actually incurred by the utilities is offset by applying compensation procedures that result in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional, such as the effects of extreme weather conditions, environmental factors, regulatory and accounting changes, and treatment of vulnerable customers, that are offset in the tariff process. Any New York and Connecticut revenues that allow a utility to exceed target returns, usually the result of better than expected cost efficiency, are generally shared between the utility and its customers, resulting in future tariff reductions.

Each of Networks' eight utility companies must comply with regulatory procedures that differ in form but in all cases conform to the basic framework outlined above. Generally, tariff reviews cover various years and provide for a reasonable ROE, protection and automatic adjustments for exceptional costs incurred and efficiency incentives. The distribution rates and allowed ROEs for Networks' regulated utilities in New York are subject to regulation by the New York Public Service Commission (NYPSC), in Maine by the Maine Public Utilities Commission (MPUC), in Connecticut by the Connecticut Public Utilities Regulatory Authority (PURA) and in Massachusetts by the Department of Public Utilities (DPU).

CMP Distribution Rate Case and New Renewable Source Generation

On May 1, 2013, CMP submitted its required distribution rate request with the MPUC. On July 3, 2014, after a fourteen month review process, CMP filed a rate stipulation agreement on the majority of the financial matters with the MPUC. The stipulation agreement was approved by the MPUC on August 25, 2014. The stipulation agreement also noted that certain rate design matters would be litigated, which the MPUC ruled on October 14, 2014.

The rate stipulation agreement provided for an annual CMP distribution tariff increase of 10.7% or \$24.3 million. The rate increase was based on a 9.45% ROE and 50% equity capital. CMP was authorized to implement a Rate Decoupling Mechanism (RDM) which reduces distribution revenue variations associated with energy efficiency and weather impacts on sales volumes. CMP also adjusted its storm costs recovery mechanism whereby it is allowed to collect in rates a storm allowance and to defer actual storm

costs when such storm event costs exceed \$3.5 million. CMP and customers share storm costs that exceed a certain balance on a fifty-fifty basis, with CMP's exposure limited to \$3 million annually.

CMP has made a separate regulatory filing for a new customer billing system replacement. In accordance with the stipulation agreement, a new billing system was needed and CMP made its filing on February 27, 2015 to request a separate rate recovery mechanism. On October 20, 2015, the MPUC issued an order approving a stipulation agreement authorizing CMP to proceed with the customer billing system investment. The approved stipulation allows CMP to recover the system costs effective July 1, 2017.

The rate stipulation does not have a predetermined rate term. CMP had the option to file for new distribution rates at its own discretion. The rate stipulation does not contain service quality targets or penalties. The rate stipulation also does not contain any earning sharing requirements.

On May 29, 2018, a ten-person complaint was filed with the MPUC against CMP, Networks and AVANGRID. The complaint requested that the MPUC open a rate case to determine if CMP is making excessive returns on investment and, therefore, whether CMP's retail rates should be lower. The complaint also requested the MPUC deny certain costs associated with the October 2017 windstorm. On July 24, 2018, the MPUC issued an order dismissing the complaint and its associated request to deny the recovery of costs associated with the October 2017 windstorm. The order initiated an investigation into CMP's rates and revenue requirement and directed CMP to make a filing consistent with the requirements for a general rate case no later than October 15, 2018. Consistent with the order in the ten-person complaint proceeding, on August 7, 2018, the MPUC issued a Notice of Investigation, opening the proceeding in which CMP would make its rate case filing and through which the MPUC will examine the rates and revenue requirements of CMP. On October 15, 2018, CMP filed a general rate case as directed by the MPUC requesting a ROE of 10% and an equity ratio of 55%. The company is proposing to use savings arising out of changes in federal taxation pursuant to the Tax Act to keep its distribution prices stable while making its electric system more reliable. The MPUC has established a ten-month process to review CMP's filing and we expect a decision in October of 2019. CMP's general rate case filing includes a proposal to enhance the resiliency of the energy grid by expanding vegetation management and pursuing additional reliability measures such as pole replacements and addition of tree wire in selected areas. Such investments are designed to strengthen CMP's power grid so it can better stand up to severe weather. CMP is planning to use savings from the federal Tax Act to pay for the costs of resiliency programs, other investments in infrastructure and certain cost increases since 2014. We cannot predict the outcome of this matter.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or Renewable Energy Certificates, or RECs, from qualifying resources. The MPUC is further authorized to order Maine transmission and distribution utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, on March 31, 2010, to purchase capacity and energy from Evergreen's 60 Megawatt (MW) Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

NYSEG and RG&E Rate Plans

On May 20, 2015, NYSEG and RG&E filed electric and gas rate cases with the NYPSC. The companies requested rate increases for NYSEG electric, NYSEG gas and RG&E gas. RG&E electric proposed a rate decrease.

On February 19, 2016, NYSEG, RG&E and other signatory parties filed a Joint Proposal with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016. The Joint Proposal, which was approved by the NYPSC on June 15, 2016, balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The Joint Proposal reflects many customer benefits including: acceleration of the companies' natural gas leak prone main replacement programs and increased funding for electric vegetation management to provide continued safe and reliable service. The delivery rate increase in the Joint Proposal can be summarized as follows:

Utility	May 1, 2016		May 1, 2017		May 1, 2018	
	Rate Increase	Delivery Rate Increase	Rate Increase	Delivery Rate Increase	Rate Increase	Delivery Rate Increase
	(Millions)	%	(Millions)	%	(Millions)	%
NYSEG Electric	\$ 29.6	4.10%	\$ 29.9	4.10%	\$ 30.3	4.10%
NYSEG Gas	\$ 13.1	7.30%	\$ 13.9	7.30%	\$ 14.8	7.30%
RG&E Electric	\$ 3.0	0.70%	\$ 21.6	5.00%	\$ 25.9	5.70%
RG&E Gas	\$ 8.8	5.20%	\$ 7.7	4.40%	\$ 9.5	5.20%

The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%; however, the equity ratio is set at the actual up to 50% for earnings sharing calculation purposes. The customer share of any earnings above allowed levels increases as the ROE increases, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% ROE, respectively, in the first rate year covering the period May 1, 2016 – April 30, 2017. The earnings sharing levels increase in rate year two (May 1, 2017 – April 30, 2018) to 9.65%, 10.15% and 10.65% ROE, respectively. The earnings sharing levels further increase in rate year three (May 1, 2018 – April 30, 2019) to 9.75%, 10.25% and 10.75% ROE, respectively. The rate plans also include the implementation of a rate adjustment mechanism (RAM) designed to return or collect certain defined reconciled revenues and costs, new depreciation rates and continuation of the existing RDM for each business. The Joint Proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million is being amortized over ten years and the remaining \$139 million is being amortized over five years. The proposal also continues reserve accounting for qualifying Major Storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided they meet certain thresholds.

The Joint Proposal maintains NYSEG's and RG&E's current electric reliability performance measures (and associated potential negative revenue adjustments for failing to meet established performance levels) which include the system average interruption frequency index (SAIFI) and the customer average interruption duration index (CAIDI). The Joint Proposal also modifies certain gas safety performance measures at the companies, including those relating to the replacement of leak prone mains, leak backlog management, emergency response and damage prevention. The proposal establishes threshold performance levels for designated aspects of customer service quality and continues and expands NYSEG's and RG&E's bill reduction and arrears forgiveness Low Income Programs with increased funding levels included in the proposal. The Joint Proposal provides for the implementation of NYSEG's Energy Smart Community (ESC) Project in the Ithaca region which will serve as a test-bed for implementation and deployment of Reforming the Energy Vision (REV) initiatives. The ESC Project will be supported by NYSEG's planned Distribution Automation upgrades and Advanced Metering Infrastructure (AMI) implementation for customers on circuits in the Ithaca region. The companies will also pursue Non-Wires Alternative projects as described in the proposal. Other REV-related incremental costs and fees will be included in the RAM to the extent cost recovery is not provided for elsewhere. Under the proposal, each company will implement the RAM, which will be applicable to all customers, to return or collect RAM Eligible Deferrals and Costs, including: (1) property taxes; (2) Major Storm deferral balances; (3) gas leak prone pipe replacement; (4) REV costs and fees which are not covered by other recovery mechanisms; and (5) NYSEG Electric Pole Attachment revenues. RG&E implemented a RAM in July 2018 since certain eligibility thresholds were exceeded.

The Joint Proposal provides for partial or full reconciliation of certain expenses including, but not limited to: pensions and other postretirement benefits; property taxes; variable rate debt and new fixed rate debt; gas research and development; environmental remediation costs; major storms; nuclear electric insurance limited credits; economic development; and low income programs. The Joint Proposal also includes a downward-only Net Plant reconciliation. In addition, the Joint Proposal includes downward-only reconciliations for the costs of: electric distribution and gas vegetation management; pipeline integrity; and incremental maintenance. The Joint Proposal provides that NYSEG and RG&E continue their electric RDMs on a total revenue per class basis and their gas RDMs on a revenue per customer basis.

UI, CNG, SCG and BGC Rate Plans

Under Connecticut law, The United Illuminating Company's (UI) retail electricity customers are able to choose their electricity supplier while UI remains their electric distribution company. UI purchases power for those of its customers under standard service rates who do not choose a retail electric supplier and have a maximum demand of less than 500 kilowatts and its customers under supplier of last resort service for those who are not eligible for standard service and who do not choose to purchase electric generation service from a retail electric supplier. The cost of the power is a "pass-through" to those customers through the Generation Service Charge on their bills.

UI has wholesale power supply agreements in place for its entire standard service load for the first half of 2019, 80% of its standard service load for the second half of 2019 and 20% of its standard service load for the first half of 2020. Supplier of last resort service

is procured on a quarterly basis and UI has wholesale power supply agreement in place for the second quarter of 2019. However, from time to time there are no bidders in the procurement process for supplier of last resort service and in such cases UI manages the load directly.

In December 2016, the PURA approved new distribution rate schedules for UI for three years, which became effective January 1, 2017, and which, among other things, provides for annual tariff increases and an ROE of 9.10% based on a 50% equity ratio, continued UI's existing ESM pursuant to which UI and its customers share on a fifty-fifty basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism and approved the continuation of the requested storm reserve. Any dollars due to customers from the ESM continue to be first applied against any storm regulatory asset balance (if one exists at that time) or refunded to customers through a bill credit if such storm regulatory asset balance does not exist.

In December 2017, PURA approved new tariffs for the Southern Connecticut Gas Company (SCG) effective January 1, 2018 for a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019 and 2020, respectively. The new tariffs also include an RDM and Distribution Integrity Management Program (DIMP) mechanism similar to the mechanisms authorized for Connecticut Natural Gas Corporation (CNG), ESM, the amortization of certain regulatory liabilities (most notably accumulated hardship deferral balances and certain accumulated deferred income taxes) and tariff increases based on a ROE of 9.25% and approximately 52% equity level. Any dollars due to customers from the ESM will be first applied against any environmental regulatory asset balance as defined in the settlement agreement (if one exists at that time) or refunded to customers through a bill credit if such environmental regulatory asset balance does not exist.

On June 29, 2018, CNG filed an application with PURA for new tariffs to become effective January 1, 2019. On August 30, 2018, CNG entered into a settlement agreement with the Office of Consumer Counsel and PURA prosecutorial staff that provides for new rates effective January 1, 2019. The settlement agreement was approved by PURA on December 19, 2018. The settlement agreement included an increase in rates of \$9.9 million in 2019, an incremental increase of \$4.6 million in 2020 and an incremental increase of \$5.2 million in 2021, for a total increase of \$19.7 million over the three-year rate plan. The settlement agreement is based on an ROE of 9.30%, and an equity ratio of 54% in 2019, 54.50% in 2020, and 55% in 2021.

The Berkshire Gas Company's (BGC) rates are established by the DPU. BGC's ten-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan.

On May 17, 2018, BGC filed a petition with the DPU seeking approval of a distribution rate increase to be effective January 1, 2019. On December 4, 2018, BGC and the Massachusetts Attorney General's Office filed a settlement agreement with the DPU. The settlement agreement provides for a \$1.6 million distribution base rate increase effective January 1, 2019, or February 1, 2019 if the DPU did not approve the settlement agreement prior to January 1, 2019, and an additional \$0.7 million base distribution increase effective November 1, 2019, if certain investments are made by BGC. The settlement agreement contained a make-whole provision if the DPU approved the agreement after January 1, 2019. The distribution rate increase is based on a 9.70% ROE and 55% equity ratio. The settlement agreement provides for the implementation of a RDM and pension expense tracker and also provides that BGC will not file to change base distribution to become effective before November 1, 2021. The settlement agreement was approved by the DPU on January 18, 2019.

Transmission - FERC ROE Proceeding

See Note 13 - Commitments and Contingent Liabilities for further discussion.

CMP's and UI's transmission rates are determined by a tariff regulated by the FERC and administered by ISO New England, Inc. (ISO-NE). Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, and for a return of and on investment in assets.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC instituted proceedings because it found that ISO-NE Transmission, Markets and Services Tariff is unjust, unreasonable and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE Participating Transmission Owners (PTOs), including UI, Maine Electric Power Corporation (MEPCO) and CMP. The FERC also found that the current Regional Network Service (RNS) and Local Network Service (LNS) formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates. The FERC assigned the proceeding to a settlement judge. On August 17, 2018, the PTOs submitted a formula rate settlement opposed by certain parties and supported by the settlement judge. We are unable to predict the outcome of this proceeding at this time.

REV

In April 2014, the NYPSC commenced a proceeding entitled REV, which is a wide ranging initiative to reform New York State's energy industry and regulatory practices. REV has been divided into two tracks, Track 1 for Market Design and Technology, and Track 2 for Regulatory Reform. REV and its related proceedings have and will continue to propose regulatory changes that are intended to promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar and wider deployment of distributed energy resources (DER), such as micro grids, on-site power supplies and storage.

REV is also intended to promote greater use of advanced energy management products to enhance demand elasticity and efficiencies. Track 1 of this initiative involves a collaborative process to examine the role of distribution utilities in enabling market based deployment of DER to promote load management and greater system efficiency, including peak load reductions. NYSEG and RG&E are participating in the initiative with other New York utilities and are providing their unique perspective. The NYPSC issued a 2015 order in Track 1, which acknowledges the utilities' role as a Distribution System Platform (DSP) provider, and required the utilities to file an initial Distribution System Implementation Plan (DSIP) by June 30, 2016. The companies filed the DSIP, which also included information regarding the potential deployment of Automated Metering Infrastructure (AMI) across its entire service territory. The companies, in December 2016, filed a petition to the NYPSC requesting approval for cost recovery associated with the full deployment of AMI, and a collaborative associated with this petition began in the first quarter of 2017, was suspended in the second quarter of 2017, resumed in the first quarter of 2018 and then further suspended. NYSEG and RG&E expect to renew their AMI requests in their rate case filings expected in 2019.

Other various proceedings have also been initiated by the NYPSC which are REV related, and each proceeding has its own schedule. These proceedings include the Clean Energy Standard, Value of DER and Net Energy Metering, Demand Response Tariffs and Community Choice Aggregation. As part of the Clean Energy Standard proceeding, all electric utilities were ordered to begin payments to New York State Energy Research and Development Authority (NYSERDA) for RECs and Zero Emissions Credits beginning in 2017.

Track 2 of the REV initiative is also underway, and through a NYPSC staff whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York state and NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for Earnings Adjustment Mechanisms (EAMs), Platform Service Revenues, innovative rate designs and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of System Efficiency, Energy Efficiency, Interconnections and Clean Air. A collaborative process to review the companies' petition was suspended in 2017 and the NYSEG and RG&E expect to renew their EAM requests in their rate case filings expected in 2019.

In March 2017, the NYPSC issued three separate REV-related orders. These orders created a series of filing requirements for NYSEG and RG&E beginning in March 2017 and extending through the end of 2018. The three orders involve: 1) modifications to the electric utilities' proposed interconnection EAM framework; 2) further DSIP requirements, including filing of an updated DSIP plan by mid-2018 and implementing two energy storage projects at each company by the end of 2018; and 3) Net Energy Metering Transition including implementation of Phase One of the Value of DER. In September 2017, the NYPSC issued another order related to the Value of DER, requiring tariff filings, changes to Standard Interconnection Requirements and planning for the implementation of automated consolidated billing. In July 2018, NYSEG and RG&E submitted an updated DSIP plan consistent with guidance received from the NY Department of Public Service. As of the end of 2018, both NYSEG and RG&E had deployed two energy storage projects each, consistent with the March 2017 NYPSC order requirements. In December 2018, the NYPSC staff submitted whitepapers on standby and buyback service rate design, future value stack compensation and capacity value compensation. It is expected that the NYPSC will rule on the proposals set forth in the whitepapers in 2019. An additional staff whitepaper on Rate Design for Mass Market On-Site DER projects interconnected after January 1, 2020 is scheduled to be submitted by the NYPSC Staff in the first quarter of 2019.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm

On March 11, 2017, the New York State Department of Public Service (the Department) commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 NYSEG and RG&E customers. The Department Staff issued a report (the Staff Report) of the findings from their investigation on November 16, 2017. The Staff Report made several recommendations for future storm response and also alleged that NYSEG and RG&E had violated their own emergency response plan in a number of respects.

Also on November 16, 2017, the NYPSC issued an Order Instituting Proceeding and to Show Cause (the Order) requiring the companies to address whether the NYPSC should mandate, reject or modify, in whole or in part the recommendations made in the Staff Report. The Order also required the companies to show cause why the NYPSC should not commence an administrative

penalty proceeding. On May 18, 2018, NYSEG and RG&E filed a settlement joint proposal and investment joint proposal before the NYPSC to settle potential penalties and avoid litigation related to the March 2017 windstorm, pursuant to which, among other things, NYSEG and RG&E have agreed to make \$3.9 million in investments in 2018 designed to increase resiliency and improve emergency response in the areas impacted by the storm. The investments will not be reflected in rate base or operating expenses in establishing future delivery rates. The joint proposals were subject to public comment and await NYPSC approval. We cannot predict the final outcome of this matter.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2018 Winter Storms

In March 2018, following two severe winter storms that impacted over more than a million electric utility customers in New York, including 520,000 NYSEG and RG&E customers, the NYPSC initiated a comprehensive investigation of all the New York electric utilities' preparation and response to those events. The investigation has been expanded to include other 2018 New York spring storm events. We cannot predict the final outcome of this matter.

MPUC Investigation into the Response by Public Utilities to the October 2017 Storm

On December 19, 2017, the MPUC issued a Notice of Investigation regarding utility response to the October 2017 Storm. The wind storm of October 2017 was unprecedented in the number of customers impacted and the magnitude of the damage across the entire CMP service territory. During the event, thousands of trees were broken or uprooted and many caused damage to the electrical delivery system. The vast majority of tree related damage was from trees that were located outside of the maintenance clearance zone. Damage occurred on nearly every CMP distribution circuit, resulting in more than 1,400 broken poles. On January 18, 2018, CMP submitted a filing in compliance with the MPUC's Notice. The MPUC investigation into restoration efforts is ongoing. CMP incurred total incremental costs of approximately \$68.6 million, of which approximately \$24.7 million are capital costs associated with the replacement of damaged infrastructure, including poles, cross arms, transformers and related equipment and after applying the agreed up capitalization method contained in the approved stipulation. Accordingly, the net incremental operating and maintenance costs for restoration of the distribution system were approximately \$43.9 million. On June 29, 2018, the MPUC approved a stipulation agreement, which provides for the recovery of incremental storm restoration costs through CMP's distribution rates. The stipulation agreement included a revised storm capitalization amount and the value of recovery was reduced by approximately \$531,000 of cumulative underspent funds on non-cycle vegetation management activities.

On October 4, 2018, the MPUC issued an Order stating that based on the weather forecast information and the availability of storm restoration crew resources, that both CMP and Emera Maine acted reasonably in their preparation for and response to a major wind and rain storm in October 2017 and that no further investigation of this aspect of the utilities response is warranted. The MPUC also stated that there are potential for improvements for future storm performance of the utilities, their systems, and with respect to coordination and communication with other involved entities. On December 1, 2018, CMP filed a report required by the MPUC that details its improvement plans.

CMP Customer Billing System Investigation

On March 1, 2018, the MPUC issued a Notice of Investigation initiating a summary investigation into CMP's metering, billing and customer communications practices. Due to the highly technical nature of CMP's customer billing system, on March 22, 2018 the MPUC issued an Order Initiating Audit commencing a forensic audit of CMP's customer billing system to identify any errors that have, or continue to be resulting in billing inaccuracies. On July 10, 2018, the MPUC issued an Order Modifying Scope of Audit, which expanded the scope of the audit to include CMP's customer communication practices. On December 20, 2018, the MPUC released the findings of the forensic audit of CMP's customer billing system and customer communication practices. On January 14, 2019, the MPUC issued an Order and Notice of Investigation initiating an investigation of CMP's metering and billing, practices and initiating a separate investigation of the audit of CMP's customer service and communication practices and incorporating such investigation into CMP's general rate case. We cannot predict the outcome of these matters.

Tax Cuts and Jobs Act

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the Tax Act) was signed into law. The Tax Act significantly changed the federal taxation of business entities including, among other things, implementing a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rates will result in amounts previously and currently collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The NYPSC, MPUC, PURA, DPU and the FERC have instituted separate proceedings in New York, Maine, Connecticut, Massachusetts and the FERC, respectively, to review and address the implications of the Tax Act on the utilities.

In New York, the NYPSC staff issued a proposal on March 29, 2018, whereby the staff recommended that Tax Act benefits be returned to customers beginning October 1, 2018. Comments on this staff proposal were submitted by the Joint Utilities of New York with a separate Appendix by each respective major utility on June 27, 2018, including our New York utility companies. NYSEG and RG&E have stated that they believe Tax Act benefits should be utilized for utility programs for the benefit of customers, including for new projects such as AMI, other future resiliency investments and to recover deferred regulatory assets. On August 9, 2018, the NYPSC issued an Order requiring sur-credits effective October 1, 2018. The sur-credits for NYSEG and RG&E reflected the lower effective tax rate of 21%. For NYSEG Gas, RG&E Electric and RG&E Gas the NYPSC also required the sur-credit to include the return to customers of the January - September 2018 Tax Act savings over three years. The NYPSC allowed NYSEG Electric to continue to defer the January - September 2018 Tax Act savings as well as to continue to preserve the protected and unprotected Tax Act savings until the companies' next rate cases. In Connecticut, UI and SCG expect Tax Act savings to be deferred until they are reflected in tariffs in a future rate case, unless PURA determines otherwise. CNG and Berkshire included Tax Act savings in rate cases that were filed with PURA and the DPU, respectively, in the second quarter of 2018. In Maine, CMP adjusted rates beginning July 1, 2018 to pass back to customers the Tax Act savings after offsetting for recovery of deferred 2017 storm costs. At the FERC, CMP transmission and UI transmission adjusted their tariffs in June 2018 to reflect the income statement value of Tax Act savings.

Power Tax Audits

In 2015, we implemented power tax software to track and measure deferred tax amounts for CMP, NYSEG and RG&E. In connection with this change, we identified historical updates needed with deferred taxes recognized by CMP, NYSEG and RG&E. We increased our deferred tax liabilities in 2015, with a corresponding increase to regulatory assets, to reflect the updated amounts calculated by the power tax software. Since 2015, the NYPSC and MPUC accepted certain adjustments to deferred taxes and associated regulatory assets for this item in recent distribution rate cases, resulting in a regulatory asset balance of approximately \$157 million and \$160 million for this item at December 31, 2018 and 2017, respectively.

In 2017, audits of the power tax regulatory assets were commenced by the NYPSC and MPUC. On January 11, 2018, the NYPSC issued an order opening an operations audit on NYSEG and RG&E and certain other New York utilities regarding tax accounting. The audit report is expected to be completed in 2019. In January 2018, the MPUC published the power tax audit report with respect to CMP, which indicated that the auditor was unable to verify the "acquisition value" of the power tax regulatory assets. The audit report requires that CMP must provide support for the beginning balance of the regulatory assets or will be unable to recover the value of the assets, which is approximately \$10 million. CMP responded in to the audit report in its rate case filing and noted that it could reconcile 99% of the tax values and therefore requested full recovery of the power tax regulatory asset. We cannot predict the outcome of this proceeding.

Ginna Reliability Support Service Agreement

Ginna Nuclear Power Plant, LLC (GNPP), which is a subsidiary of Constellation Energy Nuclear Group, LLC (CENG), owns and operates the R.E. Ginna Nuclear Power Plant (Ginna Facility and together with GNPP, Ginna), a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, the NYISO and then the NYPSC ruled that the Ginna Facility was required to maintain system reliability and ordered RG&E and GNPP to negotiate an Reliability Support Service Agreement (RSSA).

On October 21, 2015, RG&E, GNPP, New York Department of Public Service, Utility Intervention Unit and Multiple Intervenors filed a Joint Proposal with the NYPSC for approval of the RSSA, as modified. On February 23, 2016, the NYPSC unanimously adopted the joint proposal, which provided for a term of the RSSA from April 1, 2015 through March 31, 2017 and RG&E monthly payments to Ginna in the amount of \$15.4 million. In addition, RG&E was entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna was entitled to 30% of such revenues. The NYPSC also authorized RG&E to implement a rate surcharge effective January 1, 2016, to recover amounts paid to Ginna pursuant to the RSSA. The FERC issued an order authorizing the FERC Settlement agreement in the Settlement Docket on March 1, 2016, at which point the rate surcharge went into effect. RG&E used deferred rate credit amounts (regulatory liabilities) to offset the full amount of the Deferred Collection Amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed \$2.3 million per month, not to exceed a total use of credits in the amount of \$110 million, applicable through June 30, 2017. The available credits were insufficient to satisfy the final payment amount from RG&E to Ginna, and consistent with the agreement with the NYPSC, the RSSA surcharge continues past March 31, 2017, to recover up to \$2.3 million per month until the final payment has been recovered by RG&E from customers.

New York TransCo

Networks holds an approximate 20% ownership interest in the New York TransCo, LLC (New York TransCo). New York TransCo was established by the New York transmission utilities to develop, own and operate electric transmission in New York. In December 2014, New York TransCo filed for regulatory approval of its rates, terms, and conditions with the FERC.

On April 2, 2015, the FERC issued an order granting, inter alia, New York TransCo's owners' request for a 50-basis point adder for New York TransCo's membership in the NYISO regional transmission organization (RTO), subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected New York TransCo's owners' cost allocation method for the Transmission Owner Transmission Solutions (TOTS) Projects because it would allocate costs to Power Supply Long Island (LIPA) and New York Power Authority (NYPA) that they did not voluntarily agree to pay.

On November 5, 2015, the New York TransCo's owners, filed the Settlement with the FERC to resolve all outstanding issues associated with the TOTS Projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed TOTS Projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the NYISO Open Access Transmission Tariff (OATT) for the TOTS Projects. On March 17, 2016, the FERC approved the Settlement.

On August 21, 2017, New York TransCo filed a settlement with the FERC to resolve all outstanding issues associated with the alternate current transmission project (AC Project) for which selection of the developer remains pending with NYISO. The issues contained in the settlement include those related to the AC Project that were set for hearing and issues pending on rehearing. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the AC Project, including the base ROE of 9.65%, and a 100-basis point ROE adder, an equity ratio in the capital structure of up to 53%, risk sharing for project cost overruns, and the cost allocation under the NYISO Open Access Transmission Tariff (OATT) for the AC Project. On November 16, 2017, the FERC approved the settlement.

Minimum Equity Requirements for Regulated Subsidiaries

Our regulated utility subsidiaries of Maine and New York (NYSEG, RG&E, CMP and MNG) are each subject to a minimum equity ratio requirement that is tied to the capital structure assumed in establishing revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. The minimum equity ratio requirement has the effect of limiting the amount of dividends that may be paid and may, under certain circumstances, require that the parent contribute equity capital. These regulated utility subsidiaries are prohibited by regulation from lending to unregulated affiliates. These regulated utility subsidiaries have also agreed to minimum equity ratio requirements in certain borrowing agreements. These requirements are lower than the regulatory requirements.

Pursuant to agreements with the relevant utility commission, UI, SCG, CNG and BGC are restricted from paying dividends if paying such dividend would result in a common equity ratio lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. In addition, UI, SCG, CNG and BGC are prohibited from paying dividends to their parent if the utility's credit rating, as rated by any of the three major credit rating agencies, falls below investment grade, or if the utility's credit rating, as determined by two of the three major credit rating agencies, falls to the lowest investment grade and there is a negative watch or review downgrade notice.

We had restricted net assets of approximately \$4,626 million associated with the minimum equity requirements as of December 31, 2018.

Movement of capital from our wholly owned unregulated subsidiaries is unrestricted.

New Renewable Source Generation

Under Connecticut Public Act (PA) 11-80, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I RECs from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over an approximate 21-year period. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates. PA 17-144 and PA 18-50 added seventh and eighth years, and up to \$48 million in additional commitments by UI, to the program.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15 year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provides that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, through which UI has developed 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for Connecticut Light and Power Company, or CL&P (currently 9.25%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the program, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the program. The cost of this program, a 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, all of which are now operational, was approximately \$41.5 million.

On May 25, 2017, UI entered into six 20-year power purchase agreements (PPAs) totaling approximately 32 MW with developers of wind and solar generation. These PPAs originated from a three-state Clean Energy RFP, and were entered into pursuant PA 13-303 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 13, 2017.

On June 20, 2017, UI entered into twenty-two 20-year PPAs totaling approximately 72 MW with developers of wind and solar generation. These PPAs originated from and RFP issued by the Connecticut Department of Energy and Environmental Protection's (DEEP) PA 15-107 1(b), which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 7, 2017. One contract was terminated on October 24, 2017, resulting in UI having twenty-one remaining contracts from this solicitation totaling approximately 70 MW.

In October of 2018, UI entered into five PPAs totaling approximately 50 MW from developers of offshore wind and fuel cell generation. These PPAs originated from RFP issued by DEEP, under PA 17-144 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were filed for PURA approval on October 25, 2018. On December 19, 2018, PURA issued its final decision approving the five PPAs, and approved UI's use of the non by-passable federally mandated congestion charges for all customers to recover the net costs of the PPAs.

On December 28, 2018, DEEP issued a directive to UI to negotiate and enter into PPAs with twelve projects, totaling approximately 12 million MWh, which were selected as a result of the Zero Carbon RFP issued by DEEP pursuant to PA 17-3, which provides that the net costs of the PPAs are recoverable through electric rates. One of the selected projects is the Millstone nuclear facility located in Waterford, Connecticut and owned by Dominion Energy, Inc. DEEP's directive provides that UI should file these PPAs for PURA by March 31, 2019. UI has not yet entered into any of these PPAs

Equity Investment in Peaking Generation

UI is party to a 50-50 joint venture with Clearway Energy, Inc. in GenConn, which operates two peaking generation plants in Connecticut. The two peaking generation plants, GenConn Devon and GenConn Middletown, are both participating in the ISO-NE markets. PURA has approved revenue requirements for the period from January 1, 2019 through December 31, 2019 of \$23 million and \$28.8 million for GenConn Devon and GenConn Middletown, respectively.

Note 6. Regulatory Assets and Liabilities

Pursuant to the requirements concerning accounting for regulated operations, our utilities capitalize, as regulatory assets, incurred and accrued costs that are probable of recovery in future electric and natural gas rates. We base our assessment of whether recovery is probable on the existence of regulatory orders that allow for recovery of certain costs over a specific period, or allow for reconciliation or deferral of certain costs. When costs are not treated in a specific order, we use regulatory precedent to determine if recovery is probable. Our operating utilities also record, as regulatory liabilities, obligations to refund previously collected revenue or to spend revenue collected from customers on future costs. The primary items that are not included in the rate base or accruing carrying costs are the regulatory assets for qualified pension and other postretirement benefits, which reflect unrecognized actuarial gains and losses; debt premium; environmental remediation costs, which are primarily the offset of accrued liabilities for future spending; unfunded future income taxes, which are the offset to the unfunded future deferred income tax liability recorded; asset retirement obligations; hedge losses; and contracts for differences. The total net amount of these items is approximately \$1,813 million.

The regulatory assets and regulatory liabilities shown in the tables below result from various regulatory orders that allow for the deferral and/or reconciliation of specific costs. Regulatory assets and regulatory liabilities are classified as current when recovery or refund in the coming year is allowed or required through a specific order or when the rates related to a specific regulatory asset or regulatory liability are subject to automatic annual adjustment.

On June 15, 2016, the NYPSC approved the Joint Proposal in connection with a three-year rate plan for electric and gas service at NYSEG and RG&E effective May 1, 2016. Following the approval of the Joint Proposal most of these items related to NYSEG are amortized over a five-year period, except the portion of storm costs to be recovered over ten years, and plant related tax items which are amortized over the life of associated plant. Annual amortization expense for NYSEG is approximately \$17 million per rate year. RG&E items that are being amortized are plant related tax items, which are amortized over the life of associated plant, and unfunded deferred taxes being amortized over a period of fifty years. A majority of the other items related to RG&E, which net to a regulatory liability, remain deferred and will not be amortized until future proceedings. Following the approval of the Joint Proposal by the NYPSC, unfunded future income taxes were adjusted for the amount of \$126 million to reflect the change from a flow through to normalization method, which has been recorded as an increase to income tax expense and an offsetting increase to revenue, during the year ended December 31, 2016. These amounts will be collected over a period of fifty years.

Current and non-current regulatory assets as of December 31, 2018 and 2017 consisted of:

As of December 31, (Millions)	2018	2017
Current		
Pension and other post-retirement benefits cost deferrals	\$ 24	\$ 24
Pension and other post-retirement benefits	12	7
Storm costs	75	46
Rate adjustment mechanism	18	—
Reliability support services	13	27
Revenue decoupling mechanism	7	21
Transmission revenue reconciliation mechanism	11	8
Electric supply reconciliation	2	—
Hedges losses	—	3
Contracts for differences	9	9
Hardship programs	17	14
Deferred property tax	—	10
Plant decommissioning	6	6
Deferred purchased gas	37	31
Deferred transmission expense	11	37
Environmental remediation costs	12	13
Other	45	51
Total Current Regulatory Assets	299	307
Non-current		
Pension and other post-retirement benefits cost deferrals	117	110
Pension and other post-retirement benefits	1,126	1,162
Storm costs	271	254
Deferred meter replacement costs	27	29
Unamortized losses on reacquired debt	20	17
Environmental remediation costs	266	283
Unfunded future income taxes	368	376
Asset retirement obligations	18	18
Deferred property tax	2	14
Federal tax depreciation normalization adjustment	152	155
Merger capital expense target customer credit	1	2
Debt premium	117	131
Reliability support services	—	10
Plant decommissioning	5	9
Contracts for differences	88	84
Hardship programs	9	13
Deferred income taxes regulatory	6	—
Other	53	71
Total Non-current Regulatory Assets	\$ 2,646	\$ 2,738

“Pension and other post-retirement benefits” represent the actuarial losses on the pension and other post-retirement plans that will be reflected in customer rates when they are amortized and recognized in future pension expenses. “Pension and other post-retirement benefits cost deferrals” include the difference between actual expense for pension and other post-retirement benefits and the amount provided for in rates for certain of our regulated utilities. The recovery of these amounts will be determined in future proceedings.

“Storm costs” for CMP, NYSEG and RG&E are allowed in rates based on an estimate of the routine costs of service restoration. The companies are also allowed to defer unusually high levels of service restoration costs resulting from major storms when they meet certain criteria for severity and duration. Storm costs in the amount of \$123 million at NYSEG are being recovered over a

ten-year period and the remaining portion is being amortized over five years following the approval of the Joint Proposal by the NYPSC. UI is allowed to defer costs associated with any storm totaling \$1 million or greater for future recovery. UI's storm regulatory asset balance was \$0 as of December 31, 2018.

"Deferred meter replacement costs" represent the deferral of the book value of retired meters which were replaced by AMI meters. This amount is being amortized over the initial depreciation period of related retired meters.

"Unamortized losses on reacquired debt" represent deferred losses on debt reacquisitions that will be recovered over the remaining original amortization period of the reacquired debt.

"Environmental remediation costs" includes spending that has occurred and is eligible for future recovery in customer rates. Environmental costs are currently recovered through a reserve mechanism whereby projected spending is included in rates with any variance recorded as a regulatory asset or a regulatory liability. The amortization period will be established in future proceedings and will depend upon the timing of spending for the remediation costs. It also includes the anticipated future rate recovery of costs that are recorded as environmental liabilities since these will be recovered when incurred. Because no funds have yet been expended for the regulatory asset related to future spending, it does not accrue carrying costs and is not included within rate base.

"Unfunded future income taxes" represent unrecovered federal and state income taxes primarily resulting from regulatory flow through accounting treatment and are the offset to the unfunded future deferred income tax liability recorded. The income tax benefits or charges for certain plant related timing differences, such as removal costs, are immediately flowed through to, or collected from, customers. This amount is being amortized as the amounts related to temporary differences that give rise to the deferrals are recovered in rates. Following the approval of the Joint Proposal by the NYPSC, these amounts will be collected over a period of fifty years and the NYPSC Staff has initiated an audit, as required, of the unfunded future income taxes and other tax assets to verify the balances.

"Asset retirement obligations" represents the differences in timing of the recognition of costs associated with our AROs and the collection of such amounts through rates. This amount is being amortized at the related depreciation and accretion amounts of the underlying liability.

"Deferred property taxes" represents the customer portion of the difference between actual expense for property taxes and the amount provided for in rates. The amount for NYSEG and RG&E is being amortized over a five year period following the approval of the Joint Proposal by the NYPSC.

"Federal tax depreciation normalization adjustment" represents the revenue requirement impact of the difference in the deferred income tax expense required to be recorded under the IRS normalization rules and the amount of deferred income tax expense that was included in cost of service for rates years covering 2011 forward. The recovery period in NY is from 27 to 39 years and for CMP this will be determined in future MPUC rate proceedings.

"Debt premium" represents the regulatory asset recorded to offset the fair value adjustment to the regulatory component of the non-current debt of UIL at the acquisition date. This amount is being amortized to interest expense over the remaining term of the related outstanding debt instruments.

"Hardship Programs" represent hardship customer accounts deferred for future recovery to the extent they exceed the amount in rates.

"Deferred Purchased Gas" represents the difference between actual gas costs and gas costs collected in rates.

"Contracts for Differences" represent the deferral of unrealized gains and losses on contracts for differences derivative contracts. The balance fluctuates based upon quarterly market analysis performed on the related derivatives. The amounts, which do not earn a return, are fully offset by a corresponding derivative asset/liability.

"Deferred Transmission Expense" represents deferred transmission income or expense and fluctuates based upon actual revenues and revenue requirements.

"Rate adjustment mechanism" represents an interim rate change to return or collect certain defined reconciled revenues and costs for NYSEG and RG&E following the approval of the Joint Proposal by the NYPSC. The RAM, when triggered, is implemented in rates on July 1 of each year for return or collection over a twelve month period.

"Reliability support services" represents the difference between actual expenses for reliability support services and the amount provided for in rates.

"Other" includes post term amortization deferrals and various items subject to reconciliation including rate change levelization

and loss on re-acquired debt.

Current and non-current regulatory liabilities as of December 31, 2018 and 2017 consisted of:

As of December 31,	2018	2017
(Millions)		
Current		
Non by-passable charges	\$ 3	\$ 5
Energy efficiency portfolio standard	56	37
Gas supply charge and deferred natural gas cost	4	4
Transmission revenue reconciliation mechanism	7	14
Pension and other post-retirement benefits	—	1
Pension and other post-retirement benefits cost deferrals	14	14
Carrying costs on deferred income tax bonus depreciation	23	21
Carrying costs on deferred income tax - Mixed Services 263(a)	5	5
Yankee DOE refund	—	4
2017 Tax Act	15	—
Revenue decoupling mechanism	8	4
Stranded costs	—	17
Rate adjustment mechanism	6	—
Hedges gains	5	—
Other	59	52
Total Current Regulatory Liabilities	205	178
Non-current		
Accrued removal obligations	1,151	1,132
2017 Tax Act	1,494	1,515
Asset sale gain account	10	10
Carrying costs on deferred income tax bonus depreciation	49	72
Economic development	25	32
Merger capital expense target customer credit account	6	6
Pension and other post-retirement benefits	83	74
Positive benefit adjustment	36	39
New York state tax rate change	4	6
Theoretical reserve flow thru impact	14	19
Deferred property tax	25	19
Net plant reconciliation	19	10
Variable rate debt	46	33
Carrying costs on deferred income tax - Mixed Services 263(a)	15	20
Rate refund – FERC ROE proceeding	29	27
Transmission congestion contracts	21	19
Merger-related rate credits	18	20
Accumulated deferred investment tax credits	13	13
Asset retirement obligation	13	13
Eaming sharing provisions	17	22
Middletown/Norwalk local transmission network service collections	18	19
Excess generation service charge	7	2
Low income programs	33	42
Non-firm margin sharing credits	8	8
Deferred income taxes regulatory	—	13
Other	69	67
Total Non-current Regulatory Liabilities	\$ 3,223	\$ 3,252

“Non by-passable charges” represent the non by-passable charge paid by all customers. An asset or liability is recognized resulting from differences between actual revenues and the underlying cost being recovered. This liability will be refunded to customers within the next year.

“Energy efficiency portfolio standard” represents the difference between revenue billed to customers through an energy efficiency charge and the costs of our energy efficiency programs as approved by the state authorities. This may be refunded to customers within the next year.

“Accrued removal obligations” represent the differences between asset removal costs recorded and amounts collected in rates for those costs. The amortization period is dependent upon the asset removal costs of underlying assets and the life of the utility plant.

“Asset sale gain account” represents the gain on NYSEG’s 2001 sale of its interest in Nine Mile Point 2 nuclear generating station located in Oswego, New York. The net proceeds from the Nine Mile Point 2 nuclear generating station were placed in this account and will be used to benefit customers. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Carrying costs on deferred income tax bonus depreciation” represent the carrying costs benefit of increased accumulated deferred income taxes created by the change in tax law allowing bonus depreciation. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Economic development” represents the economic development program which enables NYSEG and RG&E to foster economic development through attraction, expansion and retention of businesses within its service territory. If the level of actual expenditures for economic development allocated to NYSEG and RG&E varies in any rate year from the level provided for in rates, the difference is refunded to ratepayers. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Merger capital expense target customer credit” account was created as a result of NYSEG and RG&E not meeting certain capital expenditure requirements established in the order approving the purchase of AVANGRID (formerly Energy East Corporation) by Iberdrola. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Pension and other postretirement benefits” represent the actuarial gains on other postretirement plans that will be reflected in customer rates when they are amortized and recognized in future expenses. Because no funds have yet been received for this, a regulatory liability is not reflected within rate base. They also represent the difference between actual expense for pension and other postretirement benefits and the amount provided for in rates. Recovery of these amounts will be determined in future proceedings.

“Positive benefit adjustment” resulted from Iberdrola’s 2008 acquisition of AVANGRID (formerly Energy East Corporation). This is being used to moderate increases in rates. The amortization period is five years following the approval of the Joint Proposal by the NYPSC and included in the Ginna RSSA settlement.

“New York state tax rate change” represents excess funded accumulated deferred income tax balance caused by the 2014 New York state tax rate change from 7.1% to 6.5%. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Post term amortization” represents the revenue requirement associated with certain expired joint proposal amortization items. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Theoretical reserve flow thru impact” represents the differences from the rate allowance for applicable federal and state flow through impacts related to the excess depreciation reserve amortization. It also represents the carrying cost on the differences. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“2017 Tax Act” represents the impact from remeasurement of deferred income tax balances as a result of the Tax Act enacted by the U.S. federal government on December 22, 2017. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rates from 35% to 21% under the provisions of the Tax Act will result in amounts previously and currently collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The NYPSC, MPUC, PURA and DPU have instituted separate proceedings in New York, Maine, Connecticut and Massachusetts, respectively, to review and address the implications associated with the Tax Act on the utilities providing service in such states.

“Merger-related rate credits” resulted from the acquisition of UIL. This is being used to moderate increases in rates. In the years ended December 31, 2018 and 2017, respectively, \$3 million and \$2 million of rate credits were applied against customer bills.

“Excess generation service charge” represents deferred generation-related and non by-passable federally mandated congestion costs or revenues for future recovery from or return to customers. The amount fluctuates based upon timing differences between revenues collected from rates and actual costs incurred.

“Low Income Programs” represent various hardship and payment plan programs approved for recovery.

“Other” includes cost of removal being amortized through rates and various items subject to reconciliation including variable rate debt, Medicare subsidy benefits and stray voltage collections.

Note 7. Goodwill and Intangible assets

Goodwill by reportable segment as of December 31, 2018 and 2017 consisted of:

As of December 31, (Millions)	2018	2017
Networks	\$ 2,747	\$ 2,747
Renewables	380	380
Total	\$ 3,127	\$ 3,127

As of December 31, 2018 and 2017, there were no changes in gross amounts and accumulated losses of goodwill for the Networks and Renewables reportable segments, except for various immaterial adjustments in 2017 related to the gross amount of goodwill for the Networks reportable segment.

Goodwill Impairment Assessment

For impairment testing purposes our reporting units are the same as operating segments, except for Networks, which contained three reporting units, Maine, New York and UIL. The goodwill for the Maine reporting unit resulted from the purchase of CMP by Energy East Corporation in 2000 and amounted to \$325 million. Separately, the goodwill for the New York reporting unit resulted primarily from the purchase of RG&E by Energy East in 2002 and amounted to \$654 million. The goodwill for the UIL reporting unit was generated from the acquisition of UIL on December 16, 2015, and amounts to \$1,768 million.

Our annual impairment testing takes place as of October 1. Our step zero qualitative assessment involves evaluating key events and circumstances that could affect the fair value of our reporting units, as well as other factors. Events and circumstances evaluated include macroeconomic conditions, industry, regulatory and market considerations, cost factors and their effect on earnings and cash flows, overall financial performance as compared with projected results and actual results of relevant prior periods, other relevant entity specific events and events affecting a reporting unit.

Our step one impairment testing includes various assumptions, primarily the discount rate, which is based on an estimate of our marginal, weighted average cost of capital and forecasted cash flows. We test the reasonableness of the conclusions of our step one impairment testing using a range of discount rates and a range of assumptions for long term cash flows.

We had no impairment of goodwill in 2018 and 2017 as a result of our impairment testing.

Intangible assets

Intangible assets include those assets acquired in business acquisitions and intangible assets acquired and developed from external third parties and from affiliated companies. Following is a summary of intangible assets:

As of December 31, 2018 (Millions)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Wind development	\$ 588	\$ (275)	\$ 313
Other	25	(15)	10
Total Intangible Assets	\$ 613	\$ (290)	\$ 323

As of December 31, 2017	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
(Millions)			
Wind development	\$ 583	\$ (264)	\$ 319
Other	21	(12)	9
Total Intangible Assets	\$ 604	\$ (276)	\$ 328

Wind development costs, with the exception of future 'pipeline' development costs, are amortized on a straight-line basis in accordance with the life of the related assets. Amortization expense for the years ended December 31, 2018, 2017 and 2016 amounted to \$15 million, \$22 million and \$25 million, respectively. We believe our future cash flows will support the recoverability of our intangible assets.

We expect amortization expense for the five years subsequent to December 31, 2018, to be as follows:

Year ending December 31,	
(Millions)	
2019	\$ 14
2020	\$ 14
2021	\$ 13
2022	\$ 13
2023	\$ 12

As of December 31, 2017, we reclassified \$193 million from intangible assets related to gas storage rights to assets held for sale in the consolidated balance sheet (see Note 26 - Assets Held for Sale).

Note 8. Property, Plant and Equipment

Property, plant and equipment as of December 31, 2018, consisted of:

As of December 31, 2018	Regulated	Nonregulated	Total
(Millions)			
Electric generation, distribution, transmission and other	\$ 14,242	\$ 11,669	\$ 25,911
Natural gas transportation, distribution and other	4,058	13	4,071
Other common operating property	—	226	226
Total Property, Plant and Equipment in Service (a)	18,300	11,908	30,208
Total accumulated depreciation (b)	(4,615)	(3,744)	(8,359)
Total Net Property, Plant and Equipment in Service	13,685	8,164	21,849
Construction work in progress	1,010	600	1,610
Total Property, Plant and Equipment	\$ 14,695	\$ 8,764	\$ 23,459

(a) Includes capitalized leases of \$226 million primarily related to electric generation, distribution, transmission and other.

(b) Includes accumulated amortization of capitalized leases of \$76 million.

Property, plant and equipment as of December 31, 2017, consisted of:

As of December 31, 2017	Regulated	Nonregulated	Total
(Millions)			
Electric generation, distribution, transmission and other	\$ 13,229	\$ 11,517	\$ 24,746
Natural gas transportation, distribution and other	3,813	13	3,826
Other common operating property	—	169	169
Total Property, Plant and Equipment in Service (a)	17,042	11,699	28,741
Total accumulated depreciation (b)	(4,238)	(3,259)	(7,497)
Total Net Property, Plant and Equipment in Service	12,804	8,440	21,244
Construction work in progress	1,011	414	1,425
Total Property, Plant and Equipment	\$ 13,815	\$ 8,854	\$ 22,669

- (a) Includes capitalized leases of \$204 million primarily related to electric generation, distribution, transmission and other.
- (b) Includes accumulated amortization of capitalized leases of \$68 million.

As of December 31, 2017, we reclassified \$489 million from non-regulated property, plant and equipment to assets held for sale in the consolidated balance sheet (see Note 26 - Assets Held for Sale). In addition, certain amounts in the regulated and non-regulated property, plant and equipment of the table above have been reclassified to conform to the 2018 presentation.

Capitalized interest costs were \$26 million, \$28 million and \$20 million for the years ended December 31, 2018, 2017 and 2016, respectively. Accrued liabilities for property, plant and equipment additions were \$154 million, \$209 million and \$338 million as of December 31, 2018, 2017 and 2016, respectively.

We impaired or wrote off amounts of \$0, \$5 million and \$0 for the years ended December 31, 2018, 2017 and 2016, respectively, resulting from reassessment of the economic feasibility of our various Renewables development projects in construction.

Depreciation expense for the years ended December 31, 2018, 2017 and 2016, amounted to \$840 million, \$802 million and \$779 million, respectively.

Note 9. Asset retirement obligations

AROs are intended to meet the costs for dismantling and restoration work that we have committed to carry out at our operational facilities.

The reconciliation of ARO carrying amounts for the years ended December 31, 2018 and 2017 consisted of:

(Millions)		
As of December 31, 2016	\$	161
Liabilities settled during the year		(1)
Liabilities incurred during the year		13
Accretion expense		10
Revisions in estimated cash flows		13
As of December 31, 2017	\$	196
Liabilities settled during the year		(1)
Liabilities incurred during the year		5
Accretion expense		12
Revisions in estimated cash flows		5
As of December 31, 2018	\$	217

Several of the wind generation facilities have restricted cash for purposes of settling AROs. Restricted cash related to AROs was \$2 million as of both December 31, 2018 and 2017. These amounts have been included in "Other Assets" on the consolidated balance sheets. Accretion expenses are included in "Operations and maintenance" in the consolidated statements of income.

We have AROs for which a liability has not been recognized because the fair value cannot be reasonably estimated due to indeterminate settlement dates, including for the removal of hydroelectric dams due to structural inadequacy or for decommissioning; the removal of property upon termination of an easement, right-of-way or franchise; and costs for abandonment of certain types of gas mains.

In 2018, the addition of new wind and solar facilities, revision of the estimated useful lives of wind and solar facilities, and the subsequent measure of the amount of the original ARO estimate of undiscounted cash flows resulted in higher discounted AROs. We estimate that the revisions will result in approximately \$1 million annual increase in expense going forward.

Note 10. Debt

Long-term debt as of December 31, 2018 and 2017 consisted of:

As of December 31,		2018		2017	
(Millions)	Maturity Dates	Balances	Interest Rates	Balances	Interest Rates
First mortgage bonds - fixed (a)	2019-2045	\$ 2,055	3.07%-10.06%	\$ 2,054	3.07%-10.60%
Unsecured pollution control notes - fixed	2020-2029	526	2.00%-3.50%	200	2.00%-2.375%
Unsecured pollution control notes – variable	2032	—		62	1.94%
Other various non-current debt - fixed	2019-2045	3,127	2.80%-10.48%	3,027	2.89%-10.48%
Obligations under capital leases	2019-2036	89	4%-4.44%	74	4%-4.44%
Unamortized debt issuance costs and discount		(35)		(38)	
Total Debt		5,762		5,379	
Less: debt due within one year, included in current liabilities		394		183	
Total Non-current Debt		\$ 5,368		\$ 5,196	

(a) The first mortgage bonds have pledged collateral of substantially all the respective utility's in service properties of approximately \$6,751 million.

On June 29, 2018, NYSEG and RG&E remarketed \$326 million in aggregate principal amount of Pollution Control Revenue Bonds, issued through the NYSERDA, with mandatory tender and maturity dates ranging from 2023 to 2029 and interest rates ranging from 2.625% to 3.50%.

On October 2, 2018, UI remarketed \$64.5 million in aggregate principal amount of Pollution Control Refunding Revenue Bonds, issued through the Business Finance Authority of the State of New Hampshire, with mandatory tender date in 2023 and an interest rate of 2.80%.

In the third and fourth quarters of 2018, UI, CNG, SCG, BGC and CMP offered a total \$645 million of debt securities in the private placement market. On October 4, 2018, each of UI, CNG and BGC executed separate note purchase agreements to issue senior unsecured notes, and SCG executed a bond purchase agreement to issue first mortgage bonds. On October 4, 2018, UI issued \$100 million of senior unsecured notes maturing in 2028 at an interest rate of 4.07%, and on January 15, 2019, UI, CNG, SCG and BGC issued \$195 million in aggregate amount of notes/bonds with maturity dates ranging from 2029 to 2049 and interest rates ranging from 4.07% to 4.52%.

On December 12, 2018, UI issued an additional \$50 million of senior unsecured notes maturing in 2025 at a fixed interest rate of 3.96% under a separate note purchase agreement. In addition, on December 27, 2018, CMP executed a bond purchase agreement to issue \$300 million of first mortgage bonds and issued \$60 million of such bonds maturing in 2028 at a fixed interest rate of 3.95%. The remaining \$240 million in aggregate amount of CMP first mortgage bonds are expected to be issued in June 2019. Maturities range from seven to 15 years and interest rates range from 3.87% to 4.20%.

Long-term debt, including sinking fund obligations and capital lease payments, due over the next five years consists of:

(Millions)						
2019	2020	2021	2022	2023	Total	
\$ 394	\$ 720	\$ 308	\$ 365	\$ 489	\$ 2,276	

We make certain standard covenants to lenders in our third-party debt agreements, including, in certain agreements, covenants regarding the ratio of indebtedness to total capitalization. A breach of any covenant in the existing credit facilities or the agreements governing our other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration. Other events of default may be remedied by the borrower within a specified period or waived by the lenders and, if not remedied or waived, give the lenders the right to accelerate. Neither we nor any of our subsidiaries were in breach of covenants or of any obligation that could trigger the early redemption of our debt as of December 31, 2018 and 2017.

Fair Value of Debt

The estimated fair value of debt amounted to \$5,952 million and \$5,799 million as of December 31, 2018 and 2017, respectively. The estimated fair value was determined, in most cases, by discounting the future cash flows at market interest rates. The interest

rate curve used to make these calculations takes into account the risks associated with the electricity industry and the credit ratings of the borrowers in each case. The fair value hierarchy pertaining to the fair value of debt is considered as Level 2, except for unsecured pollution control notes-variable with a fair value of \$61 million as of December 31, 2017, which were repaid in 2018 and were considered Level 3. The fair value of these unsecured pollution control notes-variable was determined using unobservable interest rates as the market for these notes is inactive.

Short-term Debt

Outstanding Notes Payable

AVANGRID had \$587 million and \$786 million of notes payable as of December 31, 2018 and 2017, respectively. As of December 31, 2018, the balance consisted of \$589 million of commercial paper, presented net of discounts on the balance sheet. As of December 31, 2017, the balance consisted of \$507 million of commercial paper, \$250 million outstanding on the credit facility and \$29 million in notes payable to an affiliate. AVANGRID's commercial paper program was established on May 13, 2016, with a limit of \$1 billion and is backstopped by the AVANGRID credit facility described below. On July 30, 2018, AVANGRID increased this limit from \$1 billion to \$2 billion.

AVANGRID Credit Facility

On June 29, 2018, AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC entered into a revolving credit facility with a syndicate of banks, or the AVANGRID Credit Facility, that provides for maximum borrowings of up to \$2.5 billion in the aggregate. The AVANGRID Credit Facility replaces and supersedes the prior revolving credit facility entered into by AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC, with a syndicate of banks on April 5, 2016 with a maturity date of April 5, 2021, which provided for maximum borrowings of up to \$1.5 billion in the aggregate on substantially similar terms as the AVANGRID Credit Facility.

Under the terms of the AVANGRID Credit Facility, each joint borrower has a maximum borrowing entitlement, or sublimit, which can be periodically adjusted to address specific short-term capital funding needs, subject to the maximum limit contained in the agreement. AVANGRID's maximum sublimit is \$2 billion, NYSEG, RG&E, CMP and UI have maximum sublimits of \$400 million, CNG and SCG have maximum sublimits of \$150 million and BGC has a maximum sublimit of \$40 million. Under the AVANGRID Credit Facility, each of the borrowers will pay an annual facility fee that is dependent on their credit rating. The initial facility fees will range from 12.5 to 17.5 basis points. The maturity date for the AVANGRID Credit Facility is June 29, 2023.

As of December 31, 2018 and 2017, there was \$0 and \$250 million drawn under the AVANGRID Credit Facility, and the capacity to borrow under the facility is reduced by the amount of outstanding commercial paper, leaving available credit of, respectively, \$1,911 million and \$743 million.

Iberdrola Group Credit Facility

On June 18, 2018, AVANGRID entered into a credit facility with Iberdrola Financiacion, S.A.U., a company of the Iberdrola Group. The facility has a limit of \$500 million and matures on June 18, 2023. AVANGRID pays a facility fee of 10.5 basis points annually on the facility. As of December 31, 2018, there was no outstanding amount under this credit facility.

Note 11. Fair Value of Financial Instruments and Fair Value Measurements

We determine the fair value of our derivative assets and liabilities and available for sale non-current investments associated with Networks' activities utilizing market approach valuation techniques:

- We measure the fair value of our noncurrent investments using quoted market prices in active markets for identical assets and include the measurements in Level 1. The available for sale investments, which are Rabbi Trusts for deferred compensation plans, primarily consist of money market funds and are included in Level 1 fair value measurement.
- NYSEG and RG&E enter into electric energy derivative contracts to hedge the forecasted purchases required to serve their electric load obligations. They hedge their electric load obligations using derivative contracts that are settled based upon Locational Based Marginal Pricing published by the NYISO. NYSEG and RG&E hedge approximately 70% of their electric load obligations using contracts for a NYISO location where an active market exists. The forward market prices used to value the companies' open electric energy derivative contracts are based on quoted prices in active markets for identical assets or liabilities with no adjustment required and therefore we include the fair value in Level 1.
- NYSEG and RG&E enter into natural gas derivative contracts to hedge their forecasted purchases required to serve their natural gas load obligations. The forward market prices used to value open natural gas derivative contracts are exchange-based prices for the identical derivative contracts traded actively on the New York Mercantile Exchange (NYMEX). Because we use prices quoted in an active market we include the fair value measurements in Level 1.

- NYSEG, RG&E and CMP enter into fuel derivative contracts to hedge their unleaded and diesel fuel requirements for their fleet vehicles. Exchange-based forward market prices are used but because an unobservable basis adjustment is added to the forward prices we include the fair value measurement for these contracts in Level 3.
- UI enters into CfDs, which are marked-to-market based on a probability-based expected cash flow analysis that is discounted at risk-free interest rates and an adjustment for non-performance risk using credit default swap rates. We include the fair value measurement for these contracts in Level 3 (See Note 12 for further discussion on CfDs).

We determine the fair value of our derivative assets and liabilities associated with Renewables and Gas activities utilizing market approach valuation techniques. Exchange-traded transactions, such as NYMEX futures contracts, that are based on quoted market prices in active markets for identical product with no adjustment are included in the Level 1 fair value. Contracts with delivery periods of two years or less which are traded in active markets and are valued with or derived from observable market data for identical or similar products such as over-the-counter NYMEX, foreign exchange swaps and fixed price physical and basis and index trades are included in Level 2 fair value. Contracts with delivery periods exceeding two years or that have unobservable inputs or inputs that cannot be corroborated with market data for identical or similar products are included in Level 3 fair value. The unobservable inputs include historical volatilities and correlations for tolling arrangements and extrapolated values for certain power swaps. The valuation for this category is based on our judgments about the assumptions market participants would use in pricing the asset or liability since limited market data exists.

We determine the fair value of our interest rate swap derivative instruments based on a model whose inputs are observable, such as the London Interbank Offered Rate (LIBOR) forward interest rate curves. We include the fair value measurement for these contracts in Level 2 (See Note 12 for further discussion of interest rate swaps).

The carrying amounts for cash and cash equivalents, restricted cash, accounts receivable, accounts payable, notes payable and interest accrued approximate their estimated fair values and are considered as Level 1.

Restricted cash was \$7 million and \$5 million as of December 31, 2018 and 2017, respectively, which is included in "Other Assets" on the consolidated balance sheets.

The financial instruments measured at fair value as of December 31, 2018 and 2017 consisted of:

As of December 31, 2018 (Millions)	Level 1	Level 2	Level 3	Netting	Total
Securities portfolio (available for sale)	\$ 37	\$ —	\$ —	\$ —	\$ 37
Derivative assets					
Derivative financial instruments - power	17	23	91	(59)	72
Derivative financial instruments - gas	1	20	36	(55)	2
Contracts for differences	—	—	5	—	5
Total	18	43	132	(114)	79
Derivative liabilities					
Derivative financial instruments - power	(12)	(41)	(36)	77	(12)
Derivative financial instruments - gas	(1)	(23)	(7)	22	(9)
Contracts for differences	—	—	(102)	—	(102)
Derivative financial instruments – Other	—	(16)	(2)	—	(18)
Total	\$ (13)	\$ (80)	\$ (147)	\$ 99	\$ (141)

As of December 31, 2017	Level 1	Level 2	Level 3	Netting	Total
(Millions)					
Securities portfolio (available for sale)	\$ 41	\$ —	\$ —	\$ —	\$ 41
Derivative assets					
Derivative financial instruments - power	14	30	74	(49)	69
Derivative financial instruments - gas	89	18	64	(146)	25
Contracts for differences	—	—	12	—	12
Total	103	48	150	(195)	106
Derivative liabilities					
Derivative financial instruments - power	(14)	(17)	(15)	37	(9)
Derivative financial instruments - gas	(80)	(20)	(25)	110	(15)
Contracts for differences	—	—	(104)	—	(104)
Total	\$ (94)	\$ (37)	\$ (144)	\$ 147	\$ (128)

Included in the derivative financial instruments – gas are derivative assets and liabilities of Gas segment classified as held for sale as of December 31, 2017. See Note 26 – Assets Held For Sale for further discussion.

The reconciliations of changes in the fair value of financial instruments based on Level 3 inputs for the years ended December 31, 2018, 2017 and 2016 consisted of:

(Millions)	2018	2017	2016
Fair value as of January 1,	\$ 6	\$ 31	\$ (19)
Gains for the year recognized in operating revenues	18	18	67
Losses for the year recognized in operating revenues	(9)	(1)	—
Total gains or losses for the period recognized in operating revenues	9	17	67
Gains recognized in OCI	—	2	1
Losses recognized in OCI	(5)	(1)	—
Total gains or losses recognized in OCI	(5)	1	1
Net change recognized in regulatory assets and liabilities	(5)	(17)	(8)
Purchases	(6)	(5)	3
Settlements	(10)	(17)	(9)
Transfers out of Level 3 (a)	(4)	(4)	(4)
Fair value as of December 31,	\$ (15)	\$ 6	\$ 31
Gains for the year included in operating revenues attributable to the change in unrealized gains relating to financial instruments still held at the reporting date	\$ 9	\$ 17	\$ 67

(a) Transfers out of Level 3 were the result of increased observability of market data.

For assets and liabilities that are recognized in the consolidated financial statements at fair value on a recurring basis, we determine whether transfers have occurred between levels in the hierarchy by re-assessing categorization based on the lowest level of input that is significant to the fair value measurement as a whole at the end of each reporting period. There have been no transfers between Level 1 and Level 2 during the years reported.

Level 3 Fair Value Measurement

The tables below illustrate the significant sources of unobservable inputs used in the fair value measurement of our Level 3 derivatives, and the variability in prices for those transactions classified as Level 3 derivatives.

As of December 31, 2018

Instruments	Instrument Description	Valuation Technique	Valuation Inputs	Index	Avg.	Max.	Min.
Fixed price power and gas swaps with delivery period > two years	Transactions with delivery periods exceeding two years	Transactions are valued against forward market prices on a discounted basis	Observable and extrapolated forward gas and power prices not all of which can be corroborated by market data for identical or similar products				
				NYMEX (\$/MMBtu)	\$ 2.95	\$ 4.90	\$ 2.40
				Indiana hub (\$/MWh)	\$ 30.73	\$ 61.12	\$ 19.10
				Mid C (\$/MWh)	\$ 23.73	\$ 105.00	\$ (0.50)
				Minn hub (\$/MWh)	\$ 25.30	\$ 52.17	\$ 12.51

Our Level 3 valuations primarily consist of NYMEX gas and fixed price power swaps with delivery periods extending through 2024 and 2032, respectively. The gas swaps are used to hedge both gas inventory in firm storage and merchant wind positions. The power swaps are used to hedge merchant wind production in the West and Midwest.

We performed a sensitivity analysis around the Level 3 gas and power positions to changes in the valuation inputs. Given the nature of the transactions in Level 3, the only material input to the valuation is the market price of gas or power for transactions with delivery periods exceeding two years. The fixed price power swaps are economic hedges of future power generation, with decreases in power prices resulting in unrealized gains and increases in power prices resulting in unrealized losses. The gas swaps are economic hedges of merchant generation, with decreases in gas prices resulting in unrealized gains and increases in gas prices resulting in unrealized losses. As all transactions are economic hedges of the underlying position, any changes in the fair value of these transactions will be offset by changes in the anticipated purchase/sales price of the underlying commodity.

Two elements of the analytical infrastructure employed in valuing transactions are the price curves used in the calculation of market value and the models themselves. We maintain and document authorized trading points and associated forward price curves, and we develop and document models used in valuation of the various products.

Transactions are valued in part on the basis of forward price, correlation and volatility curves. We maintain and document descriptions of these curves and their derivations. Forward price curves used in valuing the transactions are applied to the full duration of the transaction.

The determination of fair value of the CfDs (see Note 12 for further details on CfDs) was based on a probability-based expected cash flow analysis that was discounted at risk-free interest rates, as applicable, and an adjustment for non-performance risk using credit default swap rates. Certain management assumptions were required, including development of pricing that extended over the term of the contracts. We believe this methodology provides the most reasonable estimates of the amount of future discounted cash flows associated with the CfDs. Additionally, on a quarterly basis, we perform analytics to ensure that the fair value of the derivatives is consistent with changes, if any, in the various fair value model inputs. Significant isolated changes in the risk of non-performance, the discount rate or the contract term pricing would result in an inverse change in the fair value of the CfDs. Additional quantitative information about Level 3 fair value measurements of the CfDs is as follows:

Unobservable Input	Range at December 31, 2018
Risk of non-performance	0.87% - 0.88%
Discount rate	2.51% - 2.63%
Forward pricing (\$ per KW-month)	\$4.30 - \$9.55

Note 12. Derivative Instruments and Hedging

Our Networks, Renewables and Gas activities are exposed to certain risks, which are managed by using derivative instruments. All derivative instruments are recognized as either assets or liabilities at fair value on the consolidated balance sheets in accordance with the accounting requirements concerning derivative instruments and hedging activities.

(a) Networks activities

NYSEG and RG&E have an electric commodity charge that passes through rates costs for the market price of electricity. They use electricity contracts, both physical and financial, to manage fluctuations in electricity commodity prices in order to provide price stability to customers. We include the cost or benefit of those contracts in the amount expensed for electricity purchased when the related electricity is sold. We record changes in the fair value of electric hedge contracts to derivative assets and / or liabilities with an offset to regulatory assets and / or regulatory liabilities, in accordance with the accounting requirements concerning regulated operations.

The amount recognized in regulatory liabilities and assets for electricity derivatives was a gain of \$4.9 million and a loss of \$0.1 million as of December 31, 2018, respectively, and a loss of \$0.2 million as of December 31, 2017. The amount reclassified from regulatory assets and liabilities into income, which is included in electricity purchased, was a gain of \$9.7 million, a loss of \$36.9 million and a loss of \$66.7 million for the years ended December 31, 2018, 2017 and 2016, respectively.

NYSEG and RG&E have purchased gas adjustment clauses that allow them to recover through rates any changes in the market price of purchased natural gas, substantially eliminating their exposure to natural gas price risk. NYSEG and RG&E use natural gas futures and forwards to manage fluctuations in natural gas commodity prices to provide price stability to customers. We include the cost or benefit of natural gas futures and forwards in the commodity cost that is passed on to customers when the related sales commitments are fulfilled. We record changes in the fair value of natural gas hedge contracts to derivative assets and or liabilities with an offset to regulatory assets and or regulatory liabilities in accordance with the accounting requirements for regulated operations.

The amount recognized in regulatory liabilities for natural gas hedges was a gain of \$0.3 million and \$2.5 million as of December 31, 2018 and 2017, respectively. The amount reclassified from regulatory liabilities and assets into income, which is included in natural gas purchased, was a gain of \$0.8 million, a loss of \$0.2 million and a loss of \$1.9 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Pursuant to PURA order, UI and Connecticut's other electric utility, CL&P, each executed two long-term CfDs with certain incremental capacity resources, each of which specifies a capacity quantity and a monthly settlement that reflects the difference between a forward market price and the contract price. The costs or benefits of each contract will be paid by or allocated to customers and will be subject to a cost-sharing agreement between UI and CL&P pursuant to which approximately 20% of the cost or benefit is borne by or allocated to UI customers and approximately 80% is borne by or allocated to CL&P customers.

PURA has determined that costs associated with these CfDs will be fully recoverable by UI and CL&P through electric rates, and UI has deferred recognition of costs (a regulatory asset) or obligations (a regulatory liability), including carrying costs. For those CfDs signed by CL&P, UI records its approximate 20% portion pursuant to the cost-sharing agreement noted above. As of December 31, 2018, UI has recorded a gross derivative asset of \$5 million (\$0 of which is related to UI's portion of the CfD signed by CL&P), a regulatory asset of \$97 million, a gross derivative liability of \$102 million (\$96 million of which is related to UI's portion of the CfD signed by CL&P) and a regulatory liability of \$0. As of December 31, 2017, UI has recorded a gross derivative asset of \$12 million (\$0 of which is related to UI's portion of the CfD signed by CL&P), a regulatory asset of \$93 million, a gross derivative liability of \$104 million (\$90 million of which is related to UI's portion of the CfD signed by CL&P) and a regulatory liability of \$0.

The unrealized gains and losses from fair value adjustments to these derivatives, which are recorded in regulatory assets or regulatory liabilities, for the years ended December 31, 2018, 2017 and 2016, respectively, were as follows:

	Years Ended December 31,		
	2018	2017	2016
(Millions)			
Derivative Assets	\$ (6)	\$ (8)	\$ (7)
Derivative Liabilities	\$ 1	\$ (9)	\$ (1)

The net notional volumes of the outstanding derivative instruments associated with Networks activities as of December 31, 2018 and 2017, respectively, consisted of:

As of December 31,	2018	2017
(Millions)		
Wholesale electricity purchase contracts (MWh)	4.9	3.9
Natural gas purchase contracts (Dth)	7.8	6.1
Fleet fuel purchase contracts (Gallons)	2.1	2.1

The offsetting of derivatives, location in the consolidated balance sheet and amounts of derivatives associated with Networks activities as of December 31, 2018 and 2017, respectively, consisted of:

As of December 31, 2018	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
(Millions)				
Not designated as hedging instruments				
Derivative assets	\$ 18	\$ 6	\$ 10	\$ 3
Derivative liabilities	(10)	(3)	(21)	(93)
	8	3	(11)	(90)
Designated as hedging instruments				
Derivative assets	—	—	—	—
Derivative liabilities	—	—	(2)	—
	—	—	(2)	—
Total derivatives before offset of cash collateral	8	3	(13)	(90)
Cash collateral receivable	—	—	—	—
Total derivatives as presented in the balance sheet	\$ 8	\$ 3	\$ (13)	\$ (90)
As of December 31, 2017	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
(Millions)				
Not designated as hedging instruments				
Derivative assets	\$ 20	\$ 5	\$ 13	\$ —
Derivative liabilities	(13)	—	(32)	(88)
	7	5	(19)	(88)
Designated as hedging instruments				
Derivative assets	—	—	—	—
Derivative liabilities	—	—	—	—
	—	—	—	—
Total derivatives before offset of cash collateral	7	5	(19)	(88)
Cash collateral receivable	—	—	3	—
Total derivatives as presented in the balance sheet	\$ 7	\$ 5	\$ (16)	\$ (88)

The effect of derivatives in cash flow hedging relationships on OCI and income for the years ended December 31, 2018, 2017 and 2016, respectively, consisted of:

Year Ended December 31, (Millions)	Loss Recognized in OCI on Derivatives	Location of Loss Reclassified from Accumulated OCI into Income	Loss Reclassified from Accumulated OCI into Income
	Effective Portion (a)	Effective Portion (a)	
2018			
Interest rate contracts	\$ —	Interest expense	\$ 8
Commodity contracts	(1)	Operating expenses	—
Total	\$ (1)		\$ 8
2017			
Interest rate contracts	\$ —	Interest expense	\$ 8
Commodity contracts	(1)	Operating expenses	1
Total	\$ (1)		\$ 9
2016			
Interest rate contracts	\$ —	Interest expense	\$ 8
Commodity contracts	—	Operating expenses	2
Total	\$ —		\$ 10

(a) Changes in OCI are reported in pre-tax dollars, the reclassified amounts of commodity contracts are included within “Purchase power, natural gas and fuel used” line item within operating expenses in the consolidated statements of income.

The net loss in AOCI related to previously settled forward starting swaps and accumulated amortization is \$60.8 million and \$68.8 million, as of December 31, 2018 and 2017, respectively. We recorded \$8.0 million in net derivative losses related to discontinued cash flow hedges in each of the years ended December 31, 2018, 2017 and 2016. We will amortize approximately \$5.8 million of discontinued cash flow hedges in 2019. During the years ended December 31, 2018, 2017 and 2016, there was no ineffective portion for cash flow hedges.

The unrealized loss of \$1.7 million on hedge derivatives is reported in OCI because the forecasted transaction is considered to be probable as of December 31, 2018. We expect that \$1.7 million of those losses will be reclassified into earnings within the next twelve months. The maximum length of time over which we are hedging our exposure to the variability in future cash flows for forecasted fleet fuel transactions is twelve months.

(b) Renewables and Gas activities

The below presented quantitative information includes derivative financial instruments associated with Gas activities, which were classified as held for sale in the consolidated balance sheet as of December 31, 2017 (see Note 26 - Assets Held for Sale).

We sell fixed-price gas and power forwards to hedge our merchant wind assets from declining commodity prices for our Renewables business. We also purchase fixed-price gas and basis swaps and sell fixed-price power in the forward market to hedge the spark spread or heat rate of our merchant thermal assets. We also enter into tolling arrangements to sell the output of our thermal generation facilities.

Renewables has proprietary trading operations that enter into fixed-price power and gas forwards in addition to basis swaps. The intent is to speculate on fixed-price commodity and basis volatility in the U.S. commodity markets.

Renewables will periodically designate derivative contracts as cash flow hedges for both its thermal and wind portfolios. To the extent that the derivative contracts are effective in offsetting the variability of cash flows associated with future power sales and gas purchases, the fair value changes are recorded in OCI. Any hedge ineffectiveness is recorded in current period earnings. For thermal operations, Renewables will periodically designate both fixed price NYMEX gas contracts and natural gas basis swaps that hedge the fuel requirements of its Klamath Plant in Klamath, Oregon. Renewables will also designate fixed price power swaps at various locations in the U.S. market to hedge future power sales from its Klamath facility and various wind farms.

The net notional volumes of outstanding derivative instruments associated with Renewables and Gas activities as of December 31, 2018 and 2017, respectively, consisted of:

As of December 31,	2018	2017
(MWh/Dth in Millions)		
Wholesale electricity purchase contracts	5	4
Wholesale electricity sales contracts	6	6
Natural gas and other fuel purchase contracts	29	285
Financial power contracts	11	12
Basis swaps - purchases	42	68
Basis swaps - sales	4	62

The fair values of derivative contracts associated with Renewables and Gas activities as of December 31, 2018 and 2017, respectively, consisted of:

As of December 31,	2018	2017
(Millions)		
Wholesale electricity purchase contracts	\$ 11	\$ (3)
Wholesale electricity sales contracts	(12)	8
Natural gas and other fuel purchase contracts	(2)	19
Financial power contracts	55	55
Basis swaps- purchases	(6)	(13)
Basis swaps- sales	—	4
Total	\$ 46	\$ 70

The offsetting of derivatives, location in the consolidated balance sheet and amounts of derivatives associated with Renewables and Gas activities as of December 31, 2018 and 2017, respectively, consisted of:

As of December 31, 2018	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
(Millions)				
Not designated as hedging instruments				
Derivative assets	\$ 19	\$ 96	\$ 29	\$ 17
Derivative liabilities	(5)	(3)	(48)	(35)
	14	93	(19)	(18)
Designated as hedging instruments				
Derivative assets	2	1	2	4
Derivative liabilities	—	—	(7)	(10)
	2	1	(5)	(6)
Total derivatives before offset of cash collateral	16	94	(24)	(24)
Cash collateral receivable (payable)	(8)	(34)	9	17
Total derivatives as presented in the balance sheet	\$ 8	\$ 60	\$ (15)	\$ (7)

As of December 31, 2017	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
(Millions)				
Not designated as hedging instruments				
Derivative assets	\$ 111	\$ 99	\$ 31	\$ 4
Derivative liabilities	(82)	(5)	(51)	(10)
	29	94	(20)	(6)
Designated as hedging instruments				
Derivative assets	24	4	—	2
Derivative liabilities	—	(1)	(3)	(3)
	24	3	(3)	(1)
Total derivatives before offset of cash collateral	53	97	(23)	(7)
Cash collateral receivable (payable)	(17)	(39)	3	3
Total derivatives as presented in the balance sheet, including assets and liabilities held for sale	\$ 36	\$ 58	\$ (20)	\$ (4)

The effect of trading derivatives associated with Renewables and Gas activities for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years Ended December 31,	2018	2017	2016
(Millions)			
Wholesale electricity purchase contracts	\$ 4	\$ (3)	\$ 3
Wholesale electricity sales contracts	(2)	4	(7)
Financial power contracts	—	(1)	4
Financial and natural gas contracts	4	(8)	(22)
Total Gain (Loss)	\$ 6	\$ (8)	\$ (22)

The effect of non-trading derivatives associated with Renewables and Gas activities for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years Ended December 31,	2018	2017	2016
(Millions)			
Wholesale electricity purchase contracts	\$ 11	\$ 1	\$ 9
Wholesale electricity sales contracts	(15)	(3)	(20)
Financial power contracts	(19)	(5)	(10)
Natural gas and other fuel purchase contracts	—	(8)	34
Total (Loss) Gain	\$ (23)	\$ (15)	\$ 13

Such gains and losses are included in “Operating revenues” and in “Purchased power, natural gas and fuel used” operating expenses in the consolidated statements of income, depending upon the nature of the transaction.

The effect of derivatives in cash flow hedging relationships on OCI and income for the years ended December 31, 2018, 2017 and 2016 consisted of:

Year Ended December 31, (Millions)	(Loss) Gain Recognized in OCI on Derivatives	Location of (Gain) Loss Reclassified from Accumulated OCI into Income	(Gain) Loss Reclassified from Accumulated OCI into Income
	Effective Portion (a)	Effective Portion (a)	
2018			
Commodity contracts	\$ (11)	Revenues	\$ (22)
	\$ (11)		\$ (22)
2017			
Commodity contracts	\$ 41	Revenues	\$ 14
	\$ 41		\$ 14
2016			
Commodity contracts	\$ (42)	Revenues	\$ (43)
Total	\$ (42)		\$ (43)

(a) Changes in OCI are reported on a pre-tax basis.

Amounts are reclassified from AOCI into income in the period during which the transaction being hedged affects earnings or when it becomes probable that a forecasted transaction being hedged would not occur. Notwithstanding future changes in prices, approximately \$3.4 million of loss included in AOCI at December 31, 2018 is expected to be reclassified into earnings within the next 12 months. During the years ended December 31, 2018, 2017 and 2016, we recorded a net loss of \$0.1 million, net gain of \$2.6 million, and a net loss \$6.8 million, respectively, in earnings as a result of ineffectiveness from cash flow hedges. We recorded \$0.2 million and \$0.5 million in net derivative loss and \$0.4 million in net derivative gain related to discontinued cash flow hedge for the years ended December 31, 2018, 2017 and 2016, respectively. The net loss in AOCI related to a discontinued cash flow hedge is \$0.4 million as of December 31, 2018 out of which no amount will be amortized through 2019.

(c) Interest rate swaps

AVANGRID uses financial derivative instruments from time to time to alter its fixed and floating rate debt balances or to hedge fixed rates in anticipation of future fixed rate issuances. In 2018, AVANGRID entered into two forward interest rate swaps, with a total notional amount of \$500 million, to hedge the issuance of forecasted fixed rate debt in 2019. The forward interest rate swaps are designated and qualify as cash flow hedges, have mandatory termination dates of June 28, 2019, and are expected to be settled upon the forecasted debt issuance. The effective portion of the gain or loss on the interest rate swap derivative is reported as a component of AOCI and reclassified into earnings in the period or periods during which related interest payments of the forecasted debt will occur.

Pre-tax loss of \$15.8 million was recognized in AOCI for the year ended December 31, 2018 from the effective portion of changes in the fair value of the interest rate swap derivative instruments. The amount in AOCI is expected to be reclassified into earnings upon interest rate swap settlement over the underlying debt maturity period. During the year ended December 31, 2018, no ineffectiveness was recorded from cash flow hedges.

The forward interest rate swap derivative liability of \$15.8 million is included in current liabilities on the balance sheet and does not have related offsetting cash collateral or other derivative assets/liabilities to be offset with.

In January 2019, AVANGRID entered into an additional forward interest rate swap, with a total notional amount of \$250 million, for the same hedging purpose as the previous two forward interest rate swaps discussed above.

(d) Counterparty credit risk management

NYSEG and RG&E face risks related to counterparty performance on hedging contracts due to counterparty credit default. We have developed a matrix of unsecured credit thresholds that are applicable based on the respective counterparty's or the counterparty guarantor's credit rating, as provided by Moody's or Standard & Poor's. When our exposure to risk for a counterparty exceeds the unsecured credit threshold, the counterparty is required to post additional collateral or we will no longer transact with the counterparty until the exposure drops below the unsecured credit threshold.

The wholesale power supply agreements of UI contain default provisions that include required performance assurance, including certain collateral obligations, in the event that UI's credit rating on senior debt were to fall below investment grade. If such an event had occurred as of December 31, 2018, UI would have had to post an aggregate of approximately \$17 million in collateral.

We have various master netting arrangements in the form of multiple contracts with various single counterparties that are subject to contractual agreements that provide for the net settlement of all contracts through a single payment. Those arrangements reduce our exposure to a counterparty in the event of default on or termination of any single contract. For financial statement presentation purposes, we offset fair value amounts recognized for derivative instruments and fair value amounts recognized for the right to reclaim or the obligation to return cash collateral arising from derivative instruments executed with the same counterparty under a master netting arrangement. The amounts of cash collateral under master netting arrangements that have not been offset against net derivative positions were \$26 million and \$30 million as of December 31, 2018 and 2017, respectively. Derivative instruments settlements and collateral payments are included in "Other assets" and "Other liabilities" of operating activities in the consolidated statements of cash flows.

Certain of our derivative instruments contain provisions that require us to maintain an investment grade credit rating on our debt from each of the major credit rating agencies. If our debt were to fall below investment grade, we would be in violation of those provisions and the counterparties to the derivative instruments could request immediate payment or demand immediate and ongoing full overnight collateralization on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit risk related contingent features that are in a liability position as of December 31, 2018 is \$0.1 million, for which we have posted collateral.

Note 13. Commitments and Contingent Liabilities

We are party to various legal disputes arising as part of our normal business activities. We assess our exposure to these matters and record estimated loss contingencies when a loss is likely and can be reasonably estimated. We do not provide for accrual of legal costs expected to be incurred in connection with a loss contingency.

Transmission - ROE Complaint – CMP and UI

On September 30, 2011, the Massachusetts Attorney General, DPU, PURA, New Hampshire Public Utilities Commission, Rhode Island Division of Public Utilities and Carriers, Vermont Department of Public Service, numerous New England consumer advocate agencies and transmission tariff customers collectively filed a joint complaint with the FERC, pursuant to sections 206 and 306 of the Federal Power Act, against several New England Transmission Owners (NETOs) claiming that the current approved base ROE of 11.14% used by NETOs in calculating formula rates for transmission service under the ISO-New England Open Access Transmission Tariff (OATT) was not just and reasonable and seeking a reduction of the base ROE with refunds to customers for the seeking a reduction of the base ROE with refunds to customers for the 15-month refund periods beginning October 1, 2011 (Complaint I), December 27, 2012 (Complaint II), July 31, 2014 (Complaint III) and April 29, 2016 (Complaint IV).

Following various intermediate hearings, orders and appellate decisions, on October 16, 2018, the FERC issued an order directing briefs and proposing a new methodology to calculate the NETOs ROE that is contained in NETOs' transmission formula rate on file at the FERC (the October 2018 Order). The FERC proposes to use this new methodology to resolve Complaints I, II, III and IV filed by the New England state consumer advocates.

The new proposed ROE methodology set forth in the October 2018 Order considers more than just the two-step DCF analysis adopted in the FERC order on Complaint I vacated by the Court. The new proposed ROE methodology uses three financial analyses (i.e., DCF, the capital-asset pricing model and the expected earnings analysis) to produce a range of returns to narrow the zone of reasonableness when assessing whether a complainant has met its initial burden of demonstrating that the utility's existing ROE is unjust and unreasonable. The new proposed ROE methodology establishes a range of just and reasonable ROEs of 9.60% to 10.99% and proposes a just and reasonable base ROE of 10.41% with a new ROE cap of 13.08%. Pursuant to the October 2018 Order, the NETOs filed briefs on the proposed methodology in all four Complaints on January 11, 2019. We cannot predict the outcome of this proceeding.

CMP and UI reserved for refunds for Complaints I, II and III consistent with the FERC's March 3, 2015 final decision in Complaint I. Refunds were provided to customers for Complaint I. The CMP and UI total reserve associated with Complaints II and III is \$23.4 million and \$6.4 million, respectively, as of December 31, 2018, which has not changed since December 31, 2017, except for the accrual of carrying costs. If adopted as final, the impact of the initial decision by the FERC administrative law judge would be an additional aggregate reserve for Complaints II and III of \$17.1 million, which is based upon currently available information for these proceedings.

California Energy Crisis Litigation

Two California agencies brought a complaint in 2001 against a long-term PPA entered into by Renewables, as seller, to the California Department of Water Resources, as purchaser, alleging that the terms and conditions of the PPA were unjust and unreasonable. The FERC dismissed Renewables from the proceedings; however, the Ninth Circuit Court of Appeals reversed the FERC's dismissal of Renewables from the proceeding.

Joining with two other parties, Renewables filed a petition for certiorari in the United States Supreme Court on May 3, 2007. In an order entered on June 27, 2008, the Supreme Court granted Renewables' petition for certiorari, vacated the appellate court's judgment, and remanded the case to the appellate court for further consideration in light of the Supreme Court's decision in a similar case. In light of the Supreme Court's order, on December 4, 2008, the Ninth Circuit Court of Appeals vacated its prior opinion and remanded the complaint proceedings to the FERC for further proceedings consistent with the Supreme Court's rulings. In 2014, the FERC assigned an administrative law judge to conduct evidentiary hearings. Following discovery, the FERC Trial Staff recommended that the complaint against Renewables be dismissed.

A hearing was held before a FERC administrative law judge in November and early December 2015. A preliminary proposed ruling by the administrative law judge was issued on April 12, 2016. The proposed ruling found no evidence that Renewables had engaged in any unlawful market conduct that would justify finding the Renewables PPAs unjust and unreasonable. However, the proposed ruling did conclude that price of the PPAs imposed an excessive burden on customers in the amount of \$259 million. Renewables position, as presented at hearings and agreed by the FERC Trial Staff, is that Renewables entered into bilateral power purchase contracts appropriately and complied with all applicable legal standards and requirements. The parties have submitted briefs on exceptions to the administrative law judge's proposed ruling to the FERC. There is no specific timetable for the FERC's ruling. In April 2018, Renewables requested, based on the nearly two years of delay from the preliminary proposed ruling and the Supreme Court precedent, that the FERC issue a final decision expeditiously. We cannot predict the outcome of this proceeding.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm

On March 11, 2017, the New York State Department of Public Service (the Department) commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 NYSEG and RG&E customers. The Department Staff issued a report (the Staff Report) of the findings from their investigation on November 16, 2017. The Staff Report made several recommendations for future storm response and also alleged that NYSEG and RG&E had violated their own emergency response plan in a number of respects.

Also on November 16, 2017, the NYPSC issued an Order Instituting Proceeding and to Show Cause (the Order) requiring the companies to address whether the NYPSC should mandate, reject or modify, in whole or in part the recommendations made in the Staff Report. The Order also required the companies to show cause why the NYPSC should not commence an administrative penalty proceeding. On May 18, 2018, NYSEG and RG&E filed a settlement joint proposal and investment joint proposal before the NYPSC to settle potential penalties and avoid litigation related to the March 2017 windstorm, pursuant to which, among other things, NYSEG and RG&E have agreed to make \$3.9 million in investments in 2018 designed to increase resiliency and improve emergency response in the areas impacted by the storm. The investments will not be reflected in rate base or operating expenses in establishing future delivery rates. The joint proposals were subject to public comment and await NYPSC approval. We cannot predict the final outcome of this matter.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2018 Winter Storms

In March 2018, following two severe winter storms that impacted over more than a million electric utility customers in New York, including 520,000 NYSEG and RG&E customers, the NYPSC initiated a comprehensive investigation of all the New York electric utilities' preparation and response to those events. The investigation has been expanded to include other 2018 New York spring storm events. We cannot predict the final outcome of this matter.

Class Actions Regarding LDC Gas Transportation Service on Algonquin Gas Transmission

Breiding et al. v. Eversource and Avangrid - Class Action. On November 16, 2017, a class action lawsuit was filed in the U.S. District Court for the District of Massachusetts on behalf of customers in New England against the Company and Eversource alleging that certain of their respective subsidiaries that take gas transportation service over the Algonquin Gas Transmission (AGT), which for AVANGRID would be its indirect subsidiaries SCG and CNG, engaged in pipeline capacity scheduling practices on AGT that resulted in artificially increased electricity prices in New England. These allegations were based on the conclusions of a whitepaper issued by the Environmental Defense Fund (EDF), an environmental advocacy organization, on October 10, 2017,

purporting to analyze the relationship between the New England electricity market and the New England local gas distribution companies. The plaintiffs assert claims under federal antitrust law, state antitrust, unfair competition and consumer protection laws, and under the common law of unjust enrichment. They seek damages, disgorgement, restitution, injunctive relief and attorney fees and costs. On February 27, 2018, the FERC released the results of a FERC staff inquiry into the pipeline capacity scheduling practices on the AGT. The inquiry arose out of the allegations made by the EDF in its whitepaper. The FERC announced that, based on an extensive review of public and non-public data, it had determined that the EDF study was flawed and led to incorrect conclusions. FERC also stated that the staff inquiry revealed no evidence of anticompetitive withholding of natural gas pipeline capacity on the AGT and that it would take no further action on the matter. On April 27, 2018, the Company filed a Motion to Dismiss all of the claims based on federal preemption and lack of any evidence of antitrust behavior, citing, among other reasons, the results of the FERC staff inquiry conclusion. The plaintiffs filed opposition to the motion to dismiss on May 25, 2018. On September 11, 2018, the District Court granted the Company's Motion and dismissed all claims. On October 10, 2018, the plaintiffs filed a notice of appeal. We cannot predict the outcome of this appeal.

PNE Energy Supply LLC v. Eversource Energy and Avangrid, Inc. - Class Action. On August 10, 2018, PNE Energy Supply LLC, a competitive energy supplier located in New England that purchases electricity in the day-ahead and real time wholesale electric market, filed a civil antitrust action, on behalf of itself and those similarly situated, against the Company and Eversource alleging that their respective gas subsidiaries illegally manipulated the supply of pipeline capacity in the "secondary capacity market" in order to artificially inflate New England natural gas and electricity prices. These allegations were also based on the conclusions of the White Paper issued by EDF. The plaintiff claims to represent entities who purchased electricity directly in the wholesale electricity market that it claims was targeted by the alleged anticompetitive conduct of Eversource and the Company. On September 28, 2018, the Company filed a Motion to Dismiss all of the claims based on federal preemption and lack of any evidence of antitrust behavior, citing, among other reasons, the results of the FERC staff inquiry and the dismissal of the related case, "*Breiding et al. v. Eversource and Avangrid*," by the same Court in September. The plaintiffs filed opposition to the motion to dismiss on October 26, 2018. We cannot predict the outcome of this class action lawsuit.

Leases

Operating lease expense relating to operational facilities, office building leases and vehicle and equipment leases was \$59.0 million, \$71.5 million and \$70.6 million for the years ended December 31, 2018, 2017 and 2016, respectively. Amounts related to contingent payments predominantly linked to electricity generation at the respective facilities were \$10.6 million, \$18.6 million and \$22.2 million for the years ended December 31, 2018, 2017 and 2016, respectively. Leases for most of the land on which wind farm facilities are located have various renewal and termination clauses.

On January 16, 2014, as required by the NYPSC, NYSEG renewed a Reliability Support Services Agreement (RSS Agreement) with Cayuga Operating Company, LLC (Cayuga) for Cayuga to provide reliability support services to maintain necessary system reliability through June 2017. Cayuga owns and operates the Cayuga Generating Facility (Facility), a coal-fired generating station that includes two generating units. Cayuga operates and maintains the RSS units and manages and complies with scheduling deadlines and requirements for maintaining the Facility and the RSS units as eligible energy and capacity providers and complies with dispatch instructions. NYSEG paid Cayuga a monthly fixed price and also paid for capital expenditures for specified capital projects. NYSEG was entitled to a share of any capacity and energy revenues earned by Cayuga. We accounted for this arrangement as an operating lease. The net expense incurred under this operating lease was \$17.6 million and \$37.8 million for the years ended December 31, 2017 and 2016, respectively.

On October 21, 2015, RG&E, GNPP and multiple intervenors filed a joint proposal with the regulator for approval of the modified RSS Agreement for the continued operation of the Ginna Facility. On February 23, 2016, the NYPSC unanimously adopted the joint proposal, which provided for a term of the RSSA from April 1, 2015, through March 31, 2017 and RG&E monthly payments to GNPP in the amount of \$15.4 million. RG&E was entitled to 70% of revenues from GNPP's sales into the energy and capacity markets, while GNPP was entitled to 30% of such revenues. We accounted for this arrangement as an operating lease. The net expense incurred under this operating lease was \$5.6 million and \$114.9 million for the years ended December 31, 2017 and 2016, respectively.

Total future minimum lease payments as of December 31, 2018 consisted of:

Year	Operating Leases		Capital Leases		Total
	(Millions)				
2019	\$	31	\$	30	\$ 61
2020		39		10	49
2021		38		7	45
2022		35		2	37
2023		33		50	83
Thereafter		735		2	737
Total	\$	911	\$	101	\$ 1,012

Power, Gas and Other Arrangements

Power and Gas Supply Arrangements – Networks

NYSEG and RG&E are the providers of last resort for customers. As a result, the companies buy physical energy and capacity from the NYISO. In accordance with the NYPSC's February 26, 2008 Order, NYSEG and RG&E are required to hedge on behalf of non-demand billed customers. The physical electric capacity purchases we make from parties other than the NYISO are to comply with the hedge requirement for electric capacity. The companies enter into financial swaps to comply with the hedge requirement for physical electric energy purchases. Other purchases, from some Independent Power Producers (IPPs) and NYPA are from contracts entered into many years ago when the companies made purchases under contract as part of their supply portfolio to meet their load requirement. More recent IPP purchases are required to comply with the companies' Public Utility Regulatory Policies Act (PURPA) purchase obligation.

NYSEG, RG&E, SCG, CNG and BGC (collectively, the Regulated Gas Companies) satisfy their natural gas supply requirements through purchases from various producers and suppliers, withdrawals from natural gas storage, capacity contracts and winter peaking supplies and resources. The Regulated Gas Companies operate diverse portfolios of gas supply, firm transportation capacity, gas storage and peaking resources. Actual gas costs incurred by each of the Regulated Gas Companies are passed through to customers through state regulated purchased gas adjustment mechanisms, subject to regulatory review.

The Regulated Gas Companies purchase the majority of their natural gas supply at market prices under seasonal, monthly or mid-term supply contracts and the remainder is acquired on the spot market. The Regulated Gas Companies diversify their sources of supply by amount purchased and location and primarily acquire gas at various locations in the U.S. Gulf of Mexico region, in the Appalachia region and in Canada.

The Regulated Gas Companies acquire firm transportation capacity on interstate pipelines under long-term contracts and utilize that capacity to transport both natural gas supply purchased and natural gas withdrawn from storage to the local distribution system.

The Regulated Gas Companies acquire firm underground natural gas storage capacity using long-term contracts and fill the storage facilities with gas in the summer months for subsequent withdrawal in the winter months.

Winter peaking resources are primarily attached to the local distribution systems and are either owned or are contracted for by the Regulated Gas Companies, each of which is a Local Distribution Company. Each Regulated Gas Company owns or has rights to the natural gas stored in an LNG facility directly attached to its distribution system.

Other arrangements include contractual obligations for property, plant and equipment, material and services on order but not yet delivered at December 31, 2018.

Power, Gas and Other Arrangements – Renewables

Gas purchase commitments consist of firm transport capacity to fuel the Cogen and Peaking gas generators. Power purchase commitments include the following: (i) a 55 MW Biomass PPA for 12 years (three years remaining) with a guaranteed output of 34.4 MW flat and a schedule of fixed price rates depending on season and time of day, (ii) long-term firm transmission agreements with fixed monthly capacity payments that allow the delivery of electricity from wind and thermal generation sources to various customers and (iii) a 95.6 MW (average) three-year purchase of hydro capacity and energy to provide balancing services to the NW wind assets that has monthly fixed payments (beginning in 2019 and expiring in 2021) and (iv) a five-year purchase of 52 MW (average) hydro capacity and energy to provide balancing services to the NW wind assets that has monthly fixed payments (beginning in 2019 and expiring in 2023). Power sales commitments include: (i) a 55 MW Biomass off-take agreement for 12 years (three years remaining) with guaranteed annual production of 34.4 MW flat with a schedule of fixed price rates depending on season and time of day, (ii) a retail renewable power sales agreement for 12 MW (average) expiring in 2026, (iii) fixed price,

fixed volume power sales off the Klamath Cogen facility, (iv) a seasonal tolling arrangement off the Klamath peaking facility with fixed capacity charges through 2024; (v) fixed price, fixed volume renewable energy credit sales off merchant wind facilities and (vi) sales of merchant wind farm capacity to various ISOs.

Forward purchases and sales commitments under power, gas and other arrangements as of December 31, 2018 consisted of:

Year	Purchases				Sales		
	Gas	Power	Other	Total	Power	Other	Total
	(Millions)						
2019	\$ 13	\$ 167	\$ 1,127	\$ 1,307	\$ 175	\$ 3	\$ 178
2020	11	134	66	211	113	3	116
2021	11	106	1	118	86	3	89
2022	11	43	—	54	32	3	35
2023	11	26	—	37	36	3	39
Thereafter	41	59	—	100	22	1	23
Totals	\$ 98	\$ 535	\$ 1,194	\$ 1,827	\$ 464	\$ 16	\$ 480

Guarantee Commitments to Third Parties

As of December 31, 2018, we had approximately \$362 million of standby letters of credit, surety bonds, guarantees and indemnifications outstanding. These instruments provide financial assurance to the business and trading partners of AVANGRID and its subsidiaries in their normal course of business. The instruments only represent liabilities if AVANGRID or its subsidiaries fail to deliver on contractual obligations. We therefore believe it is unlikely that any material liabilities associated with these instruments will be incurred and, accordingly, as of December 31, 2018, neither we nor our subsidiaries have any liabilities recorded for these instruments.

Note 14. Environmental Liabilities

Environmental laws, regulations and compliance programs may occasionally require changes in our operations and facilities and may increase the cost of electric and natural gas service. We do not provide for accruals of legal costs expected to be incurred in connection with loss contingencies.

Waste sites

The Environmental Protection Agency and various state environmental agencies, as appropriate, have notified us that we are among the potentially responsible parties that may be liable for costs incurred to remediate certain hazardous substances at twenty-five waste sites, which do not include sites where gas was manufactured in the past. Fifteen of the twenty-five sites are included in the New York State Registry of Inactive Hazardous Waste Disposal Sites; six sites are included in Maine's Uncontrolled Sites Program and one site is included on the Massachusetts Non-Priority Confirmed Disposal Site list. The remaining sites are not included in any registry list. Finally, nine of the twenty-five sites are also included on the National Priorities list. Any liability may be joint and several for certain sites.

We have recorded an estimated liability of \$5 million related to ten of the twenty-five sites. We have paid remediation costs related to the remaining fifteen sites and do not expect to incur additional liabilities. Additionally, we have recorded an estimated liability of \$8 million related to another eleven sites where we believe it is probable that we will incur remediation costs and or monitoring costs, although we have not been notified that we are among the potentially responsible parties or that we are regulated under State Resource Conservation and Recovery Act programs. It is possible the ultimate cost to remediate these sites may be significantly more than the accrued amount. Our estimate for costs to remediate these sites ranges from \$12 million to \$21 million as of December 31, 2018. Factors affecting the estimated remediation amount include the remedial action plan selected, the extent of site contamination and the allocation of the clean-up costs.

Manufactured Gas Plants

We have a program to investigate and perform necessary remediation at our fifty-three sites where gas was manufactured in the past (Manufactured Gas Plants, or MGPs). Eight sites are included in the New York State Registry; three sites are included in the New York State Department of Environmental Conservation Multi-Site Order on Consent; three sites are part of Maine's Voluntary Response Action Program and with two of such sites being part of Maine's Uncontrolled Sites Program. The remaining sites are not included in any registry list. We have entered into consent orders with various environmental agencies to investigate and, where necessary, remediate forty-one of the fifty-three sites.

Our estimate for all costs related to investigation and remediation of the fifty-three sites ranges from \$193 million to \$428 million as of December 31, 2018. Our estimate could change materially based on facts and circumstances derived from site investigations, changes in required remedial actions, changes in technology relating to remedial alternatives and changes to current laws and regulations.

Certain of our Connecticut and Massachusetts regulated gas companies own or have previously owned properties where MGPs had historically operated. MGP operations have led to contamination of soil and groundwater with petroleum hydrocarbons, benzene and metals, among other things, at these properties, the regulation and cleanup of which is regulated by the federal Resource Conservation and Recovery Act as well as other federal and state statutes and regulations. Each of the companies has or had an ownership interest in one or more such properties contaminated as a result of MGP-related activities. Under the existing regulations, the cleanup of such sites requires state and at times, federal, regulators' involvement and approval before cleanup can commence. In certain cases, such contamination has been evaluated, characterized and remediated. In other cases, the sites have been evaluated and characterized, but not yet remediated. Finally, at some of these sites, the scope of the contamination has not yet been fully characterized; no liability was recorded in respect of these sites as of December 31, 2018 and no amount of loss, if any, can be reasonably estimated at this time. In the past, the companies have received approval for the recovery of MGP-related remediation expenses from customers through rates and will seek recovery in rates for ongoing MGP-related remediation expenses for all of their MGP sites.

As of December 31, 2018 and 2017, the liability associated with our MGP sites in Connecticut, the remediation costs of which could be significant and will be subject to a review by PURA as to whether these costs are recoverable in rates, was \$99 million and \$100 million, respectively.

Our total recorded liability to investigate and perform remediation at all known inactive MGP sites discussed above and other sites was \$366 million and \$389 million as of December 31, 2018 and 2017, respectively. We recorded a corresponding regulatory asset, net of insurance recoveries and the amount collected from FirstEnergy, as described below, because we expect to recover the net costs in rates. Our environmental liability accruals are recorded on an undiscounted basis and are expected to be paid through the year 2055.

FirstEnergy

NYSEG sued FirstEnergy under the Comprehensive Environmental Response, Compensation, and Liability Act to recover environmental cleanup costs at sixteen former MGP sites, which are included in the discussion above. In July 2011, the District Court issued a decision and order in NYSEG's favor, requiring FirstEnergy to pay NYSEG approximately \$60 million for past and future clean-up costs at the sixteen sites in dispute. On September 9, 2011, FirstEnergy paid NYSEG \$30 million, representing their share of past costs of \$27 million and pre-judgment interest of \$3 million.

FirstEnergy appealed the decision to the Second Circuit Court of Appeals. On September 11, 2014, the Second Circuit Court of Appeals affirmed the District Court's decision in NYSEG's favor, but modified the decision for nine sites, reducing NYSEG's damages for incurred costs from \$27 million to \$22 million, excluding interest, and reducing FirstEnergy's allocable share of future costs at these sites. NYSEG refunded FirstEnergy the excess \$5 million in November 2014.

FirstEnergy remains liable for a substantial share of clean up expenses at nine MGP sites. Based on current projections, FirstEnergy's share is estimated at approximately \$20 million. This amount is being treated as a contingent asset and has not been recorded as either a receivable or a decrease to the environmental provision. Any recovery will be flowed through to NYSEG ratepayers.

Century Indemnity and OneBeacon

On August 14, 2013, NYSEG filed suit in federal court against two excess insurers, Century Indemnity and OneBeacon, who provided excess liability coverage to NYSEG. NYSEG seeks payment for clean-up costs associated with contamination at twenty-two former manufactured gas plants. Based on estimated clean-up costs of \$282 million, the carriers' allocable share could equal or exceed approximately \$89 million, excluding pre-judgment interest, although this amount may change substantially depending upon the determination of various factual matters and legal issues during the case.

Century Indemnity and OneBeacon have answered admitting issuance of the excess policies, but contesting coverage and providing documentation proving they received notice of the claims in the 1990s. On March 31, 2017, the District Court granted motions filed by Century Indemnity and OneBeacon dismissing all of NYSEG's claims against both defendants on the grounds of late notice. NYSEG filed a motion with the District Court on April 14, 2017 seeking reconsideration of the Court's decision, which was denied by an order dated March 27, 2018. NYSEG filed a notice appealing the District Court's dismissal on April 9, 2018. We cannot predict the outcome of this matter; however, any recovery will be flowed through to NYSEG ratepayers.

English Station

In January 2012, Evergreen Power, LLC (Evergreen Power) and Asnat Realty LLC (Asnat), then and current owners of a former generation site on the Mill River in New Haven (the English Station site) that UI sold to Quinnipiac Energy in 2000, filed a lawsuit in federal district court in Connecticut against UI seeking, among other things: (i) an order directing UI to reimburse the plaintiffs for costs they have incurred and will incur for the testing, investigation and remediation of hazardous substances at the English Station site and (ii) an order directing UI to investigate and remediate the site. This proceeding had been stayed in 2014 pending resolutions of other proceedings before the DEEP concerning the English Station site. In December 2016, the court administratively closed the file without prejudice to reopen upon the filing of a motion to reopen by any party. In December 2013, Evergreen Power and Asnat filed a subsequent lawsuit in Connecticut state court seeking among other things: (i) remediation of the English Station site; (ii) reimbursement of remediation costs; (iii) termination of UI's easement rights; (iv) reimbursement for costs associated with securing the property; and (v) punitive damages. This lawsuit had been stayed in May 2014 pending mediation. Due to lack of activity in the case, the court terminated the stay and scheduled a status conference for July 6, 2017. On July 5, 2017, Asnat filed a pretrial memorandum claiming damages of \$10 million for "environmental remediation activities" and lost use of the property. On April 16, 2018, the plaintiffs filed a revised complaint alleging fraud and unjust enrichment against UIL and UI and adding former UIL officers as named defendants alleging fraud. The complaint was further revised on July 3, 2018. We filed a Motion to Strike the counts in the complaint in August 2018 and oral arguments were held. On February 21, 2019, the court granted our Motion to Strike with respect to all counts except for the count against UI for unjust enrichment. The counts stricken include all counts against the individual defendants as well as against UIL. As to the remaining count, the court declined to strike the claim against UI for unjust enrichment. The court's ruling is subject to appeal by the plaintiffs. We cannot predict the outcome of this matter.

On April 8, 2013, DEEP issued an administrative order addressed to UI, Evergreen Power, Asnat and others, ordering the parties to take certain actions related to investigating and remediating the English Station site. Mediation of the matter began in the fourth quarter of 2013 and concluded unsuccessfully in April 2015. This proceeding was stayed while DEEP and UI continue to work through the remediation process pursuant to the consent order described below. Status reports are periodically filed with the DEEP.

On August 4, 2016, DEEP issued a partial consent order (the consent order), that, subject to its terms and conditions, requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI will remit to the State of Connecticut the difference between such cost and \$30 million to be used for a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut and the Commissioner of DEEP. UI is obligated to comply with the terms of the consent order even if the cost of such compliance exceeds \$30 million. Under the terms of the consent order, the state will discuss options with UI on recovering or funding any cost above \$30 million such as through public funding or recovery from third parties; however, it is not bound to agree to or support any means of recovery or funding. UI has initiated its process to investigate and remediate the environmental conditions within the perimeter of the English Station site pursuant to the consent order.

As of December 31, 2018 and 2017, the amount reserved for this matter was \$20 million and \$25 million, respectively. We cannot predict the outcome of this matter.

Note 15. Income Taxes

Upon enactment of the Tax Act, the Company remeasured its existing deferred income tax balances as of December 31, 2017 to reflect the decrease in the corporate income tax rate from 35% to 21%, which resulted in a material decrease to its net deferred income tax liability balances based on reasonable estimates that could be determined at that time. The Company's non-regulatory businesses recorded a corresponding net increase or decrease to income tax expense, while the utility operations recorded corresponding regulatory liabilities or assets to the extent that such amounts are probable of settlement or recovery through customer rates. The amount and timing of potential settlements of the established net regulatory liabilities are determined by the regulated utilities' respective rate regulators and IRS Normalization rules. As of December 31, 2018, the Company has completed the measurement and accounting of certain effects of the Tax Act which have been reflected in the December 31, 2018 financial statements.

Current and deferred taxes charged to (benefit) expense for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years Ended December 31, (Millions)	2018	2017	2016
Current			
Federal	\$ 17	\$ (20)	\$ (6)
State	2	12	8
Current taxes charged to expense (benefit)	19	(8)	2
Deferred			
Federal	233	(124)	412
State	(12)	(73)	2
Deferred taxes charged to expense (benefit)	221	(197)	414
Production tax credits	(68)	(53)	(38)
Investment tax credits	(2)	(1)	(1)
Total Income Tax Expense (Benefit)	\$ 170	\$ (259)	\$ 377

The differences between tax expense per the statements of income and tax expense at the 21% statutory federal tax rate for the year ended December 31, 2018 and 35% statutory federal tax rate for the years ended December 31, 2017 and 2016 consisted of:

Years Ended December 31, (Millions)	2018	2017	2016
Tax expense at federal statutory rate	\$ 161	\$ 43	\$ 353
Depreciation and amortization not normalized	(5)	9	61
Investment tax credit amortization	(2)	(1)	(1)
Tax return related adjustments	(6)	7	(2)
Production tax credits	(68)	(53)	(38)
Tax equity financing arrangements	—	(10)	(27)
Federal tax rate impact on held for sale classification	21	82	—
State tax (benefit) expense, net of federal benefit	(8)	(40)	7
Tax Act - remeasurement	46	(328)	—
Other, net	31	32	24
Total Income Tax Expense (Benefit)	\$ 170	\$ (259)	\$ 377

Deferred tax assets and liabilities as of December 31, 2018 and 2017 consisted of:

As of December 31,	2018	2017
(Millions)		
Non-current Deferred Income Tax Liabilities (Assets)		
Property related	\$ 3,787	\$ 3,543
Unfunded future income taxes	107	75
Federal and state tax credits	(691)	(574)
Accumulated deferred investment tax credits	—	14
Federal and state NOL's	(993)	(975)
Joint ventures/partnerships	132	302
Nontaxable grant revenue	(354)	(449)
Pension and other post-retirement benefits	8	(33)
Tax Act - tax on regulatory remeasurement	(393)	(401)
Other	(102)	(58)
Non-current Deferred Income Tax Liabilities	1,501	1,444
Add: Valuation allowance	23	21
Total Non-current Deferred Income Tax Liabilities	1,524	1,465
Less amounts classified as regulatory liabilities		
Non-current deferred income taxes	(6)	13
Non-current Deferred Income Tax Liabilities	\$ 1,530	\$ 1,452
Deferred tax assets	\$ 2,533	\$ 2,490
Deferred tax liabilities	4,057	3,955
Net Accumulated Deferred Income Tax Liabilities	\$ 1,524	\$ 1,465

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that all or a portion of a tax benefit will not be realized. The valuation allowance for deferred tax assets as of December 31, 2018 and 2017 was \$23 million and \$21 million, respectively. Valuation allowances have been established on various state net operating losses and tax credit carryforwards. The Company has not recorded a valuation allowance on its federal net operating losses or tax credit carryforwards. The \$2 million increase (net of federal benefit) in valuation allowance was primarily driven by an increase of \$4 million for additional valuation on state net operating losses, an increase of \$4 million on state tax credits and a reduction of \$6 million on state net operating losses written off related to Gas business.

The reconciliation of unrecognized income tax benefits for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years Ended December 31,	2018	2017	2016
(Millions)			
Beginning Balance	\$ 45	\$ 40	\$ 36
Increases for tax positions related to prior years	111	23	8
Decreases for tax positions related to prior years	(3)	(16)	(4)
Reduction for tax position related to settlements with taxing authorities	—	(2)	—
Ending Balance	\$ 153	\$ 45	\$ 40

Unrecognized income tax benefits represent income tax positions taken on income tax returns but not yet recognized in the consolidated financial statements. The accounting guidance for uncertainty in income taxes provides that the financial effects of a tax position shall initially be recognized when it is more likely than not based on the technical merits the position will be sustained upon examination, assuming the position will be audited and the taxing authority has full knowledge of all relevant information.

Accruals for interest and penalties on tax reserves were \$(0.4) million, \$(0.4) million, and \$2 million for the years ended December 31, 2018, 2017 and 2016, respectively. If recognized, \$119 million of the total gross unrecognized tax benefits would affect the effective tax rate.

It is estimated that no unrecognized tax benefits are anticipated to result in a net increase or decrease within twelve months of December 31, 2018.

AVANGRID and its subsidiaries, without ARHI, have been audited for the federal tax years 1998 through 2009. The results of these audits, net of reserves already provided, were immaterial. Tax years 2010 and forward are open for potential federal adjustments. All New York state returns, which were filed without ARHI, are closed through 2011 and Maine state returns are closed through 2015.

All federal tax returns filed by ARHI from the periods ended March 31, 2004, to December 31, 2009, are closed for adjustment. Generally, the adjustment period for the individual states we filed in is at least as long as the federal period.

As of December 31, 2018, UIL is subject to audit of its federal tax return for years 2013 and 2014. UIL income tax years 2010 through 2014 are open and subject to Connecticut and Massachusetts audit.

As of December 31, 2018, we had federal tax net operating losses of \$3.7 billion, federal renewable energy and investment tax credits, federal R&D tax credits and other federal credits of \$555 million, state tax net operating losses of \$282 million in several jurisdictions and miscellaneous state tax credits of \$133 million available to carry forward and reduce future income tax liabilities. For state purposes, we recognized a valuation allowance of \$23 million. The federal net operating losses begin to expire in 2028, while the federal tax credits begin to expire in 2023. The more significant state net operating losses begin to expire in 2021.

Note 16. Post-retirement and Similar Obligations

Networks has funded noncontributory defined benefit pension plans that cover the majority of Networks employees. The plans provide defined benefits based on years of service and final average salary for employees hired before 2002. Most employees hired in 2002, or later based upon the plan, are covered under a cash balance plan or formula where their benefit accumulates based on a percentage of annual salary and credited interest. During 2013, Networks announced that they would discontinue, effective December 31, 2013, the cash balance accruals for all non-union employees covered under the cash balance plans or formula. At the same time, the plans were closed to newly-hired non-union employees. The plans had been closed to newly-hired union employees in prior years. CMP's unionized employees covered under a cash balance plan ceased to receive accruals as of December 31, 2014. NYSEG's unionized employees covered under the cash balance plans ceased to receive accruals as of December 31, 2015. Their earned balances will continue to accrue interest but will no longer be increased by a flat dollar amount or percentage of pay, as defined by the plan. Instead, they will receive a contribution to their account under their respective company's defined contribution plan. There was no change to the defined benefit plans for employees covered under the plans that provide defined benefits based on years of service and final average salary. Employees not participating in a defined benefit plan are eligible to receive an enhanced 401(k) match.

Networks has other postretirement health care benefit plans covering the majority of Networks employees. The plans were closed to newly-hired non-union employees at the end of 2010. The plans had been closed to union employees in prior years. The pre-Medicare-eligible healthcare plans are contributory and participants' contributions are adjusted annually. Networks average contribution to these plans is limited at a level determined in prior periods. Except for a small group of "grandfathered" retirees, all Medicare eligible retirees that choose to participate are provided with a subsidy through a Health Reimbursement Account (HRA) to purchase coverage on the individual market.

With the acquisition of UIL, Networks also includes pension and other postretirement plans of UIL operating utility companies. The UI pension plans cover about one half of employees of UIL. The plan was closed to newly-hired employees in 2005. UI also has a non-qualified supplemental pension plan for certain employees.

The Regulated Gas Companies in Connecticut and Massachusetts have multiple qualified pension plans covering a majority of their union and management employees. The union plans are all closed to new hires, and the non-union plans were closed as of December 31, 2017. These entities also have non-qualified supplemental pension plans for certain employees and retirees. The qualified pension plans are traditional defined benefit plans or cash balance plans for those hired on or after specified dates. In some cases, neither of these plans is offered to new employees and have been replaced with enhanced 401(k) plans for those hired on or after specified dates.

In addition to providing pension benefits, UI also provides other postretirement benefits, consisting principally of health care and life insurance benefits, for retired employees and their dependents. The plans were closed to newly-hired non-union employees at the end of April 2005 and to newly-hired union employees at the end of March 2005. The healthcare plans are contributory and participants' contributions are adjusted annually. For Medicare eligible non-union retirees, UI provides a subsidy through an HRA for retirees to purchase coverage on the individual market. Medicare eligible union retirees have the option of receiving a subsidy through an HRA or paying contributions and participating in company-sponsored retiree health plans.

SCG and CNG also have plans providing other postretirement benefits for a majority of their employees. The SCG plans were closed to newly-hired non-union employees at the end of 1995, the SCG plans were closed to newly-hired union employees by the end of March 2010 and to newly-hired CNG union employees by end of March 2011. These benefits consist primarily of health

care, prescription drug and life insurance benefits for retired employees and their dependents. For Medicare eligible non-union retirees, SCG and CNG provide a subsidy through an HRA for retirees to purchase coverage on the individual market. Medicare eligible union retirees have the option of receiving a subsidy through an HRA or paying contributions and participating in company-sponsored retiree health plans.

ARHI has funded defined benefit pension plans for eligible employees hired prior to January 1, 2008. The benefit is based on the participant's age, service and five years average pay at the time of the freeze date of April 30, 2011. ARHI has other postretirement health care benefit plans covering eligible retirees and employees hired prior to January 1, 2008. Health and life insurance rates are based on age and service points at the time of retirement.

Obligations and funded status of Networks and ARHI as of December 31, 2018 and 2017 consisted of:

As of December 31, (Millions)	Pension Benefits		Postretirement Benefits	
	2018	2017	2018	2017
Change in benefit obligation				
Benefit obligation as of January 1,	\$ 3,593	\$ 3,448	\$ 491	\$ 495
Service cost	44	42	4	4
Interest cost	128	139	19	22
Plan participants' contributions	—	—	9	7
Plan amendments	—	—	(3)	—
Actuarial (gain) loss	(159)	188	(55)	3
Benefits paid	(237)	(219)	(41)	(39)
Reclassified from (to) held for sale	5	(5)	1	(1)
Benefit Obligation as of December 31,	3,374	3,593	425	491
Change in plan assets				
Fair value of plan assets as of January 1,	2,865	2,672	165	160
Actual return on plan assets	(135)	382	(5)	17
Employer contributions	48	33	20	20
Plan participants' contributions	—	—	9	7
Benefits paid	(237)	(219)	(41)	(39)
Reclassified from (to) held for sale	3	(3)	—	—
Fair Value of Plan Assets as of December 31,	2,544	2,865	148	165
Funded Status as of December 31,	\$ (830)	\$ (728)	\$ (277)	\$ (326)

Amounts recognized as of December 31, 2018 and 2017 consisted of:

As of December 31, (Millions)	Pension Benefits		Postretirement Benefits	
	2018	2017	2018	2017
Current liabilities	\$ —	\$ —	\$ (5)	\$ (5)
Non-current liabilities	(830)	(728)	(272)	(321)
Total	\$ (830)	\$ (728)	\$ (277)	\$ (326)

Amounts recognized in OCI for ARHI for the years ended December 31, 2018, 2017 and 2016, consisted of:

Years Ended December 31, (Millions)	Pension Benefits			Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Net loss (gain)	\$ 24	\$ 25	\$ 23	\$ (7)	\$ (4)	\$ (3)

We have determined that all Networks' regulated operating companies are allowed to defer as regulatory assets or regulatory liabilities items that would have otherwise been recorded in AOCI pursuant to the accounting requirements concerning defined benefit pension and other postretirement plans.

Amounts recognized as regulatory assets or regulatory liabilities for Networks for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years Ended December 31, (Millions)	Pension Benefits			Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Net loss	\$ 762	\$ 737	\$ 860	\$ (8)	\$ 35	\$ 44
Prior service cost (credit)	\$ 4	\$ 6	\$ 7	\$ (25)	\$ (31)	\$ (40)

Our accumulated benefit obligation (ABO) for all defined benefit pension plans of Networks and ARHI was \$3,174 million and \$3,363 million as of December 31, 2018 and 2017, respectively. CMP's and NYSEG's postretirement benefits were partially funded as of December 31, 2018 and 2017.

The projected benefit obligation (PBO) and the ABO exceeded the fair value of pension plan assets for all plans of Networks and ARHI as of December 31, 2018 and 2017.

The aggregate PBO and ABO and the fair value of plan assets for underfunded plans of Networks and ARHI as of December 31, 2018 and 2017 consisted of:

As of December 31, (Millions)	PBO in excess of plan assets	
	2018	2017
Projected benefit obligation	\$ 3,374	\$ 3,593
Fair value of plan assets	\$ 2,544	\$ 2,865

As of December 31, (Millions)	ABO in excess of plan assets	
	2018	2017
Accumulated benefit obligation	\$ 3,174	\$ 3,363
Fair value of plan assets	\$ 2,544	\$ 2,865

Components of Networks' net periodic benefit cost and other changes in plan assets and benefit obligations recognized in income and regulatory assets and liabilities for the years ended December 31, 2018, 2017 and 2016 consisted of:

(Millions) For the years ended December 31,	Pension Benefits			Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Net Periodic Benefit Cost:						
Service cost	\$ 44	\$ 42	\$ 44	\$ 4	\$ 5	\$ 5
Interest cost	126	137	140	18	21	20
Expected return on plan assets	(199)	(195)	(199)	(8)	(8)	(8)
Amortization of prior service cost (benefit)	1	2	2	(9)	(9)	(9)
Amortization of net loss	149	126	123	6	5	8
Net Periodic Benefit Cost	121	112	110	11	14	16
Other changes in plan assets and benefit obligations recognized in regulatory assets and regulatory liabilities:						
Net loss (gain)	175	3	(11)	(37)	(5)	(24)
Amortization of net loss	(149)	(126)	(123)	(6)	(5)	(8)
Current year prior service cost	—	—	—	(3)	—	—
Amortization of prior service (cost) benefit	(1)	(2)	(2)	9	9	9
Total Other Changes	25	(125)	(136)	(37)	(1)	(23)
Total Recognized	\$ 146	\$ (13)	\$ (26)	\$ (26)	\$ 13	\$ (7)

Components of ARHI's net periodic benefit cost and other changes in plan assets and benefit obligations recognized in income and OCI for the years ended December 31, 2018, 2017 and 2016 consisted of:

(Millions)	Pension Benefits			Postretirement Benefits		
For the years ended December 31,	2018	2017	2016	2018	2017	2016
Net Periodic Benefit Cost:						
Interest cost	\$ 2	\$ 2	\$ 2	\$ 1	\$ 1	\$ 1
Expected return on plan assets	(2)	(2)	(2)	—	—	—
Amortization of net loss	1	1	1	—	—	—
Settlement charge	1	—	1	—	—	—
Net Periodic Benefit Cost	2	1	2	1	1	1
Other Changes in plan assets and benefit obligations recognized in OCI:						
Net loss (gain)	1	2	—	(3)	(1)	(2)
Amortization of net loss	(1)	(1)	(1)	—	—	—
Total Other Changes	—	1	(1)	(3)	(1)	(2)
Total Recognized	\$ 2	\$ 2	\$ 1	\$ (2)	\$ —	\$ (1)

The net periodic benefit cost for postretirement benefits represents the amount expensed for providing health care benefits to retirees and their eligible dependents. We include the net periodic benefit cost in other operating expenses net of capitalized portion.

Amounts expected to be amortized from regulatory assets or liabilities into net periodic benefit cost for the year ending December 31, 2019 consist of:

	Pension Benefits	Postretirement Benefits
(Millions)		
Estimated net loss	\$ 121	\$ —
Estimated prior service benefit	\$ (1)	\$ (9)

Amounts expected to be amortized from OCI into net periodic benefit cost for the year ending December 31, 2019 consist of:

	Pension Benefits	Postretirement Benefits
(Millions)		
Estimated net gain	\$ —	\$ (1)

We expect that no pension benefit or postretirement benefit plan assets will be returned to us during the year ending December 31, 2019.

The weighted-average assumptions used to determine benefit obligations for Networks and ARHI as of December 31, 2018 and 2017 consisted of:

	Pension Benefits		Postretirement Benefits	
As of December 31,	2018	2017	2018	2017
Discount rate - Networks	3.93% / 4.09%	3.63% / 3.80%	3.93% / 4.09%	3.63% / 3.80%
Discount rate - ARHI	4.09%	3.80%	4.09%	3.80%
Rate of compensation increase - Networks	3.50% - 4.20%	3.50% - 4.20%	—	—

The discount rate is the rate at which the benefit obligations could presently be effectively settled. We determined the discount rates by developing yield curves derived from a portfolio of high grade noncallable bonds with yields that closely match the duration of the expected cash flows of our benefit obligations.

The weighted-average assumptions used to determine net periodic benefit cost for Networks and ARHI for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years Ended December 31,	Pension Benefits			Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
Discount rate - Networks	3.63% / 3.80%	4.12% / 4.24%	4.12% / 4.24%	3.63% / 3.80%	4.12% / 4.24%	4.12% / 4.24%
Discount rate - ARHI	3.80%	3.81%	3.90%	3.80%	3.81%	3.90%
Expected long-term return on plan assets - Networks	7.00% / 7.40%	7.00% / 7.50%	7.40% / 7.75%	6.13%	6.13%	7.16%
Expected long-term return on plan assets - ARHI	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%
Expected long-term return on plan assets - nontaxable trust - Networks	—	—	—	6.40%	6.50%	7.00%
Expected long-term return on plan assets - taxable trust - Networks	—	—	—	4.20%	4.25%	4.50%
Rate of compensation increase - Networks	3.50% - 4.20%	3.50% - 4.20%	3.50% - 4.20%	—	—	—

We developed our expected long-term rate of return on plan assets assumption based on a review of long-term historical returns for the major asset classes, the target asset allocations, and the effect of rebalancing of plan assets discussed below. Our analysis considered current capital market conditions and projected conditions. NYSEG, RG&E and UIL amortize unrecognized actuarial gains and losses over ten years from the time they are incurred as required by the NYPSC, PURA and DPU. Our other companies use the standard amortization methodology under which amounts in excess of ten-percent of the greater of the projected benefit obligation or market related value are amortized over the plan participants' average remaining service to retirement.

Assumed health care cost trend rates used to determine benefit obligations as of December 31, 2018 and 2017 consisted of:

As of December 31,	2018	2017
Health care cost trend rate assumed for next year - Networks	7.50%/8.50%	6.75%/8.50%
Health care cost trend rate assumed for next year - ARHI	7.00%/7.75%	7.50%/8.50%
Rate to which cost trend rate is assumed to decline (ultimate trend rate) - Networks	4.50%	4.50%
Rate to which cost trend rate is assumed to decline (ultimate trend rate) - ARHI	4.50%	4.50%
Year that the rate reaches the ultimate trend rate - Networks	2030 / 2028	2026 / 2028
Year that the rate reaches the ultimate trend rate - ARHI	2029 / 2027	2028 / 2030

The effects of a one-percent change in the assumed health care cost trend rates would have the following effects:

	1% Increase		1% Decrease	
(Millions)				
Effect on total of service and interest cost	\$	1	\$	—
Effect on postretirement benefit obligation	\$	11	\$	(9)

Contributions

We make annual contributions in accordance with our funding policy of not less than the minimum amounts as required by applicable regulations. Networks expect to contribute \$62 million to the pension benefit plans during 2019.

Estimated Future Benefit Payments

Expected benefit payments and Medicare Prescription Drug, Improvement and Modernization Act of 2003 subsidy receipts reflecting expected future service for Networks and ARHI as of December 31, 2018 consisted of:

(Millions)	Pension Benefits	Postretirement Benefits	Medicare Act Subsidy Receipts
2019	\$ 202	\$ 32	\$ 1
2020	\$ 205	\$ 32	\$ 1
2021	\$ 209	\$ 31	\$ 1
2022	\$ 213	\$ 31	\$ 1
2023	\$ 214	\$ 30	\$ 1
2024 - 2028	\$ 1,088	\$ 143	\$ 3

Non-Qualified Pension Plans

Networks and ARHI also sponsor various unfunded pension plans for certain current employees, former employees and former directors. The total liability for these plans, which is included in Other current and Other Non-current Liabilities, was \$54 million and \$55 million at December 31, 2018 and 2017, respectively.

Plan Assets

Our pension benefits plan assets for Networks and ARHI are held in three master trusts. This provides for a uniform investment manager lineup and an efficient, cost effective means of allocating expenses and investment performance to each plan. Our primary investment objective is to ensure that current and future benefit obligations are adequately funded and with volatility commensurate with our risk tolerance. Preservation of capital and achievement of sufficient total return to fund accrued and future benefits obligations are of highest concern. Our primary means for achieving capital preservation is through diversification of the trusts' investments while avoiding significant concentrations of risk in any one area of the securities markets. Further diversification is achieved within each asset group through utilizing multiple asset managers and systematic allocation to various asset classes and providing broad exposure to different segments of the equity, fixed income and alternative investment markets.

The asset allocation policy is the most important consideration in achieving our objective of superior investment returns while minimizing risk. Networks has established a target asset allocation policy within allowable ranges for our pension benefits plan assets within broad categories of asset classes made up of Return-Seeking, Liability-Hedging and alternative investments. There is currently a target allocation of 35%-53% in equity securities, 40%-45% for Liability-Hedging assets and 7%-20% for alternative investments. Return-Seeking investments generally consist of domestic, international, global and emerging market equities invested in companies across all market capitalization ranges. Return-Seeking assets also include investments in real estate, absolute return and strategic markets. Liability-Hedging investments generally consist of long-term corporate bonds, annuity contracts, long-term treasury STRIPS and opportunistic fixed income investments. Systematic rebalancing within the target ranges increases the probability that the annualized return on the investments will be enhanced, while realizing lower overall risk, should any asset categories drift outside their specified ranges.

ARHI's investment portfolio contains a diversified blend of equity, fixed income and other investments. In ARHI's asset allocation policy there is a target allocation of 30% for equity investments, 50% for fixed income investments and 20% for alternative investments. Equity investments are diversified across U.S. and non-U.S. stocks, investment styles and market capitalization ranges. Fixed income investments are primarily invested in U.S. bonds and may also include some non-U.S. bonds. Other asset classes, including alternative investments, are used to enhance long-term returns while improving portfolio diversification. We primarily minimize the risk of large losses through diversification but also through monitoring and managing other aspects of risk through quarterly investment portfolio reviews, annual liability measurements and periodic asset and liability studies.

The fair values of pension benefits plan assets, by asset category, as of December 31, 2018, consisted of:

As of December 31, 2018		Fair Value Measurements		
(Millions)	Total	Level 1	Level 2	Level 3
Asset Category				
Cash and cash equivalents	\$ 52	\$ —	\$ 52	\$ —
U.S. government securities	15	15	—	—
Registered investment companies	244	241	3	—
Corporate bonds	413	—	413	—
Preferred stocks	3	—	3	—
Common collective trusts	814	180	634	—
Other, principally annuity, fixed income	71	—	71	—
	\$ 1,612	\$ 436	\$ 1,176	\$ —
Other investments measured at net asset value	932			
Total	\$ 2,544			

The fair values of pension benefits plan assets, by asset category, as of December 31, 2017, consisted of:

As of December 31, 2017		Fair Value Measurements		
(Millions)	Total	Level 1	Level 2	Level 3
Asset Category				
Cash and cash equivalents	\$ 18	\$ —	\$ 18	\$ —
U.S. government securities	13	13	—	—
Registered investment companies	266	263	3	—
Corporate bonds	447	—	447	—
Preferred stocks	4	—	4	—
Common collective trusts	930	186	744	—
Other, principally annuity, fixed income	56	—	56	—
	\$ 1,734	\$ 462	\$ 1,272	\$ —
Other investments measured at net asset value	1,131			
Total	\$ 2,865			

Valuation Techniques

We value our pension benefits plan assets as follows:

- Cash and cash equivalents - Level 1: at cost, plus accrued interest, which approximates fair value. Level 2: proprietary cash associated with other investments, based on yields currently available on comparable securities of issuers with similar credit ratings.
- U.S. government securities, common stocks and registered investment companies - at the closing price reported in the active market in which the security is traded.
- Corporate bonds - based on yields currently available on comparable securities of issuers with similar credit ratings.
- Preferred stocks - at the closing price reported in the active market in which the individual investment is traded.
- Common collective trusts/Registered investment companies – Level 1: at the closing price reported in the active market in which the individual investment is traded. Level 2 - the fair value is primarily derived from the quoted prices in active markets of the underlying securities. Because the fund shares are offered to a limited group of investors, they are not considered to be traded in an active market.
- Other investments, principally annuity and fixed income - based on yields currently available on comparable securities of issuers with similar credit ratings.
- Other investments measured at net asset value (NAV) – alternative investments, such as private equity and real estate oriented investments, partnership/joint ventures and hedge funds are valued using the NAV as a practical expedient.

Our postretirement benefits plan assets are held with trustees in multiple voluntary employees' beneficiary association (VEBA) and 401(h) arrangements and are invested among and within various asset classes to achieve sufficient diversification in accordance

with our risk tolerance. This is achieved for our postretirement benefits plan assets through the utilization of multiple institutional mutual and money market funds, providing exposure to different segments of the fixed income, equity and short-term cash markets. Approximately 37% of the postretirement benefits plan assets are invested in VEBA and 401(h) arrangements that are not subject to income taxes with the remainder being invested in arrangements subject to income taxes.

Networks has established a target asset allocation policy within allowable ranges for postretirement benefits plan assets of 45%-65% for equity securities, 25%-45% for fixed income and 5%-25% for all other investment types. In ARHI's asset allocation policy we have a target allocation of 45% in equity securities, 50% in fixed income and 5% for cash and cash equivalents investments. Equity investments are diversified across U.S. and non-U.S. stocks, investment styles, and market capitalization ranges. Fixed income investments are primarily invested in U.S. bonds and may also include some non-U.S. bonds. Other asset classes, including alternative investments, are used to enhance long-term returns while improving portfolio diversification. We primarily minimize the risk of large losses through diversification but also through monitoring and managing other aspects of risk through quarterly investment portfolio reviews. Systematic rebalancing within target ranges increases the probability that the annualized return on investments will be enhanced, while realizing lower overall risk, should any asset categories drift outside their specified ranges.

The fair values of other postretirement benefits plan assets, by asset category, as of December 31, 2018 consisted of:

As of December 31, 2018		Fair Value Measurements			
(Millions)	Total	Level 1	Level 2	Level 3	
Asset Category					
Money market funds	\$ 9	\$ 5	\$ 4	\$ —	
Registered investment companies	111	109	2	—	
Common collective trusts	21	21	—	—	
Other, principally annuity, fixed income	7	—	7	—	
Total	\$ 148	\$ 135	\$ 13	\$ —	

The fair values of other postretirement benefits plan assets, by asset category, as of December 31, 2017 consisted of:

As of December 31, 2017		Fair Value Measurements			
(Millions)	Total	Level 1	Level 2	Level 3	
Asset Category					
Money market funds	\$ 4	\$ 4	\$ —	\$ —	
Registered investment companies	122	120	2	—	
Common collective trusts	31	4	27	—	
Other, principally annuity, fixed income	8	—	8	—	
Total	\$ 165	\$ 128	\$ 37	\$ —	

Valuation Techniques

We value our postretirement benefits plan assets as follows:

- Money market funds - based upon quoted market prices in active markets.
- Common collective trusts/Registered investment companies – Level 1: at the closing price reported in the active market in which the individual investment is traded. Level 2: the fair value is primarily derived from the quoted prices in active markets of the underlying securities. Because the fund shares are offered to a limited group of investors, they are not considered to be traded in an active market.
- Other investments, principally annuity and fixed income - based on yields currently available on comparable securities of issuers with similar credit ratings.

Pension and postretirement benefit plan equity securities did not include any Iberdrola common stock as of both December 31, 2018 and 2017.

Defined contribution plans

We also have defined contribution plans defined as 401(k)s for all eligible Networks and ARHI employees. There are various match formulas depending on years of service, age, and pension plan closure/freeze date. The annual contributions made through these plans for Networks and ARHI amounted to \$37 million, \$36 million and \$34 million for 2018, 2017 and 2016 respectively.

Note 17. Equity

As of December 31, 2018, our share capital consisted of 500,000,000 shares of common stock authorized, 309,752,140 shares issued and 309,005,272 shares outstanding, 81.5% of which are owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock of \$3 million and additional paid in capital of \$13,657 million. As of December 31, 2017, our share capital consisted of 500,000,000 shares of common stock authorized, 309,670,932 shares issued and 309,005,272 shares outstanding, 81.5% of which were owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock capital of \$3 million and additional paid in capital of \$13,653 million. We had 485,810 shares of common stock held in trust and no convertible preferred shares outstanding as of both December 31, 2018 and December 31, 2017. During the year ended December 31, 2018, we issued 81,208 shares of common stock and released no shares of common stock held in trust each having a par value of \$0.01. During the year ended December 31, 2017, we issued 70,493 shares of common stock and released 5,649 shares of common stock held in trust, each having a par value of \$0.01.

On April 28, 2016, we entered into a repurchase agreement with J.P. Morgan Securities, LLC. (JPM), pursuant to which JPM will, from time to time, acquire, on behalf of AVANGRID, shares of common stock of AVANGRID. The purpose of the stock repurchase program is to allow AVANGRID to maintain the relative ownership percentage of Iberdrola at 81.5%. The stock repurchase program may be suspended or discontinued at any time upon notice. Out of a total of 261,058 treasury shares of common stock of AVANGRID as of December 31, 2018, 115,831 shares were repurchased during 2016, 64,019 shares were repurchased in May 2017 and 81,208 shares were repurchased in May 2018, all in the open market. The total cost of repurchases, including commissions, was \$12 million as of December 31, 2018.

Accumulated OCI (Loss)

Accumulated OCI (Loss) for the years ended December 31, 2018, 2017 and 2016 consisted of:

Accumulated OCI (Loss)	As of December 31, 2015	2016 Change	As of December 31, 2016	2017 Change	As of December 31, 2017	Adoption of new accounting standard	2018 Change	As of December 31, 2018
(Millions)								
(Loss) gain on revaluation of defined benefit plans, net of income tax expense of \$4.3 for 2016 and \$1.1 for 2018	\$ (21)	\$ 7	\$ (14)	\$ —	\$ (14)	\$ —	\$ 3	\$ (11)
Loss for nonqualified pension plans, net of income tax expense of \$0.4 for 2016, \$0.2 for 2017 and \$0.3 for 2018	(8)	1	(7)	1	(6)	(1)	1	(6)
Unrealized (loss) gain on derivatives qualifying as cash flow hedges:								
Unrealized (losses) gains during period on derivatives qualifying as cash flow hedges, net of income tax expense (benefit) of \$(15.8) for 2016, \$15.2 for 2017 and \$(6.6) for 2018	31	(26)	5	25	30	—	(21)	9
Reclassification to net income of (gains) losses on cash flow hedges, net of income tax expense (benefit) of \$(11.0) for 2016, \$9.3 for 2017 and \$(6.5) for 2018 (a)	(54)	(16)	(70)	14	(56)	—	(8)	(64)
Gain (loss) on derivatives qualifying as cash flow hedges	(23)	(42)	(65)	39	(26)	—	(29)	(55)
Accumulated OCI (Loss)	\$ (52)	\$ (34)	\$ (86)	\$ 40	\$ (46)	\$ (1)	\$ (25)	\$ (72)

(a) Reclassification is reflected in the operating expenses line item in the consolidated statements of income.

Note 18. Earnings Per Share

Basic earnings per share is computed by dividing net income attributable to AVANGRID by the weighted-average number of shares of our common stock outstanding. In 2018, 2017 and 2016, while we did have securities that were dilutive, these securities did not result in a change to our earnings per share calculations for the years ended December 31, 2018, 2017 and 2016.

The calculations of basic and diluted earnings per share attributable to AVANGRID for the years ended December 31, 2018, 2017 and 2016, consisted of:

Years Ended December 31,	2018	2017	2016
(Millions, except for number of shares and per share data)			
<i>Numerator:</i>			
Net income attributable to AVANGRID	\$ 595	\$ 381	\$ 632
<i>Denominator:</i>			
Weighted average number of shares outstanding - basic	309,503,319	309,502,861	309,512,553
Weighted average number of shares outstanding - diluted	309,712,628	309,661,883	309,817,322
<i>Earnings per share attributable to AVANGRID</i>			
Earnings Per Common Share, Basic	\$ 1.92	\$ 1.23	\$ 2.04
Earnings Per Common Share, Diluted	\$ 1.92	\$ 1.23	\$ 2.04

Note 19. Variable Interest Entities

We participate in certain partnership arrangements that qualify as variable interest entities (VIEs). These arrangements consist of tax equity financing arrangements (TEFs) and partnerships in which an investor holds a noncontrolling interest and does not have substantive kick-out or participating rights.

The sale of a membership interest in the TEFs represents the sale of an equity interest in a structure that is considered a sale of non-financial assets. Under the sale of non-financial assets, the membership interests in the TEFs we sell to third-party investors are reflected as noncontrolling interest in the consolidated balance sheets valued based on an HLBV model. Earnings from the TEFs are recognized in net income attributable to noncontrolling interests in the consolidated statements of income. We consolidate the entities that have TEFs based on being the primary beneficiary for these VIEs.

The assets and liabilities of the VIEs totaled approximately \$876 million and \$50 million, respectively, at December 31, 2018. As of December 31, 2017 the assets and liabilities of VIEs totaled approximately \$1,441 million and \$185 million, respectively. At December 31, 2018 and 2017, the assets and liabilities of the VIEs consisted primarily of property, plant and equipment, equity method investments and TEF liabilities. At December 31, 2018 and 2017, equity method investments of VIEs were approximately \$101 million and \$107 million, respectively.

In May 2018, tax equity financing was completed on El Cabo Wind, LLC (El Cabo) through contributions of \$213 million from tax equity investors. In November 2018, we repurchased 88% of the third-party investors membership in Aeolus Wind Power IV LLC (Aeolus IV), and in December 2018, we repurchased the remaining 12% of the third-party investors membership in Aeolus IV. The difference between the amount received of \$12 million and the noncontrolling interest balance of \$25 million was recorded as an adjustment to equity because there was no change in control as a result of the transactions. After the transactions, Aeolus IV is no longer considered a VIE. At December 31, 2018, we consider Aeolus Wind Power II LLC and El Cabo to be VIEs.

Wind power generation is subject to certain favorable tax treatments in the U.S. In order to monetize the tax benefits, we have entered into these structured institutional partnership investment transactions related to certain wind farms. Under these structures, we contribute certain wind assets, relating both to existing wind farms and wind farms that are being placed into operation at the time of the relevant transaction, and other parties invest in the share equity of the limited liability holding company. As consideration for their investment, the third parties make either an upfront cash payment or a combination of upfront cash and issuance of fixed and contingent notes. We retain a class of membership interest and day-to-day operational and management control, subject to investor approval of certain major decisions. The third-party investors do not receive a lien on any assets and have no recourse against us for their upfront cash payments.

The third party investors receive a disproportionate amount of the profit or loss, cash distributions and tax benefits resulting from the wind farm energy generation until the investor recovers its investment and achieves a cumulative annual after-tax return. Once this target return is met, the relative sharing of profit or loss, cash distributions and taxable income or loss between the Company and the third party investor flips, with the Company taking a disproportionate share of such amounts thereafter. We also have a call option to acquire the third party investors' membership interest within a defined time period after this target return is met.

Our Aeolus and El Cabo interests are not subject to any rights of investors that may restrict our ability to access or use the assets or to settle any existing liabilities associated with the interests.

Note 20. Grants, Government Incentives and Deferred Income

The changes in deferred income as of December 31, 2018 and 2017 consisted of:

(Millions)	Government grants	Other deferred income	Total
As of December 31, 2016	\$ 1,461	\$ 22	\$ 1,483
Additions	33	2	35
Reclassified to held for sale	—	(2)	(2)
Recognized in income	(67)	(3)	(70)
As of December 31, 2017	\$ 1,427	\$ 19	\$ 1,446
Additions	9	—	9
Recognized in income	(69)	(1)	(70)
As of December 31, 2018	\$ 1,367	\$ 18	\$ 1,385

Within deferred income, we classify grants we received under Section 1603 of the American Recovery and Reinvestment Act of 2009, where the United States Department of Treasury (DOT) provides eligible parties the option of claiming grants for specified energy property in lieu of tax credits, which we claimed for the majority of our qualifying properties. Deferred income has been recorded for the grant amounts and is amortized as an offset against depreciation expense using the straight-line method over the estimated useful life of the associated property to which the grants apply. We recognize a net deferred tax asset for the book to tax basis differences related to the property for income tax purposes within the nontaxable grant revenue deferred income tax liabilities (see Note 15 – Income Taxes).

We are required to comply with certain terms and conditions applicable to each grant and, if a disqualifying event should occur as specified in the grant's terms and conditions, we are required to repay the grant funds to the DOT. We believe we are in compliance with each grant's terms and conditions as of December 31, 2018 and 2017.

Other deferred income relates predominantly to gas storage transactions where revenues are recognized as services are provided. As of December 31, 2017, we reclassified \$2 million of other deferred income to liabilities held for sale in the consolidated balance sheet (see Note 26 - Assets Held for Sale).

Note 21. Equity method investments

In August 2018, we acquired the remaining 50% ownership of a joint venture, which owns and operates a 162 MW wind farm located in Southeast Colorado (Colorado Wind Ventures LLC), which commenced operations in January 2004. The wind farm, being a single asset, constituted substantially all of the fair value of the gross assets acquired and, therefore, the transaction was considered an asset acquisition. We accounted for this venture under the equity method of accounting through the date of the asset acquisition. The carrying amount of this investment was \$18 million as of December 31, 2017. During the year ended December 31, 2017, we recorded an OTTI of \$49 million on this investment. The fair value for OTTI calculation purposes was determined using Level 3 inputs and was estimated based on a discounted cash flows valuation technique utilizing the net amount of estimated future cash inflows and outflows related to the respective PPA.

In December 2018, we sold 80% of our wholly owned subsidiary, Coyote Ridge Wind, LLC (Coyote Ridge), including substantially all of the related tax benefits, to WEC Infrastructure in exchange for \$145 million of total proceeds. We recorded a gain from this transaction of \$10 million in "Other expense" in the statement of income for the year ended December 31, 2018. We account for the remaining 20% membership interest under the equity method of accounting. The carrying amount of our investment was \$5 million as of December 31, 2018.

We have two 50-50 joint ventures with Horizon Wind Energy, LLC, which own and operate the Flat Rock Windpower LLC and the Flat Rock Wind Power II LLC wind farms located in upstate New York. Flat Rock Wind Power LLC, which commenced operations in January 2006, has a 231 MW capacity. Flat Rock Wind Power II LLC commenced operations in September 2007 and has a 91 MW capacity. We account for the Flat Rock joint ventures under the equity method of accounting. The carrying amount of these investments was \$114 million and \$120 million for Flat Rock Wind Power LLC, and \$53 million and \$57 million for Flat Rock Wind Power II LLC, as of December 31, 2018 and 2017, respectively.

We hold a 50% voting interest in Vineyard Wind, LLC (Vineyard Wind), a joint venture with Copenhagen Infrastructure Partners. Vineyard Wind acquired a lease from the U.S. Bureau of Ocean Energy Management containing rights to develop offshore wind

generation in a 260 square mile area located southeast of Martha's Vineyard. The leased area has the capacity for siting up to approximately 3,000 MW. We account for this venture under the equity method of accounting. The carrying amount of this investment was \$52 million and \$10 million as of December 31, 2018 and 2017, respectively (See also Note 24).

Through UI, we are party to a 50-50 joint venture with Clearway Energy, Inc. in GenConn, which operates two peaking generation plants in Connecticut. The investment in GenConn is being accounted for as an equity investment, the carrying value of which was \$119 million and \$124 million as of December 31, 2018 and 2017, respectively.

Networks holds an approximate 20% ownership interest in New York TransCo. New York TransCo was established by the New York transmission utilities to develop, own and operate electric transmission in New York. The investment in New York TransCo is being accounted for as an equity investment, the carrying value of which was \$23 million as of both December 31, 2018 and 2017 (See also Note 24).

None of our joint ventures have any contingent liabilities or capital commitments. Distributions received from equity method investments amounted to \$18 million, \$20 million and \$20 million for the years ended December 31, 2018, 2017 and 2016 respectively, which are reflected as either distributions of earnings or as returns of capital in the operating and investing sections of the consolidated statements of cash flows, respectively. In addition, during the years ended December 31, 2018 and 2017, we received \$7.6 million and \$3.5 million of distributions in RECs from our equity method investments. As of December 31, 2018, there was an immaterial amount of undistributed earnings from our equity method investments.

During the year ended December 31, 2016, we completed the sale of our interest in Iroquois Gas Transmission System L.P. (Iroquois) to an unaffiliated third party for proceeds of \$53.8 million and an impact to net income of \$19.0 million. The carrying value of this equity method investment was \$22.0 million.

Note 22. Other Financial Statements Items

Other (expense) income

Other (expense) income for the years ended December 31, 2018, 2017 and 2016 consisted of:

Years ended December 31, (Millions)	2018	2017	2016
Allowance for funds used during construction	\$ 30	\$ 36	\$ 26
Carrying costs on regulatory assets	21	11	14
Non-service component of net periodic benefit cost	(128)	(120)	—
Other	11	11	36
Total Other (Expense) Income	\$ (66)	\$ (62)	\$ 76

Beginning in 2018, we include the components of net periodic benefit cost other than the service cost component in other (expense) income in the consolidated statements of income (See Note 3).

"Other" in 2018 and 2016 includes \$10 million and \$33 million gains from sale of our interest in Coyote Ridge and Iroquois, respectively (See Note 21).

Accounts Receivable

Accounts receivable as of December 31, 2018 and 2017 consisted of:

As of December 31, (Millions)	2018	2017
Trade receivables	\$ 1,204	\$ 1,104
Allowance for bad debts	(62)	(64)
Total Accounts Receivable	\$ 1,142	\$ 1,040

The allowance for bad debts relates entirely to gas and electricity consumers and comprises an amount that has been reserved following historical averages of loss percentages.

The change in the allowance for bad debts as of December 31, 2018 and 2017 consisted of:

(Millions)	
As of December 31, 2015	\$ 62
Current period provision	48
Write-off as uncollectible	(46)
As of December 31, 2016	\$ 64
Current period provision	69
Write-off as uncollectible	(69)
As of December 31, 2017	\$ 64
Current period provision	74
Write-off as uncollectible	(76)
As of December 31, 2018	\$ 62

DPA receivable balances were \$62 million and \$55 million as of December 31, 2018 and 2017, respectively.

Prepayments and Other Current Assets

Prepayments and other current assets as of December 31, 2018 and 2017 consisted of:

As of December 31,	2018	2017
(Millions)		
Prepaid other taxes	\$ 137	\$ 194
Broker margin and collateral accounts	37	32
Other pledged deposits	6	9
Prepaid expenses	43	33
Other	6	5
Total	\$ 229	\$ 273

Other current liabilities

Other current liabilities as of December 31, 2018 and 2017 consisted of:

As of December 31,	2018	2017
(Millions)		
Advances received	\$ 129	\$ 113
Accrued salaries	81	87
Short-term environmental provisions	60	69
Collateral deposits received	42	43
Pension and other postretirement	5	5
Other	10	13
Total	\$ 327	\$ 330

Note 23. Segment Information

Our segment reporting structure uses our management reporting structure as its foundation to reflect how AVANGRID manages the business internally and is organized by type of business. We report our financial performance based on the following two reportable segments:

- **Networks:** includes all of the energy transmission and distribution activities, any other regulated activity originating in New York and Maine and regulated electric distribution, electric transmission and gas distribution activities originating in Connecticut and Massachusetts. The Networks reportable segment includes eight rate regulated operating segments. These operating segments generally offer the same services distributed in similar fashions, have the same types of customers, have similar long-term economic characteristics and are subject to similar regulatory requirements, allowing these operations to be aggregated into one reportable segment.
- **Renewables:** activities relating to renewable energy, mainly wind energy generation and trading related with such activities.

Based on the quantitative assessment, and due to the disposition of gas trading and storage businesses (see Note 26 – Assets Held For Sale for further discussion), the Gas business no longer meets the reportable segment criteria effective in the first quarter of 2018. As a result, the prior period segment information has been restated to conform to the 2018 presentation.

Additionally, to better align the evaluation of the segment information for both internal and external purposes, effective in 2018, the evaluation of segment performance by the chief operating decision maker was changed from adjusted EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) used in the prior periods to adjusted net income.

We define adjusted net income as net income adjusted to exclude restructuring charges, mark-to-market adjustments to reflect the effect of mark-to-market changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity, loss from held for sale measurement, impact of the Tax Act, accelerated depreciation derived from repowering of a wind farm, OTTI and adjustments for the non-core Gas business.

Products and services are sold between reportable segments and affiliate companies at cost. Segment income, expense and assets presented in the accompanying tables include all intercompany transactions that are eliminated in the consolidated financial statements.

Segment information as of and for the year ended December 31, 2018 consisted of:

For the year ended December 31, 2018 (Millions)	Networks	Renewables	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 5,304	\$ 1,137	\$ 37	\$ 6,478
Revenue - intersegment	6	2	(8)	—
Loss from assets held for sale	—	—	16	16
Depreciation and amortization	503	352	—	855
Operating income	975	136	16	1,127
Earnings (loss) from equity method investments	13	(3)	—	10
Interest expense, net of capitalization	260	33	10	303
Income tax expense (benefit)	169	(31)	32	170
Capital expenditures	1,377	410	—	1,787
Adjusted net income	486	185	13	684
As of December 31, 2018				
Property, plant and equipment	14,754	8,697	8	23,459
Equity method investments	142	224	—	366
Total assets	\$ 22,239	\$ 10,703	\$ (775)	\$ 32,167

(a) Includes Corporate, Gas and intersegment eliminations.

Included in revenue-external for the year ended December 31, 2018 are: \$3,802 million from regulated electric operations, \$1,499 million from regulated gas operations and \$3 million from other operations of Networks; \$1,137 million from renewable energy generation of Renewables.

Segment information as of and for the year ended December 31, 2017 consisted of:

For the year ended December 31, 2017 (Millions)	Networks	Renewables	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 4,950	\$ 1,038	\$ (25)	\$ 5,963
Revenue - intersegment	11	9	(20)	—
Loss from assets held for sale	—	—	642	642
Depreciation and amortization	474	325	25	824
Operating income (loss)	1,114	92	(701)	505
Earnings (loss) from equity method investments	15	(55)	—	(40)
Interest expense, net of capitalization	244	28	8	280
Income tax expense (benefit)	316	(320)	(255)	(259)
Capital expenditures	1,305	1,097	14	2,416
Adjusted net income	507	120	55	682
As of December 31, 2017				
Property, plant and equipment	13,876	8,786	7	22,669
Equity method investments	147	205	—	352
Total assets	\$ 21,411	\$ 11,308	\$ (1,048)	\$ 31,671

(a) Includes Corporate, Gas and intersegment eliminations.

Included in revenue-external for the year ended December 31, 2017 are: \$3,585 million from regulated electric operations, \$1,375 million from regulated gas operations and \$(10) million from other operations of Networks; \$1,038 million from renewable energy generation of Renewables.

AVANGRID made a net non-cash capital contribution of \$921 million in Renewables in 2017, which was used by Renewables to settle outstanding intercompany debt payables with the Gas segment accumulated prior to August 2017. The elimination of this activity between Renewables and Gas is included in Other at December 31, 2017.

Segment information as of and for the year ended December 31, 2016 consisted of:

For the year ended December 31, 2016 (Millions)	Networks	Renewables	Other (a)	AVANGRID Consolidated
Revenue - external	\$ 5,027	\$ 1,000	\$ (9)	\$ 6,018
Revenue - intersegment	3	15	(18)	—
Depreciation and amortization	466	313	25	804
Operating income (loss)	1,086	149	(41)	1,194
Earnings (loss) from equity method investments	15	(8)	—	7
Interest expense, net of capitalization	252	50	(34)	268
Income tax expense (benefit)	415	7	(45)	377
Capital expenditures	1,140	561	6	1,707
As of December 31, 2016				
Property, plant and equipment	13,032	8,015	501	21,548
Equity method investments	151	236	—	387
Total assets	\$ 20,753	\$ 9,884	\$ 672	\$ 31,309

(a) Includes Corporate, Gas and intersegment eliminations.

Included in revenue-external for the year ended December 31, 2016 are: \$3,686 million from regulated electric operations, \$1,306 million from regulated gas operations and \$35 million from other operations of Networks; \$1,000 million from renewable energy generation of Renewables.

Reconciliation of Adjusted Net Income to Net Income attributable to AVANGRID for the years ended December 31, 2018 and 2017 is as follows:

Years Ended December 31,	2018	2017
(Millions)		
Adjusted Net Income Attributable to Avangrid, Inc.	\$ 684	\$ 682
Adjustments:		
Impairment of equity method and other investment (1)	—	(49)
Restructuring charges (2)	(4)	(20)
Mark-to-market adjustments - Renewables (3)	(25)	(15)
Loss from held for sale measurement (4)	(16)	(642)
Impact of the Tax Act (5)	(46)	328
Accelerated depreciation from repowering (6)	(3)	—
Income tax impact of adjustments	(6)	162
Gas Storage, net of tax (7)	11	(64)
Net Income Attributable to Avangrid, Inc.	\$ 595	\$ 381

(1) Represents OTTI on equity method investment recorded in 2017.

(2) Restructuring and severance related charges relate to costs resulted from restructuring actions involving initial targeted voluntary workforce reductions and related costs in our plan to vacate a lease, predominantly within the Networks segment (See Note 27 - Restructuring and Severance Related Expenses – for further details).

(3) Mark-to-market adjustments relate to changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity and gas.

(4) Represents loss from measurement of assets and liabilities held for sale in connection with the committed plan to sell the gas trading and storage businesses (See Note 26 - Assets Held for Sale – for further details).

(5) Represents the impact from measurement of deferred income tax balances as a result of the Tax Act enacted by the U.S. federal government on December 22, 2017.

(6) Represents the amount of accelerated depreciation derived from repowering of a wind farm in Renewables.

(7) Removal of the impact from Gas activity in the reconciliation to AVANGRID Net Income.

Note 24. Related Party Transactions

We engage in related party transactions that are generally billed at cost and in accordance with applicable state and federal commission regulations.

Related party transactions for the years ended December 31, 2018, 2017 and 2016, respectively, consisted of:

Years Ended December 31,	2018		2017		2016	
(Millions)	Sales To	Purchases From	Sales To	Purchases From	Sales To	Purchases From
Iberdrola Financiación, S.A.	\$ —	\$ (3)	\$ —	\$ (2)	\$ —	\$ (2)
Iberdrola Renovables Energia, S.L.	\$ —	\$ (14)	\$ —	\$ (9)	\$ —	\$ (8)
Iberdrola Canada Energy Services, Ltd	\$ —	\$ (5)	\$ —	\$ (33)	\$ —	\$ (37)
Iberdrola, S.A.	\$ 1	\$ (38)	\$ 1	\$ (36)	\$ —	\$ (31)
Iberdrola Energía Monterrey, S.A. de C.V.	\$ 3	\$ —	\$ 46	\$ —	\$ 18	\$ —
Other	\$ 5	\$ (5)	\$ 1	\$ (1)	\$ 3	\$ (1)

In addition to the statements of income items above, we made purchases of turbines for wind farms from Siemens-Gamesa, in which Iberdrola has an 8.1% ownership. The amounts capitalized for these transactions were \$6 million and \$266 million for the years ended December 31, 2018 and 2017, respectively.

Related party balances as of December 31, 2018 and 2017, respectively, consisted of:

As of December 31, (Millions)	2018		2017	
	Owed By	Owed To	Owed By	Owed To
Iberdrola Canada Energy Services, Ltd	\$ —	\$ —	\$ —	\$ (31)
Siemens-Gamesa	—	(14)	2	(51)
Iberdrola, S.A.	1	(40)	1	(32)
Iberdrola Renovables Energía, S.L.	4	—	—	—
Iberdrola Energia Monterrey, S.A. de C.V.	—	—	1	—
Other	1	(4)	6	(4)

Transactions with Iberdrola, our majority shareholder, relate predominantly to the provision and allocation of corporate services and management fees. All costs that can be specifically allocated, to the extent possible, are charged directly to the company receiving such services. In situations when Iberdrola corporate services are provided to two or more companies of AVANGRID, any costs remaining after direct charges are allocated using agreed upon cost allocation methods designed to allocate such costs. We believe that the allocation method used is reasonable.

Transactions with Iberdrola Canada Energy Services (ICES) predominantly relate to the purchase of gas for ARHI's gas-fired cogeneration facility in Klamath, Oregon. Included in the amounts owed to ICES are notes payable of \$0 and \$29 million as of December 31, 2018 and December 31, 2017, respectively.

Transactions with Iberdrola Energia Monterrey predominantly related to the sale of gas by Gas for the power generation plant in Monterrey, Mexico.

There have been no guarantees provided or received for any related party receivables or payables. These balances are unsecured and are typically settled in cash. Interest is not charged on regular business transactions but is charged on outstanding loan balances. There have been no impairments or provisions made against any affiliated balances.

Networks holds an approximate 20% ownership interest in the regulated New York TransCo. Through New York TransCo, Networks has formed a partnership with Central Hudson Gas and Electric Corporation, Consolidated Edison, Inc., National Grid, plc and Orange and Rockland Utilities, Inc. to develop a portfolio of interconnected transmission lines and substations to fulfill the objectives of the New York energy highway initiative, which is a proposal to install up to 3,200 MW of new electric generation and transmission capacity in order to deliver more power generated from upstate New York power plants to downstate New York. In 2016, Networks has increased its equity method investment in the New York TransCo by approximately \$21 million (included in "Other investments and equity method investments, net" of investing activities in the consolidated statements of cash flows) for a total equity method investment of \$22 million. Additionally, in 2016, Networks received approximately \$67 million from the New York TransCo in the form of \$43 million for assets constructed and transferred to the New York TransCo (included in "Proceeds from sale of property, plant and equipment" of investing activities in the consolidated statements of cash flows), \$22 million in contributions in aid of construction and approximately \$2 million in advanced lease payments for a 99 year lease of land and attachment rights. As of December 31, 2018 and 2017, the amount receivable from New York TransCo was \$1 million and \$6 million, respectively.

We hold a 50% voting interest in Vineyard Wind, a joint venture with Copenhagen Infrastructure Partners. Vineyard Wind acquired a lease from the U.S. Bureau of Ocean Energy Management containing rights to develop offshore wind generation in a 260 square mile area located southeast of Martha's Vineyard. The leased area has the capacity for siting up to approximately 3,000 MW. In May 2018, Vineyard Wind was selected by the Massachusetts Electric Distribution Companies (EDCs) to construct and operate Vineyard Wind's proposed 800 MW wind farm and electricity transmission project pursuant to the Massachusetts Green Communities Act Section 83C RFP for offshore wind energy projects. Under the provisions of the LLC agreement, Renewables has committed \$92 million in total contributions, of which \$54 million has been funded to date. We expect to provide additional capital contributions as the project develops. There was no amount receivable from Vineyard Wind as of both December 31, 2018 and 2017.

In December 2018, Renewables, through its joint venture in Vineyard Wind, was awarded a second Massachusetts offshore lease. In February 2019, a contribution was made to a new offshore development project of \$100 million to enter into the lease contract.

AVANGRID manages its overall liquidity position as part of the Iberdrola Group and is a party to a liquidity agreement with a financial institution, along with certain members of the Iberdrola Group. Cash surpluses remaining after meeting the liquidity requirements of AVANGRID and its subsidiaries may be deposited at the financial institution. Deposits, or credit balances, serve as collateral against the debit balances of other parties to the liquidity agreement. The balance at both December 31, 2018 and 2017, was zero.

On June 18, 2018, AVANGRID entered into a credit facility with Iberdrola Financiacion, S.A.U., a company of the Iberdrola Group. The facility has a limit of \$500 million and matures on June 18, 2023. AVANGRID pays a facility fee of 10.5 basis points annually on the facility. As of December 31, 2018, there was no outstanding amount under this credit facility.

Note 25. Stock-Based Compensation

Under the Avangrid, Inc. Omnibus Incentive Plan, 1,298,683 performance stock units (PSUs) were granted to certain officers and employees of AVANGRID in July 2016. In 2017 and 2018, an additional 85,759 and 75,350 PSUs, respectively, were granted to officers and employees of AVANGRID under this plan. The PSUs will vest upon achievement of certain performance and market-based metrics related to the 2016 through 2019 plan and will be payable in three equal installments in 2020, 2021 and 2022. As of December 31, 2018, the total number of shares authorized for stock-based compensation plans was 2,500,000.

The fair value of the PSUs on the grant date was \$31.80 per share, which is expensed on a straight-line basis over the requisite service period of approximately seven years based on expected achievement. The fair value of the PSUs was determined using valuation techniques to forecast possible future stock prices, applying a weighted average historical stock price volatility of AVANGRID and industry companies, a risk-free rate of interest that is equal, as of the grant date, to the yield of the zero-coupon U.S. Treasury bill and a reduction for the respective dividend yield calculated based on the most recent quarterly dividend payment and the stock price as of the grant date.

In June and October 2018, pursuant to the Avangrid, Inc. Omnibus Incentive Plan two restricted stock units (RSUs) awards of 60,000 and 8,000 RSUs, respectively, were granted to certain officers of AVANGRID. The RSUs vest in full in one installment in June and December 2020, respectively for each award, provided that the award holders remain continuously employed with AVANGRID through such dates. The fair value on the grant date was determined based on a price of \$50.40 and \$47.59 per share, respectively, for June and October 2018 awards.

The total stock-based compensation expense, which is included in operations and maintenance of the consolidated statements of income for the years ended December 31, 2018, 2017 and 2016 was \$2.0 million, \$1.2 million and \$0.6 million, respectively. The total income tax benefit recognized for stock-based compensation arrangements for the years ended December 31, 2018, 2017 and 2016, was \$0.5 million, \$0.5 million and \$0.2 million, respectively.

Before 2016, AVANGRID's historical stock-based compensation expense and liabilities were based on shares of Iberdrola and not on shares of AVANGRID. These Iberdrola shares-based awards were early terminated at the end of 2015, and the remaining liability was settled in March 2018. The total liability relating to those awards, which is included in other current liabilities, was \$5.5 million as of December 31, 2017.

A summary of the status of the AVANGRID's nonvested PSUs and RSUs as of December 31, 2018, and changes during the fiscal year ended December 31, 2018, is presented below:

	Number of PSUs and RSUs	Weighted Average Grant Date Fair Value
Nonvested Balance - December 31, 2017	1,384,259	\$ 32.57
Granted	144,476	\$ 40.54
Forfeited	(128,647)	\$ 31.80
Vested	(131,366)	\$ 49.09
Nonvested Balance - December 31, 2018	1,268,722	\$ 32.80

As of December 31, 2018, total unrecognized costs for non-vested PSUs and RSUs were \$6.1 million. The weighted-average period over which the PSU and RSUs costs will be recognized is approximately 3 years.

The weighted-average grant date fair value of PSUs and RSUs granted during the year was \$40.54 per share for the year ended December 31, 2018.

Note 26. Assets Held For Sale

In December 2017, our management committed to a plan to sell the gas trading and storage businesses because they represented non-core businesses that were not aligned with our strategic objectives. At that time, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC for \$66 million, subject to working capital, cash and other adjustments. The transaction price

did not differ materially from the estimated fair value of our gas trading business at December 31, 2017, but is subject to adjustment based on closing and other contract provisions, including certain transition services.

On May 1, 2018, the Company closed a transaction to sell Enstor Gas, LLC, which operated AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC for \$66 million, subject to working capital, cash and other adjustments. The agreement to sell Enstor Gas, LLC contains, among other things, a transition services agreement which obligates ARHI to provide certain transition services for up to one year after the closing date. In connection with the held for sale classification, we recorded a loss from held for sale measurement of \$15.6 million and \$642 million for the years ended December 31, 2018 and 2017, respectively, which is included in Loss on assets held for sale in the consolidated statements of income related to final purchase price negotiations and certain related working capital adjustments. Loss before income tax, adjusted for corporate overhead, attributed to the gas businesses was \$3.8 million, \$715 million and \$58 million for the years ended December 31, 2018, 2017 and 2016, respectively.

The current assets and current liabilities held for sale relating to our gas trading and storage businesses consisted of the following as of December 31, 2017:

As of December 31,	2017
(Millions)	
Accounts receivable, net	\$ 137
Derivative assets	25
Fuel and gas in storage	77
Prepayments and other current assets	19
Property, plant and equipment	71
Intangible assets	28
Assets held for sale	\$ 357
Accounts payable and accrued liabilities	107
Derivative liabilities	14
Other liabilities	16
Liabilities held for sale	\$ 137

The fair values of the assets held for sale were determined using Level 3 inputs and were estimated based on recent market analysis studies, recent offers, and management has performed its own fair valuation modeling using discounted cash flows updated for market participant assumptions as completed by third party valuation firms. Unobservable inputs obtained from third parties were adjusted as necessary for the condition and attributes of the specific assets.

Note 27. Restructuring and Severance Related Expenses

In 2017, we announced initial targeted voluntary workforce reductions predominantly within the Networks segment. Those actions primarily include: reducing our workforce through voluntary programs in various areas to better align our people resources with business demands and priorities; reorganizing our human resources function to substantially consolidate in Connecticut, as well as related costs to vacate a lease and relocate employees; and reducing our information technology (IT) workforce to make increasing use of external services for operations, support, and development of systems. Those decisions and transactions resulted in restructuring charges of \$3.2 million and \$15.2 million for severance expenses and \$0 and \$4 million for lease termination expenses, which are included in "Operations and maintenance" in the consolidated statements of income for the years ended December 31, 2018 and 2017, and approximately \$1.2 million of accelerated amortization of leasehold improvements, which are included in "Depreciation and amortization" in the consolidated statements of income for the year ended December 31, 2017. The remaining costs for severance agreements are being accrued ratably over the service periods, which span intermittent periods through December 2019. For the year ended December 31, 2018, the severance and lease restructuring charges reserves, which are recorded in "Other current liabilities" and "Other liabilities", consisted of:

For the Year Ended December 31,	2018
	(Millions)
Beginning Balance	\$ 5
Restructuring and severance related expenses	3
Payments	(4)
Ending Balance	<u>\$ 4</u>

Note 28. Quarterly financial data (unaudited)

Selected quarterly financial data for 2018 and 2017 are set forth below:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
(Millions, except per share data)				
2018				
Operating revenues	\$ 1,865	\$ 1,402	\$ 1,546	\$ 1,665
Operating Income	\$ 403	\$ 222	\$ 253	\$ 249
Net Income	\$ 238	\$ 110	\$ 134	\$ 116
Net Income attributable to Avangrid, Inc.	\$ 244	\$ 107	\$ 125	\$ 119
Earnings Per Common Share, Basic and Diluted: (1)	\$ 0.79	\$ 0.35/\$0.34	\$ 0.40	\$ 0.38
2017				
Operating revenues	\$ 1,758	\$ 1,331	\$ 1,341	\$ 1,533
Operating Income	\$ 427	\$ 252	\$ 218	\$ (392)
Net Income	\$ 239	\$ 120	\$ 100	\$ (77)
Net Income attributable to Avangrid, Inc.	\$ 239	\$ 120	\$ 99	\$ (77)
Earnings Per Common Share, Basic and Diluted: (1)	\$ 0.77	\$ 0.39	\$ 0.32	\$ (0.25)

(1) Based on weighted average number 309.5 million shares and 309.8 million shares outstanding each quarter in both 2018 and 2017 for basic and diluted earnings per share, respectively.

The first and second quarters of 2018 include a loss of \$5 million and \$10 million, respectively, associated with measurement of held for sale assets of gas trading and storage business, \$14 million and \$17 million after income taxes. Additionally, the second and fourth quarters of 2018 include the impacts of \$7 million and \$39 million, respectively, from the measurement of deferred income tax balances as a result of the Tax Act enacted on December 22, 2017 by the U.S. federal government.

The first quarter of 2017 includes an adjustment of \$14 million to unfunded future income tax to reflect the change from a flow through to normalization method, which was recorded as an increase to income tax expense and an offsetting increase to revenue. The third and fourth quarters of 2017 include severance and lease restructuring charges of, respectively, \$2.1 million and \$17.1 million. Additionally, the fourth quarter includes a loss of \$642 million associated with measurement of held for sale assets of gas trading and storage business, \$463 million after income taxes, and an impact of \$328 million from measurement of deferred income tax balances as a result of the Tax Act enacted on December 22, 2017 by the U.S. federal government.

Note 29. Subsequent events

On February 13, 2019, the board of directors of AVANGRID declared a quarterly dividend of \$0.44 per share on its common stock. This dividend is payable on April 1, 2019 to shareholders of record at the close of business on March 8, 2019.

Schedule I –Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF INCOME
FOR THE YEARS ENDED December 31, 2018, 2017 AND 2016
(Millions)

Years Ended December 31,	2018	2017	2016
Operating Revenues	\$ —	\$ —	\$ —
Operating Expenses			
Operating expense	3	3	5
Taxes other than income taxes	(11)	5	5
Total Operating Expenses	(8)	8	10
Operating Income (Loss)	8	(8)	(10)
Other Income and (expense)			
Other income	48	58	68
Equity earnings of subsidiaries	604	312	567
Interest expense	(56)	(29)	(32)
Income Before Income Tax	604	333	593
Income tax expense (benefit)	9	(48)	(39)
Net Income	\$ 595	\$ 381	\$ 632

See accompanying notes to Schedule I.

Schedule I –Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED December 31, 2018, 2017, AND 2016
(Millions)

Years Ended December 31,	2018	2017	2016
Net Income	\$ 595	\$ 381	\$ 632
Other comprehensive (loss) income of subsidiaries	(25)	40	(34)
Comprehensive Income	\$ 570	\$ 421	\$ 598

See accompanying notes to Schedule I.

Schedule I –Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
BALANCE SHEETS
AS OF December 31, 2018 AND 2017
(Millions)

As of December 31,	2018	2017
Assets		
Current Assets		
Cash and cash equivalents	\$ —	\$ 8
Accounts receivable from subsidiaries	306	55
Notes receivable from subsidiaries	666	1,129
Prepayments and other current assets	21	—
Total current assets	993	1,192
Investments in subsidiaries	16,067	15,531
Other assets		
Deferred income taxes	312	285
Other	1	9
Total other assets	313	294
Total Assets	\$ 17,373	\$ 17,017
Liabilities		
Current Liabilities		
Current portion of debt	\$ 8	\$ 7
Notes payable	588	507
Notes payable to subsidiaries	456	208
Accounts payable and accrued liabilities	10	6
Accounts payable to subsidiaries	9	1
Interest accrued	7	8
Interest accrued subsidiaries	6	4
Dividends payable	136	134
Taxes accrued	—	8
Total current liabilities	1,220	883
Non-current debt	1,049	1,057
Total non-current liabilities	1,049	1,057
Total Liabilities	2,269	1,940
Equity		
Stockholders' Equity:		
Common stock	3	3
Additional paid-in capital	13,657	13,653
Treasury Stock	(12)	(8)
Retained earnings	1,528	1,475
Accumulated other comprehensive loss	(72)	(46)
Total Equity	15,104	15,077
Total Liabilities and Equity	\$ 17,373	\$ 17,017

See accompanying notes to Schedule I.

Schedule I –Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED December 31, 2018, 2017, AND 2016
(Millions)

Years Ended December 31,	2018	2017	2016
Net Cash (used in) provided by Operating Activities	\$ (323)	\$ (1)	\$ 324
Cash Flow from Investing Activities			
Notes receivable from subsidiaries	462	(532)	(627)
Investments in subsidiaries	(48)	—	(533)
Return of capital from investments in subsidiaries	116	308	420
Net Cash provided by (used in) Investing Activities	530	(224)	(740)
Cash Flow from Financing Activities			
Proceeds (repayments) of short-term notes payable from subsidiaries, net	246	(246)	133
Proceeds from short-term notes payable	82	357	150
Proceeds of non-current debt	—	594	483
Repurchase of common stock	(4)	(3)	(5)
Issuance of common stock	(2)	(1)	(2)
Dividends paid	(537)	(535)	(401)
Net Cash (used in) provided by Financing Activities	(215)	166	358
Net Decrease in Cash and Cash Equivalents	(8)	(59)	(58)
Cash and Cash Equivalents, Beginning of Year	8	67	125
Cash and Cash Equivalents, End of Year	\$ —	\$ 8	\$ 67
Supplemental Cash Flow Information			
Cash paid for interest	\$ 55	\$ 52	\$ 4
Cash payment (refund) for income taxes	\$ 55	\$ (8)	\$ 71

See accompanying notes to Schedule I.

Note 1. Basis of Presentation

Avangrid, Inc. (AVANGRID), formerly Iberdrola USA, Inc., is a holding company and conducts substantially all of its business through its subsidiaries. Substantially all of its consolidated assets are held by such subsidiaries. Accordingly, its cash flow and its ability to meet its obligations are largely dependent upon the earnings of these subsidiaries and the distribution of other payment of such earnings to in the form of dividends, loans or advances or repayment of loans and advances from it. These condensed financial statements and related footnotes have been prepared in accordance with regulatory statute 210.12-04 of Regulation S-X. These statements should be read in conjunction with the consolidated financial statements and notes thereto of AVANGRID and subsidiaries (AVANGRID Group).

AVANGRID indirectly or directly owns all of the ownership interests of its significant subsidiaries. AVANGRID relies on dividends or loans from its subsidiaries to fund dividends to its primary shareholder.

AVANGRID's significant accounting policies are consistent with those of the AVANGRID Group. For the purposes of these condensed financial statements, AVANGRID's wholly owned and majority owned subsidiaries are recorded based upon its proportionate share of the subsidiaries net assets.

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2018 tax period. Each subsidiary company is treated as a member of the consolidated group and determines its current and deferred taxes separately and settles its current tax liability or benefit each year directly with AVANGRID pursuant to a tax sharing agreement between AVANGRID and its members.

Note 2. Common Stock

As of December 31, 2018, AVANGRID share capital consisted of 500,000,000 shares of common stock authorized, 309,752,140 shares issued and 309,005,272 shares outstanding, 81.5% of which are owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock of \$3 million and additional paid in capital of \$13,657 million. As of December 31, 2017, AVANGRID share capital consisted of 500,000,000 shares of common stock authorized, 309,670,932 shares issued and 309,005,272 shares outstanding, 81.5% of which were owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock capital of \$3 million and additional paid in of \$13,653 million. AVANGRID had 485,810 shares of common stock held in trust and no convertible preferred shares outstanding as of both December 31, 2018 and 2017. During the year ended December 31, 2018, AVANGRID issued 81,208 shares of common stock and released no shares of common stock held in trust each having a par value of \$0.01. During the year ended December 31, 2017, AVANGRID issued 70,493 shares of common stock and released 5,649 shares of common stock held in trust each having a par value of \$0.01.

On April 28, 2016, AVANGRID entered into a repurchase agreement with J.P. Morgan Securities, LLC. (JPM), pursuant to which JPM will, from time to time, acquire, on behalf of AVANGRID, shares of common stock of AVANGRID. The purpose of the stock repurchase program is to allow AVANGRID to maintain the relative ownership percentage of Iberdrola at 81.5%. The stock repurchase program may be suspended or discontinued at any time upon notice. Out of 261,058 treasury shares of common stock of AVANGRID as of December 31, 2018, 115,831 shares were repurchased during 2017, 64,019 shares were repurchased in May 2017 and 81,208 shares were repurchased in May 2018, all in the open market. The total cost of repurchase, including commissions, was \$12 million as of December 31, 2018.

On February 13, 2019, the board of directors of AVANGRID declared a quarterly dividend of \$0.44 per share on its common stock. This dividend is payable on April 1, 2019 to shareholders of record at the close of business on March 8, 2019.

Note 3. Non-current Debt

Supplemental Indenture

On December 19, 2016, AVANGRID, its subsidiary, UIL, and The Bank of New York Mellon, entered into a supplemental indenture, pursuant to which AVANGRID assumed from UIL all the obligations under the indenture dated as of October 7, 2010 between UIL and The Bank of New York Mellon and all obligations relating to \$450 million in aggregate principal amount of 4.625% notes due 2020 issued by the predecessor company to UIL in 2010. For the purpose of the supplemental indenture a capital contribution of \$483 million was made by AVANGRID to UIL in December 2016.

On November 21, 2017, AVANGRID issued \$600 million aggregate principal amount of its 3.150% notes maturing in 2024. Proceeds of the offering were used to reduce short-term debt incurred to fund capital expenditures associated with development of renewable energy generation facilities. Net proceeds of the offering after the price discount and issuance-related expenses were \$594 million.

Note 4. Cash Dividends Paid by Subsidiaries

Cash dividends paid by subsidiaries are as follows:

Years ended December 31, (In millions)	2018	2017	2016
AVANGRID Networks	\$ 116	\$ 308	\$ 220
AVANGRID Renewables	—	—	200
	\$ 116	\$ 308	\$ 420

In December 2018 and December 2016, AVANGRID made a capital contribution of \$50 million to each of its subsidiaries, UI and CMP, respectively. During 2018 and 2017, AVANGRID recorded a net non-cash contribution and dividend of \$1,515 million and \$1,318 million, respectively, to and from its subsidiaries to zero out their account balances of notes receivables and payables.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer, or CEO, and our Chief Financial Officer, or CFO, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, our CEO and CFO have concluded that as of such date, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including its CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

Report of Management on Internal Control Over Financial Reporting

The management of AVANGRID is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. AVANGRID's internal control system over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. AVANGRID's internal control over financial reporting includes those policies and procedures that:

- (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in condition, or that the degree of compliance with the policies or procedures may deteriorate.

AVANGRID's management assessed the effectiveness of AVANGRID's internal control over financial reporting as of December 31, 2018. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) ("COSO") in Internal Control-Integrated Framework. Based on this assessment, management determined that our internal control over financial reporting was effective as of December 31, 2018.

Our independent registered public accounting firm, KPMG LLP, has issued an audit report on the Company's internal control over financial reporting, which appears in Part II, Item 8 of this Form 10-K.

Changes in Internal Control

Other than the remediation efforts identified below to remediate the material weakness disclosed in the 2017 Form 10-K, there were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) and 15d-15(d) of the Exchange Act during the period covered by this Annual Report on Form 10-K that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Material Weakness Remediation

As disclosed in Part II, Item 9A. Controls and Procedures in our Annual Report on Form 10-K for the year ended December 31, 2017, we identified a material weakness in internal control over financial reporting related to the measurement and disclosure of income taxes.

Our management, with oversight from the Audit and Compliance Committee of the Board of Directors, conducted the following remediation efforts that effectively remediated the material weakness as of December 31, 2018:

- Further accelerated the deadline of key activities to allow sufficient time for the execution of consolidated deferred income tax controls that were further refined during 2018 that management has determined through testing are more precise;
- Further increased the capabilities of income tax accounting resources to devote additional time and internal control resources to consolidated income tax accounting and reporting processes and controls; and
- Enhanced the automation of certain income tax processes and controls to allow for the more timely completion and enhanced review of internal controls surrounding consolidated deferred income tax financial information and disclosures.

During the fourth quarter of fiscal 2018, we completed our testing of the operating effectiveness of the implemented controls and found them to be effective. As a result, we have concluded that the material weakness has been remediated as of December 31, 2018.

Item 9B. Other Information.

None.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance.*

For information regarding our executive officers, see Part I of this Annual Report on Form 10-K. Additional information required by this item is incorporated by reference to our Proxy Statement for the 2019 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2018.

Item 11. *Executive Compensation.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2019 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2018.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2019 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2018.

Item 13. *Certain Relationships and Related Transactions, and Director Independence.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2019 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2018.

Item 14. *Principal Accounting Fees and Services.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2019 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2018.

Part IV

Item 15. Exhibits and Financial Statement Schedules.

a) The following documents are made a part of this Annual Report on Form 10-K:

1. Financial Statements—Our consolidated financial statements are set forth under Part II, Item 8 “Financial Statements and Supplementary Data.”
2. Financial Statement Schedules— Our financial statement schedules are set forth under Part II, Item 8 “Financial Statements and Supplementary Data.”
3. Exhibits—The following instruments and documents are included as exhibits to this report.

Exhibit Number	Exhibit Description
2.1	<u>Agreement and Plan of Merger, dated as of February 25, 2015, by and among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Green Merger Sub, Inc. and UIL Holdings Corporation (incorporated herein by reference to Annex A to the proxy statement/prospectus included as Exhibit 2.1 in our Registration Statement on Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
3.1	<u>Certificate of Incorporation of Avangrid, Inc. (incorporated herein by reference to Exhibit 3.2 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).</u>
3.2	<u>Amended and Restated Bylaws of Avangrid, Inc. (incorporated herein by reference to Exhibit 3.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017).</u>
4.1	<u>Specimen Common Stock Certificate (incorporated herein by reference to Exhibit 4.1 to Form S-4/A filed with the Securities and Exchange Commission on October 21, 2015).</u>
4.2	<u>Senior Indenture, dated as of October 7, 2010, between UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.1 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 7, 2010).</u>
4.3	<u>First Supplemental Indenture, dated as of October 7, 2010, between UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 7, 2010).</u>
4.4	<u>Second Supplemental Indenture, dated as of December 16, 2015, among UIL Holdings Corporation, Green Merger Sub, Inc. and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).</u>
4.5	<u>Third Supplemental Indenture, dated as of December 19, 2016, among Avangrid, Inc., UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.5 of AVANGRID's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2016).</u>
4.6	<u>Indenture, dated as of November 21, 2017, between the Company and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.1 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
4.7	<u>First Supplemental Indenture, dated November 21, 2017, between the Company and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
4.8	<u>Form of Global Note Representing the Notes (incorporated herein by reference to Exhibit 4.3 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
10.1	<u>Shareholder Agreement, dated as of December 16, 2015, by and between Avangrid, Inc. and Iberdrola, S.A. (incorporated herein by reference to Exhibit 4.1 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).</u>

Exhibit Number	Exhibit Description
10.2	<u>Service Agreement, dated January 1, 2014, between Iberdrola USA, Inc. Management Corporation and Avangrid, Inc. (formerly Iberdrola USA, Inc.) (incorporated herein by reference to Exhibit 10.2 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.3	<u>Accession Agreement, dated September 16, 2011, between Iberdrola Renewables Holdings, Inc. and Bank Mendes Gans N.V. (incorporated herein by reference to Exhibit 10.14 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.4	<u>Guarantee and Support Agreement, dated April 3, 2008, between Iberdrola, S.A. and ScottishPower Holdings, Inc. (incorporated herein by reference to Exhibit 10.15 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.5	<u>Amendment No. 1 to Guarantee and Support Agreement, dated May 27, 2010, between Iberdrola, S.A. and Iberdrola Renewables Holdings, Inc. (formerly known as ScottishPower Holdings, Inc.) (incorporated herein by reference to Exhibit 10.16 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.6	<u>English Translation of Regulations for the “2014-2016 Strategic Bonus” for Senior Officers and Officers of Iberdrola, S.A. and Its Group of Companies (incorporated herein by reference to Exhibit 10.19 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).†</u>
10.7	<u>Provisions to be Applied to U.S. Participants in Relation to the Regulations for the “2014-2016 Strategic Bonus” for Senior Officers and Officers of Iberdrola, S.A. and Its Group of Companies (incorporated herein by reference to Exhibit 10.20 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †</u>
10.8	<u>Employment Agreement dated October 1, 2010 among Robert Daniel Kump, Iberdrola USA Networks, Inc. (formerly Iberdrola USA, Inc.) and Iberdrola USA Management Corporation (incorporated herein by reference to Exhibit 10.23 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †</u>
10.9	<u>Service Contract dated January 16, 2014 between Robert Daniel Kump and Avangrid, Inc. (incorporated herein by reference to Exhibit 10.24 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †</u>
10.10	<u>Employment Agreement dated March 1, 2008 between R. Scott Mahoney and Iberdrola USA Management Corporation (formerly Energy East Management Corporation) (incorporated herein by reference to Exhibit 10.27 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).†</u>
10.11	<u>Framework Agreement for the Provision of Corporate Services for Iberdrola and the Companies of its Group, and the Declaration of Acceptance, dated July 16, 2015 (incorporated herein by reference to Exhibit 10.28 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.12	<u>Equipment Supply Agreement dated December 28, 2014 between Iberdrola Renewables, LLC and Gamesa Wind US, LLC (incorporated herein by reference to Exhibit 10.29 to Form S-4/A filed with the Securities and Exchange Commission on November 6, 2015).</u>
10.13	<u>Agreement and Release dated September 25, 2009 between Robert Daniel Kump and Iberdrola USA Management Corporation (formerly Energy East Management Corporation) (incorporated herein by reference to Exhibit 10.31 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †</u>
10.14	<u>Form of Indemnification Agreement between Avangrid, Inc. (formerly Iberdrola USA, Inc.) and its directors and officers (incorporated herein by reference to Exhibit 10.32 to Form S-4/A filed with the Securities and Exchange Commission on October 21, 2015).†</u>

Exhibit Number	Exhibit Description
10.15	<u>UIL Holdings Corporation 2008 Stock and Incentive Compensation Plan as Amended and Restated May 14, 2013 (incorporated herein by reference to Exhibit 99.1 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015).</u> †
10.16	<u>UIL Holdings Corporation Deferred Compensation Plan Grandfathered Benefits Provisions, dated August 4, 2008 (incorporated herein by reference to Exhibit 99.2 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015).</u> †
10.17	<u>UIL Holdings Corporation Deferred Compensation Plan Non-Grandfathered Benefits Provisions, as amended and restated effective dated January 1, 2013 (incorporated herein by reference to Exhibit 99.3 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015).</u> †
10.18	<u>Employment Agreement, dated as of July 8, 2005, between The United Illuminating Company and Richard J. Nicholas (incorporated herein by reference to Exhibit 10.4 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 11, 2005).</u> †
10.19	<u>First Amendment, dated August 4, 2008, to Employment Agreement, dated as of July 8, 2005, between The United Illuminating Company and Richard J. Nicholas (incorporated herein by reference to Exhibit 10.14a of UIL Holdings Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008).</u> †
10.20	<u>Amended and Restated UIL Holdings Corporation Change In Control Severance Plan II, dated August 4, 2008 (incorporated herein by reference to Exhibit 10.28a of UIL Holdings Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008).</u> †
10.21	<u>Employment Agreement, dated as of January 1, 2016, among Avangrid, Inc., Avangrid Service Company and James P. Torgerson (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on April 22, 2016).</u> †
10.22	<u>Commercial Paper/Certificates of Deposit Issuing and Paying Agent Agreement dated May 13, 2016 among Avangrid, Inc., as Issuer, and Bank of America, National Association, as Issuing and paying Agent (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016).</u>
10.23	<u>Form of Commercial Paper Dealer Agreement among Avangrid, Inc., as Issuer, and various Dealers (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016).</u>
10.24	<u>Form of Performance Stock Unit Grant Agreement (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on July 19, 2016).</u> †
10.25	<u>Avangrid, Inc. Omnibus Incentive Plan (incorporated herein by reference to Form S-8 filed with the SEC on July 21, 2016).</u> †
10.26	<u>Uncommitted Line of Credit for Standby Letters of Credit Agreement, dated as of December 2, 2016, between Avangrid, Inc. and Crédit Agricole Corporate (incorporated herein by reference to Exhibit 10.44 of AVANGRID's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2016).</u>
10.27	<u>Substitution Agreement, dated as of December 19, 2016, between UIL Holdings Corporation and Avangrid, Inc. (incorporated herein by reference to Exhibit 10.45 of AVANGRID's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2016).</u>
10.28	<u>Amended and Restated Avangrid, Inc. Omnibus Incentive Plan (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017).</u> †
10.29	<u>Offer Letter, dated March 5, 2015, between Sheila Duncan and Avangrid Management Company (as assignee of Avangrid Service Company, which was formerly known as Iberdrola USA Management Corporation) (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017).</u> †

Exhibit Number	Exhibit Description
10.30	<u>Customer Liquidity Agreement, dated December 1, 2017, between Avangrid, Inc., Bank of America, National Association, Iberdrola, S.A., Iberdrola Mexico, S.A. de C.V., and Scottish Power Ltd.</u>
10.31	<u>Underwriting Agreement, dated November 16, 2017, by and among the Avangrid, Inc., BBVA Securities Inc., BNP Paribas Securities Corp., Citigroup Global Markets Inc., and Wells Fargo Securities, LLC (incorporated herein by reference to Exhibit 1.1 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
10.32	<u>Purchase Agreement, dated January 31, 2018, between Avangrid Renewables Holdings, Inc. and CCI U.S. Asset Holdings LLC (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018).</u>
10.33	<u>Purchase Agreement, dated February 16, 2018, between Avangrid Renewables Holdings, Inc. and Amphora Gas Storage USA, LLC (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018).</u>
10.34	<u>Restricted Stock Unit Grant Notice and Agreement dated June 7, 2018, between Avangrid, Inc. and James P. Torgerson (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u> †
10.35	<u>Transmission Service Agreement, dated June 13, 2018, between Central Maine Power Company and NSTAR Electric Company (d/b/a Eversource) (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.36	<u>Transmission Service Agreement, dated June 13, 2018, among Central Maine Power Company, Massachusetts Electric Company (d/b/a National Grid), and Nantucket Electric Company (d/b/a National Grid) (incorporated herein by reference to Exhibit 10.3 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.37	<u>Transmission Service Agreement, dated June 13, 2018, between Central Maine Power Company and Fitchburg Gas & Electric Light Company (d/b/a Unitil) (incorporated herein by reference to Exhibit 10.4 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.38	<u>Transmission Service Agreement, dated June 13, 2018, between Central Maine Power Company and H.O. Energy Services (U.S.) Inc. (incorporated herein by reference to Exhibit 10.5 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.39	<u>Transmission Service Agreement, dated June 13, 2018, between Central Maine Power Company and H.O. Energy Services (U.S.) Inc. (incorporated herein by reference to Exhibit 10.6 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.40	<u>Transmission Service Agreement, dated June 13, 2018, between Central Maine Power Company and H.O. Energy Services (U.S.) Inc. (incorporated herein by reference to Exhibit 10.7 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.41	<u>Transmission Service Agreement, dated June 13, 2018, between Central Maine Power Company and H.O. Energy Services (U.S.) Inc. (incorporated herein by reference to Exhibit 10.8 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018).</u>
10.42	<u>Revolving Credit Agreement, dated as of June 29, 2018, among Avangrid, Inc., New York State Electric & Gas Corporation, Rochester Gas and Electric Corporation, Central Maine Power Company, The United Illuminating Company, Connecticut Natural Gas Corporation, The Southern Connecticut Gas Company, The Berkshire Gas Company, the several lenders from time to time parties thereto, JPMorgan Chase Bank, N.A., as Administrative Agent, MUFG Bank, LTD. and Santander Bank, N.A., as Co-Documentation Agents, Bank of America, N.A., as Syndication Agent, Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, as Sustainability Agent, and JPMorgan Chase Bank, N.A., Merrill Lynch, Pierce, Fenner & Smith Incorporated., MUFG Bank, LTD., Santander Bank, N.A., and BBVA Securities, as Joint Lead Arrangers and Joint Bookrunners (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on June 29, 2018).</u>

Exhibit Number	Exhibit Description
10.43	<u>Employment Agreement, effective as of July 8, 2018, between Douglas K. Stuver and Avangrid Management Company, LLC (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on July 20, 2018).†</u>
10.44	<u>Employment Agreement, effective September 27, 2018, between Peter Church and Avangrid Management Company, LLC.*†</u>
10.45	<u>Restricted Stock Unit Grant Notice and Agreement dated October 29, 2018, between Avangrid, Inc. and Peter Church.*†</u>
10.46	<u>Executive Variable Pay Plan (incorporated by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on February 21, 2018).†</u>
10.47	<u>First Amendment to Transmission Service Agreement dated October 9, 2018 by and between Central Maine Power Company and NSTAR Electric Company (d/b/a Eversource) (incorporated herein by reference to Exhibit 10.1 to Form 8-K filed with the SEC on October 15, 2018).</u>
10.48	<u>First Amendment to Transmission Service Agreement dated October 9, 2018 by and among Central Maine Power Company, Massachusetts Electric Company (d/b/a National Grid) and Nantucket Electric Company (d/b/a National Grid) (incorporated herein by reference to Exhibit 10.2 to Form 8-K filed with the SEC on October 15, 2018).</u>
10.49	<u>First Amendment to Transmission Service Agreement dated October 9, 2018 by and between Central Maine Power Company and Fitchburg Gas and Electric Light Company (d/b/a Unitil) (incorporated herein by reference to Exhibit 10.3 to Form 8-K filed with the SEC on October 15, 2018).</u>
10.50	<u>Amended and Restated Executive Variable Pay Plan (incorporated by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on February 20, 2019).†</u>
21.1	<u>Significant subsidiaries of the Registrant.*</u>
23.1	<u>Consent of KPMG LLP, independent registered public accounting firm of Avangrid, Inc.*</u>
23.2	<u>Consent of Ernst & Young LLP, independent registered public accounting firm of Avangrid, Inc.*</u>
31.1	<u>Chief Executive Officer Certification Pursuant to Rule 13a-14(a) and 15d-14(a), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*</u>
31.2	<u>Chief Financial Officer Certification Pursuant to Rule 13a-14(a) and 15d-14(a), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*</u>
32	<u>Chief Executive Officer and Chief Financial Officer Certification Pursuant to 18 United States Code Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*</u>
101.INS	<u>XBRL Instance Document.*</u>
101.SCH	<u>XBRL Taxonomy Extension Schema Document.*</u>
101.CAL	<u>XBRL Taxonomy Extension Calculation Linkbase Document.*</u>
101.DEF	<u>XBRL Taxonomy Extension Definition Linkbase Document.*</u>
101.LAB	<u>XBRL Taxonomy Extension Label Linkbase Document.*</u>
101.PRE	<u>XBRL Taxonomy Extension Presentation Linkbase Document.*</u>

* Filed herewith.

† Compensatory plan or agreement.

— Confidential treatment has been requested for portions of this document. The omitted portions of this document have been submitted separately to the Securities and Exchange Commission.

The foregoing list of exhibits does not include instruments defining the rights of the holders of certain long-term debt of Avangrid, Inc. and its subsidiaries where the total amount of securities authorized to be issued under the instrument does not exceed ten percent (10%) of the total assets of Avangrid, Inc. and its subsidiaries on a consolidated basis; and Avangrid, Inc. hereby agrees to furnish a copy of each such instrument to the SEC on request.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Avangrid, Inc.

By: /s/ James P. Torgerson

James P. Torgerson

Director and Chief Executive Officer

Date: March 1, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ James P. Torgerson</u> James P. Torgerson	Director and Chief Executive Officer (Principal Executive Officer)	March 1, 2019
<u>/s/ Douglas K. Stuver</u> Douglas K. Stuver	Chief Financial Officer (Principal Financial Officer)	March 1, 2019
<u>/s/ Scott M. Tremble</u> Scott M. Tremble	Controller (Principal Accounting Officer)	March 1, 2019
<u>/s/ Ignacio Sánchez Galán</u> Ignacio Sánchez Galán	Chairman of the Board	March 1, 2019
<u>/s/ John E. Baldacci</u> John E. Baldacci	Director	March 1, 2019
<u>/s/ Pedro Azagra Blázquez</u> Pedro Azagra Blázquez	Director	March 1, 2019
<u>/s/ Arnold L. Chase</u> Arnold L. Chase	Director	March 1, 2019
<u>/s/ Alfredo Elías Ayub</u> Alfredo Elías Ayub	Director	March 1, 2019
<u>/s/ Carol L. Folt</u> Carol L. Folt	Director	March 1, 2019
<u>/s/ John L. Lahey</u> John L. Lahey	Director	March 1, 2019
<u>/s/ Santiago Martinez Garrido</u> Santiago Martinez Garrido	Director	March 1, 2019
<u>/s/ Juan Carlos Rebollo Liceaga</u> Juan Carlos Rebollo Liceaga	Director	March 1, 2019
<u>/s/ José Sáinz Armada</u> José Sáinz Armada	Director	March 1, 2019
<u>/s/ Alan D. Solomont</u> Alan D. Solomont	Director	March 1, 2019
<u>/s/ Elizabeth Timm</u> Elizabeth Timm	Director	March 1, 2019

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (the “Agreement”) is entered into by and among Avangrid Management Company, LLC, a Delaware limited liability company (the “Company”), a wholly-owned subsidiary of Avangrid, Inc., and Peter Church (the “Executive”) as of September 27, 2018.

1. Defined Terms. The definitions of capitalized terms used in this Agreement, unless otherwise defined herein, are provided in the last Section hereof.

2. Employment. The Company hereby agrees to employ the Executive, and the Executive hereby agrees to serve the Company, on the terms and conditions set forth herein, until Executive’s employment is terminated in accordance with the terms of this Agreement (the “Term”).

3. Term of Agreement. The Term will commence on the date hereof and continue until the Date of Termination (as defined below).

4. Position and Duties. The Executive shall serve as Chief Human Resources Officer of Avangrid and such other positions as may be assigned from time to time by the Company, and shall have such responsibilities, duties and authority that are consistent with such positions as may from time to time be assigned to the Executive by the Company. The Executive shall devote substantially all his working time and efforts to the business and affairs of the Company and its subsidiaries and affiliates; provided, however, that Executive may serve on the boards of directors of profit or not-for-profit organizations with the consent of the Company, such consent not to be unreasonably withheld, and may attend to his personal affairs, provided in each case that such activities do not unreasonably interfere with the performance of his duties hereunder or cause a conflict of interest. Executive shall be based in the Company’s offices in Orange, Connecticut. The Executive recognizes that his duties will require, at the Company’s expense, travel to domestic and international locations.

5. Compensation and Related Matters.

5.1. Base Salary. The Company shall pay the Executive a base salary (the “Base Salary”) during the period of the Executive’s employment hereunder, which shall be at an initial rate of Three Hundred and Thirty Thousand Dollars (\$330,000.00) per annum. The Base Salary shall be paid in accordance with the Company’s standard payroll practices. The Base Salary shall be reviewed for possible increase on an annual basis and shall not be decreased during the Term.

5.2. Annual Bonus. During the Term, Executive shall be eligible to participate in the Company’s Executive Variable Pay plan (the “EVP”). Executive’s EVP opportunity at target for each year during the Term shall be equal to 45% of his Base Salary at the beginning for such year, and the maximum opportunity shall be equal to 90% of the Base Salary.

5.3. Signing Bonus. Executive shall receive a bonus in two installments totaling \$150,000.00. The first installment of \$75,000.00 shall be received in the employee’s

first pay check. The second installment of \$75,000.00 shall be received the first pay period after the completion of 6 months of service. In the event of voluntary termination within 2 years of the Executive's hire date, the entire signing bonus will be required to be repaid in full within 30 days of separation.

5.4. Long-Term Incentive. Executive shall be nominated to participate in the 2016 – 2019 Avangrid Long-Term Incentive Plan and any successor thereto (the "LTIP"). Upon approval by the Compensation, Nominating and Corporate Governance Committee, this will be in accordance with and subject to its terms, with a proposed maximum grant of 19,000 performance share units.

5.5. Restricted Stock Units. Executive shall be nominated to receive 8,000 Restricted Stock Units ("RSUs"). Upon approval by the Compensation, Nominating and Corporate Governance Committee, the RSUs are subject to the terms and conditions set forth in the Restricted Stock Unit Grant Notice (the "Grant Notice") and the Restricted Stock Unit Agreement and shall be bound by the terms of the Omnibus Incentive Plan.

5.6. Benefits. Executive shall participate in the Company's 401(k) Plan and welfare plans, including but not limited to the Company's medical insurance program, subject to and on a basis consistent with the terms, conditions and overall administration of such plans and arrangements. In addition, in the event that Executive becomes eligible to receive benefits under the Company's long term disability plan (the "LTD Plan"), the Company shall supplement such benefits such that Executive receives aggregate benefits under the LTD Plan and all other disability income sources of not less than 85% of Executive's Base Salary at the time such disability commenced.

5.7. Expenses. Upon presentation of adequate documentation to the Company, the Executive shall receive prompt reimbursement from the Company for all reasonable and customary business expenses incurred by the Executive in accordance with the Company's policies in performing services hereunder.

6. Compensation Related to Disability. During any period during the Term that the Executive fails to perform the Executive's full-time duties with the Company as a result of incapacity due to physical or mental illness, the Company shall pay the Executive's Base Salary to the Executive, together with all compensation and benefits payable to the Executive under the terms of any compensation or benefit plan, program or arrangement in which the Executive participated at the beginning of such period, until the Executive returns to work or his employment is terminated; provided, however, that such Base Salary payments shall be reduced by the sum of the amounts, if any, payable to the Executive under disability benefit plans of the Company or under the Social Security disability insurance program, to the extent such amounts were not previously applied to reduce any such Base Salary payment.

7. Compensation Related to Termination.

7.1. Termination by the Company Without Cause or by Executive for Good Reason. If the Executive's employment shall be terminated during the Term by the Company without Cause or by Executive for Good Reason, Executive shall be entitled to receive

(a) a lump sum payment payable six months and one day after the Date of Termination equal to the sum of the Base Salary and Executive's EVP or other similar incentive award paid by the AVANGRID Group with respect to the prior calendar year; and (b) all compensation and benefits payable to the Executive through the Date of Termination under the terms of this Agreement or any compensation or benefit plan, program or arrangement maintained by the Company and in which Executive participated as of the Date of Termination.

Termination by the Company Without Cause or by Executive for Good Reason Following a Change in Control.

Notwithstanding the foregoing, if Executive's employment shall be terminated during the Term by the Company without Cause or by Executive for Good Reason within one year following a Change in Control and any payment or benefit received or to be received by Executive (including any payment or benefit received pursuant to this Agreement or otherwise) would be (in whole or part) subject to the excise tax imposed by Section 4999 of the Internal Revenue Code (the "Code"), or any successor provision thereto, or any similar tax imposed by state or local law, or any interest or penalties with respect to such excise tax (such tax or taxes, together with any such interest and penalties, are hereafter collectively referred to as the "Excise Tax"), then, the amounts payable under Section 7.1 shall be reduced to the extent necessary to make such payments and benefits not subject to such Excise Tax, but only if such reduction results in a higher after-tax payment to the Executive after taking into account the Excise Tax and any additional taxes the Executive would pay if such payments and benefits were not reduced. Unless the Executive and the Company otherwise agree in writing, any determination required under this Section shall be made in writing by a certified public accountant selected by the Company (the "Accountants"), whose determination shall be conclusive and binding upon the Executive and the Company for all purposes. For purposes of making the calculations required by this Section, the Accountants may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and the Executive shall furnish to the Accountants such information and documents as the Accountants may reasonably request in order to make a determination under this Section. The Company shall bear all costs the Accountants may reasonably incur in connection with any calculations contemplated by this Section. The reduction of payments, if applicable, shall be effected in the following order (unless the Executive, to the extent permitted by Section 409A of the Code, elects another method of reduction by written notice to the Company prior to the Section 280G event): (i) any cash severance payments, (ii) any other cash amounts payable to the Executive, (iii) any benefits valued as parachute payments, and (iv) acceleration of vesting of equity awards.

7.2. Termination by Reason of Executive's Death or Disability. If the Executive's employment shall be terminated during the Term by reason of the Executive's death or Disability, Executive shall be entitled to receive (a) the Executive's Base Salary through the Date of Termination at the rate in effect at the time the Notice of Termination is given; and (b) all compensation and benefits payable to the Executive through the Date of Termination under the terms of this Agreement or any compensation or benefit plan, program or arrangement maintained by the Company during such period and in which Executive participated as of the Date of Termination.

7.3. Termination by Executive Without Good Reason, by the Company for Cause, or by Reason of Executive's Retirement. If the Executive's employment shall be terminated during the Term by Executive Without Good Reason, by the Company for Cause, or by reason of the Executive's retirement, Executive shall be entitled to receive (a) the Executive's Base Salary through the Date of Termination at the rate in effect at the time the Notice of Termination is given; and (b) all compensation and benefits payable to the Executive through the Date of Termination under the terms of this Agreement or any compensation or benefit plan, program or arrangement maintained by the Company during such period and in which Executive participated as of the Date of Termination.

7.4. No Further Liability; Release. Other than providing the compensation and benefits provided for in accordance with this Section 7, the Company and its directors, officers, employees, subsidiaries, affiliates, stockholders, successors, assigns, agents and representatives shall have no further obligation or liability to Executive or any other person under this Agreement. The payment of any amounts pursuant to this Section 7 (other than payments required by law) is expressly conditioned upon the delivery by Executive to the Company of a release in a form to be provided by the Company of any and all claims Executive may have against the Company and its directors, officers, employees, subsidiaries, affiliates, stockholders, successors, assigns, agents and representatives arising out of or related to Executive's employment by the Company and the termination of such employment. The Company shall provide such release to Executive not more than fifteen days after the Date of Termination.

8. Termination Procedures.

8.1. Notice of Termination. During the Term of this Agreement, any purported termination of the Executive's employment (other than by reason of death) shall be communicated by written Notice of Termination from one party hereto to the other parties hereto in accordance with Section 11 hereof. For purposes of this Agreement, a "Notice of Termination" shall mean a notice which shall indicate the specific termination provision in this Agreement relied upon and, if the termination is purported to be by the Company for Cause or by Executive for Good Reason, shall set forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of the Executive's employment.

8.2. Date of Termination. "Date of Termination," with respect to any purported termination of the Executive's employment during the Term of this Agreement, shall mean (i) if the Executive's employment is terminated by his death, the date of his death, (ii) if the Executive's employment is terminated for Disability, thirty (30) days after Notice of Termination is given (provided that the Executive shall not have returned to the full time performance of the Executive's duties during such thirty (30) day period), and (iii) if the Executive's employment is terminated for any other reason, the date specified in the Notice of Termination, which shall not (except in the case of a termination for Cause) be less than thirty or more than sixty days from the date such Notice of Termination is given.

9. Exclusive Employment; Noncompetition; Nonsolicitation; Nondisclosure of Proprietary Information; Surrender of Records; Inventions and Patents.

9.1. No Conflict; No Other Employment. During the period of Executive's employment with the Company, Executive shall not: (i) engage in any activity which conflicts or interferes with or derogates from the performance of Executive's duties hereunder nor shall Executive engage in any other business activity, whether or not such business activity is pursued for gain or profit, except as approved in advance in writing by the Company, such approval not to be unreasonably withheld; provided, however, that Executive shall be entitled to manage his personal investments and otherwise attend to personal affairs, including charitable, social and political activities, in a manner that does not unreasonably interfere with his responsibilities hereunder, or (ii) accept or engage in any other employment, whether as an employee or consultant or in any other capacity, and whether or not compensated therefor.

9.2. Noncompetition; Nonsolicitation.

- (a) Executive acknowledges and recognizes the highly competitive nature of the Company's business and that access to the Company's confidential records and proprietary information renders his special and unique within the Company's industry. In consideration of the payment by the Company to Executive of amounts that may hereafter be paid to Executive pursuant to this Agreement (including, without limitation, pursuant to Sections 5 and 7 hereof) and other obligations undertaken by the Company hereunder, Executive agrees that during (i) his employment with the Company, and (ii) the period beginning on the date of termination of employment and ending one year after the date of termination of employment (the "Covered Time"), Executive shall not, directly or indirectly, engage (as owner, investor, partner, stockholder, employer, employee, consultant, advisor, director or otherwise) in any Competing Business in any Restricted Area (each as defined below), provided that the provisions of this Section 9.2(a) will not be deemed breached merely because Executive owns less than 2% of the outstanding common stock of a publicly-traded company.
 - (b) In further consideration of the payment by the Company to Executive of amounts that may hereafter be paid to Executive pursuant to this Agreement (including, without limitation, pursuant to Sections 5 and 7 hereof) and other obligations undertaken by the Company hereunder, Executive agrees that during his employment and the Covered Time, he shall not, directly or indirectly, (i) solicit,
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encourage or attempt to solicit or encourage any of the employees, agents, consultants or representatives of the Company or any of its affiliates to terminate his, or its relationship with the Company or such affiliate; (ii) solicit, encourage or attempt to solicit or encourage any of the employees, agents, consultants or representatives of the Company or any of its affiliates to become employees, agents, representatives or consultants of any other person or entity; (iii) solicit or attempt to solicit any vendor or distributor of the Company or any of its affiliates in connection with a Competing Business with respect to any product or service being furnished, made, sold, rented or leased by the Company or such affiliate; or (iv) persuade or seek to persuade any vendor or distributor of the Company or any affiliate to cease to do business or to reduce the amount of business which such customer, vendor or distributor has customarily done or contemplates doing with the Company or such affiliate.

- (c) Executive understands that the provisions of this Section 9.2 may limit his ability to earn a livelihood in a business similar to the business of the Company or its affiliates but nevertheless agrees and hereby acknowledges that the consideration provided under this Agreement, including any amounts or benefits provided under Sections 5 and 7 hereof and other obligations undertaken by the Company hereunder, is sufficient to justify the restrictions contained in such provisions. In consideration thereof and in light of Executive's education, skills and abilities, Executive agrees that he will not assert in any forum that such provisions prevent his from earning a living or otherwise are void or unenforceable or should be held void or unenforceable.

9.3. Proprietary Information. Executive acknowledges that during the course of his employment with the Company he will necessarily have access to and make use of proprietary information and confidential records of the Company and its affiliates, including without limitation trade secrets (as that term is defined in ORS 646.461) and/or competitively sensitive business or professional information. Executive covenants that he shall not during his employment or at any time thereafter, directly or indirectly, use for his own purpose or for the benefit of any person or entity other than the Company, nor otherwise disclose to any individual or entity, any Proprietary Information, unless such disclosure is made in the good faith performance of Executive's duties hereunder, has been authorized in writing by the Company, or is otherwise required by law.

9.4. Confidentiality and Surrender of Records. Executive shall not during his employment or at any time thereafter (irrespective of the circumstances under which Executive's employment by the Company terminates), except as required by law, directly or

indirectly publish, make known or in any fashion disclose any confidential records to, or permit any inspection or copying of confidential records by, any individual or entity other than in the course of such individual's or entity's employment or retention by the Company. Upon termination of employment for any reason or request by the Company, Executive shall deliver promptly to the Company all property and records of the Company or any of its affiliates, including, without limitation, all confidential records. For purposes hereof, "confidential records" means all correspondence, reports, memoranda, files, manuals, books, lists, financial, operating or marketing records, magnetic tape, or electronic or other media or equipment of any kind which may be in Executive's possession or under his control or accessible to his which contain any Proprietary Information. All property and records of the Company and any of its affiliates (including, without limitation, all confidential records) shall be and remain the sole property of the Company or such affiliate during Executive's employment with the Company and thereafter.

9.5. Inventions and Patents. All inventions, innovations or improvements (including policies, procedures, products, improvements, software, ideas and discoveries, whether patent, copyright, trademark, service mark, or otherwise) conceived or made by Executive, either alone or jointly with others, in the course of his employment by the Company, belong to the Company. Executive will promptly disclose in writing such inventions, innovations or improvements to the Company and perform all actions reasonably requested by the Company to establish and confirm such ownership by the Company, including, but not limited to, cooperating with and assisting the Company in obtaining patents, copyrights, trademarks, or service marks for the Company in the United States and in foreign countries.

9.6. Enforcement. Executive acknowledges and agrees that, by virtue of his position, his services and access to and use of confidential records and Proprietary Information, any violation by his of any of the undertakings contained in this Section 9 would cause the Company and/or its affiliates immediate, substantial and irreparable injury for which it or they have no adequate remedy at law. Accordingly, Executive agrees and consents to the entry of an injunction or other equitable relief by a court of competent jurisdiction restraining any violation or threatened violation of any undertaking contained in this Section 9. Executive waives posting by the Company or its affiliates of any bond otherwise necessary to secure such injunction or other equitable relief. Rights and remedies provided for in this Section 9 are cumulative and shall be in addition to rights and remedies otherwise available to the parties hereunder or under any other agreement or applicable law.

10. Indemnification. During the Term and for so long thereafter as liability exists with regard to the Executive's activities during the Term on behalf of the Company or its affiliates, the Company shall indemnify the Executive (other than in connection with the Executive's gross negligence or willful misconduct) in accordance with the Company's customary indemnification policies and procedures which are applicable to the Company's officers and directors.

11. Successors; Binding Agreement.

11.1. This Agreement shall inure to the benefit of and be enforceable by the successors and assigns of the Company. Each of the Company may assign this Agreement,

without Executive's prior consent, to any person or entity that acquires all or a substantial part of the business and/or assets of the Company or any subsidiary thereof to which Executive regularly provides services, provided in each case that such entity expressly assumes and agrees to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no succession had taken place.

11.2. This Agreement shall inure to the benefit of and be enforceable by the Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees. If the Executive shall die while any amount would still be payable to the Executive hereunder (other than amounts which, by their terms, terminate upon the death of the Executive) if the Executive had continued to live, all such amounts, unless otherwise provided herein, shall be paid in accordance with the terms of this Agreement to the executors, personal representatives or administrators of the Executive's estate.

12. Notices. For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered or mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that notice of change of address shall be effective only upon actual receipt:

To the Company:

Avangrid Management Corporation

180 Marsh Hill Road

Orange, CT 06477

Attention: Chief Human Resources Officer

To the Executive:

Peter Church

13. Miscellaneous.

13.1. No provision of this Agreement may be modified, waived or discharged unless such waiver, modification or discharge is agreed to in writing and signed by the Executive and such officers as may be specifically designated by the Board. No waiver by any party hereto at any time of any breach by any other party hereto of, or compliance with, any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time. No agreements or representations, oral or otherwise, express or implied, with respect to the subject matter hereof have been made by any party, which are not expressly set forth in this Agreement. The validity, interpretation, construction and performance of this Agreement shall

be governed by the laws of the State of Connecticut. There shall be withheld from any payments provided for hereunder any amounts required to be withheld under federal, state or local law and any additional withholding amounts to which the Executive has agreed. The obligations under this Agreement of the Company or the Executive which by their nature and terms require satisfaction after the end of the Term shall survive such event and shall remain binding upon such party.

13.2. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument. Facsimile or electronically transmitted signatures shall be treated as original signatures for all purposes.

13.3. This Agreement contains the entire agreement and understanding between the parties hereto in respect of Executive's employment and supersedes, cancels and annuls any prior or contemporaneous written or oral agreements, understandings, commitments and practices between them respecting Executive's employment except as specifically referenced herein.

14. Validity. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect.

15. Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instrument.

16. Settlement of Disputes; Arbitration. All claims by the Executive for benefits under this Agreement shall be directed to and determined by the Board and shall be in writing. Any denial by the Board of a claim for benefits under this Agreement shall be delivered to the Executive in writing. Any dispute or controversy arising under or in connection with this Agreement or Executive's employment shall be settled exclusively by arbitration in Connecticut in accordance with the Employment Arbitration Rules of the American Arbitration Association then in effect. Judgment may be entered on the arbitrator's award in any court having jurisdiction. Notwithstanding the foregoing, the Company and any affiliate thereof shall have the right to seek injunctive or other equitable relief from a court of competent jurisdiction to enforce the provisions of Section 9 of this Agreement. For purposes of seeking enforcement of Section 9, the Company and Executive hereby consent to the jurisdiction of any state or federal court sitting in Connecticut. In connection with any arbitration or litigation dispute (including any appeal or enforcement proceedings related to any such dispute) arising out of or related to this Agreement, the party substantially prevailing in the matter shall be entitled to recover from the other party his or its reasonable attorneys' fees and costs incurred in connection with such dispute.

17. Section 409A of the Code. The Company may deduct or withhold from any compensation or benefits any applicable federal, state or local tax or employment withholdings or deductions resulting from any payments or benefits provided under this Agreement. The Company makes no representations regarding the tax implications of the

compensation and benefits to be paid under this Agreement, including, without limitation, under Section 409A (“Section 409A”) of the Internal Revenue Code of 1986, as amended (the “Code”) and applicable administrative guidance and regulations. It is intended that this Agreement will comply with Section 409A and all regulations and guidance issued thereunder to the extent the Agreement is subject thereto, and the Agreement shall be interpreted on a basis consistent with such intent. Notwithstanding anything in this Agreement to the contrary, in the event Executive is deemed to be a “specified employee” within the meaning of Section 409A(a)(2)(B)(i), no payments hereunder that are “deferred compensation” subject to Section 409A shall be made prior to the date that is six months after the date of Executive’s “separation from service” (as defined in Section 409A and any Treasury Regulations promulgated thereunder) or, if earlier, Executive’s death. Following any applicable six month delay, all such delayed payments will be paid in a single lump sum on the earliest permissible payment date. For purposes of this Agreement, with respect to payments of any amounts that are considered to be “deferred compensation” subject to Section 409A, references to “termination of employment” (and substantially similar phrases) shall be interpreted and applied in a manner that is consistent with the definition of “separation from service” for purposes of Section 409A. For purposes of Section 409A, Executive’s right to receive any installment payment pursuant to this Agreement will be treated as a right to receive a series of separate and distinct payments.

18. Definitions. For purposes of this Agreement, the following terms shall have the meaning indicated below:

- (A) “Affiliates” shall mean all direct and indirect parent companies and affiliates of the Company, including without limitation Iberdrola S.A. and Avangrid, Inc. and their respective affiliates.
 - (B) “Avangrid” shall mean Avangrid, Inc.
 - (C) “AVANGRID Group” shall mean AVANGRID, Inc. (“Avangrid”) and the Company, as well as any entity that directly, or indirectly through one or more intermediaries, controls, are controlled by, or are under common control with, AVANGRID and/or the Company.
 - (D) “Base Salary” shall have the meaning stated in Section 5.1 hereof.
 - (E) “Board” shall mean the Board of Directors of Avangrid.
 - (F) “Cause” for termination by the Company of the Executive’s employment, for purposes of this Agreement, shall mean (i) the willful and continued failure by the Executive to substantially perform the Executive’s duties with the Company (other than any such failure resulting from the Executive’s incapacity due to physical or mental illness or Executive’s resignation for Good Reason) after a written demand for substantial performance is delivered to the Executive by the Company, which demand specifically identifies the manner in which the Company believes that the Executive has not substantially performed the Executive’s duties, and Executive’s failure to cure such failure within fifteen (15) days of the delivery of such written demand, (ii) the willful engaging by the
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Executive in conduct which is demonstrably and materially injurious to the Company or its subsidiaries, monetarily or otherwise; or (iii) the Executive's conviction, or a plea of guilty or no lo contendere to a felony. For purposes of clauses (i) and (ii) of this definition, no act, or failure to act, on the Executive's part shall be deemed "willful" unless done, or omitted to be done, by the Executive not in good faith and without reasonable belief that the Executive's act, or failure to act, was in the best interest of the Company. An error in judgment or negligence by Executive shall not be considered to be "willful." Failure to meet performance standards or objectives of the Company shall not constitute Cause for purposes hereof.

(G) "Change in Control" shall mean the closing of an event qualifying as a change in ownership of the Company, Avangrid, or Iberdrola S.A. or a change in ownership of assets of the Company, Avangrid, or Iberdrola S.A. that have a total gross fair market value equal to or more than eighty percent of the total gross fair market value of all of the assets of, as applicable, the Company, Avangrid, or Iberdrola S.A. immediately before such event, in each case within the meaning of Treasury Regulation Section 1.409A-3(i)(5); provided, however, that no such transfer of ownership or assets to a direct or indirect subsidiary or affiliate of Iberdrola S.A. shall constitute a Change in Control.

(H) "Company" shall mean Avangrid Management Company, LLC and any successor to its business and/or assets which assumes and agrees to perform this Agreement by operation of law, or otherwise.

(I) "Competing Business" shall mean any business (including, without limitation, utilities, power producers, power marketers or traders), co-operative, or energy provider of any kind that directly or indirectly competes with the Company's businesses or planned future businesses as defined within the approved strategic plan of the Company, or with the businesses or planned future businesses as defined within the approved strategic plan of the Company's affiliates as of the date of Executive's termination of employment with the Company.

(J) "Date of Termination" shall have the meaning stated in Section 8.2 hereof.

(K) "Disability" shall be deemed the reason for the termination by the Company of the Executive's employment if, as a result of the Executive's incapacity due to physical or mental illness, the Executive shall have been absent from the full-time performance of the Executive's duties with the Company for a period of at least six months within any twelve month period, the Company shall have given the Executive a Notice of Termination for Disability, and, within thirty (30) days after such Notice of Termination is given, the Executive shall not have returned to the full-time performance of the Executive's duties.

(L) "Executive" shall mean the individual named in the first paragraph of this Agreement.

(M) “Good Reason” for termination by the Executive of the Executive’s employment shall mean the occurrence (without the Executive’s express written consent), of any of the following acts by the Company, unless such act is corrected prior to the Date of Termination specified in the Notice of Termination given in respect thereof: (i) a material and ongoing diminution of Executive’s title, duties, responsibilities, or authorities; (ii) a material diminution of Executive’s annual base salary, unless such reduction is consistent with a general reduction of compensation rates of all executives or all employees of the Company; (iii) a requirement by the Company that Executive relocate his principal place of employment by more than fifty miles; or (iv) any other action or inaction by the Company that constitutes a material breach of this Agreement, including (x) a failure to include the Executive in the management compensation programs then in effect on substantially the same terms and conditions as that applicable to other officers or similarly situated executives of the AVANGRID Group, or (y) a failure to continue the Executive’s participation in the material benefit plans of the AVANGRID Group (other than any pension plan) on substantially the same basis as that applicable to other officers or similarly situated executives of the AVANGRID Group. For the avoidance of doubt, the appointment of a President and assignment to such person of duties appropriate for such position, or the appointment of other executives below the level of Chief Executive Officer, shall not constitute Good Reason.

(N) “Notice of Termination” shall have the meaning stated in Section 8.1 hereof.

(O) “Proprietary Information” includes, but is not limited to: (a) the software products, programs, applications, and processes utilized by the Company or any of its affiliates; (b) information concerning the transactions or relations of any vendor or distributor of the Company or any of its affiliates with the Company or such affiliate or any of its or their partners, principals, directors, officers or agents; (c) any information concerning any product, technology, or procedure employed by the Company or any of its affiliates but not generally known to its or their customers, vendors or competitors, or under development by or being tested by the Company or any of its affiliates but not at the time offered generally to customers or vendors; (d) any information relating to the computer software, computer systems, pricing or marketing methods, sales margins, cost of goods, cost of material, capital structure, operating results, borrowing arrangements or business plans of the Company or any of its affiliates; (e) any information which is generally regarded as confidential or proprietary in any line of business engaged in by the Company or any of its affiliates; (f) any business plans, budgets, advertising or marketing plans; (g) any information contained in any of the written or oral policies and procedures or manuals of the Company or any of its affiliates; (h) any information belonging to customers or vendors of the Company or any of its affiliates or any other person or entity which the Company or any of its affiliates has agreed to hold in confidence; (i) any inventions, innovations or improvements covered by this Agreement; and (j) all written, graphic and other material relating to any of the foregoing. Executive

acknowledges and understands that information that is not novel or copyrighted or patented may nonetheless be Proprietary Information. The term “Proprietary Information” shall not include information that is or becomes generally available to and known by the public or information that was known to Executive prior to the commencement of his employment with the Company or information that is or becomes available to Executive on a non-confidential basis from a source other than the Company, any of its affiliates, or the directors, officers, employees, partners, principals or agents of the Company or any of its affiliates (other than as a result of a breach of any obligation of confidentiality).

(P) “Restricted Area” shall mean North America.

(Q) “Term” shall have the meaning stated in Section 3 hereof.

[Remainder of the page intentionally left blank.]

IN WITNESS WHEREOF, the parties have executed and delivered this Agreement.

AVANGRID MANAGEMENT COMPANY, LLC

By: /s/ Sheila Duncan
Name: Sheila Duncan
Title: Chief Human Resources Officer
Date: September 27, 2018

EXECUTIVE

By: /s/ Peter T. Church
Name: Peter T. Church
Date: October 1, 2018

AVANGRID, INC.
AMENDED AND RESTATED OMNIBUS INCENTIVE PLAN
RESTRICTED STOCK UNIT GRANT NOTICE

Avangrid, Inc., a Delaware corporation (the “Company”), pursuant to its Amended and Restated Omnibus Incentive Plan, as amended from time to time (the “Plan”), hereby grants to the holder listed below (“Participant”) the number of Restricted Stock Units (the “RSUs”) set forth below. The RSUs are subject to the terms and conditions set forth in this Restricted Stock Unit Grant Notice (the “Grant Notice”) and the Restricted Stock Unit Agreement attached hereto as Exhibit A (the “Agreement”) and the Plan, which are incorporated herein by reference. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in the Grant Notice and the Agreement.

Participant:	Peter Church
Grant Date:	October 29, 2018
Number of RSUs:	8,000
Vesting Schedule:	The RSUs shall vest in full in one installment on December 31st, 2020, provided that the Participant remains continuously employed with the Company through such date. In addition, to the extent not previously forfeited, the RSUs shall also vest in full upon (i) the Participant’s death or termination of employment due to Disability, (ii) retirement with the consent of the Company, or (iii) termination of the Participant’s employment by the Company for Cause or the Participant’s resignation of his employment on account of a Constructive Termination, in either case following the occurrence of a Change in Control. “ <u>Cause</u> ” and “ <u>Constructive Termination</u> ” shall have the meanings set forth in the Participant’s employment agreement previously entered into with the Company.

By his or her signature, and the Company’s signature below, Participant agrees to be bound by the terms and conditions of the Plan, the Agreement and the Grant Notice. Participant has reviewed the Agreement, the Plan and the Grant Notice in their entirety, has had an opportunity to obtain the advice of counsel prior to executing the Grant Notice and fully understands all provisions of the Grant Notice, the Agreement and the Plan. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions arising under the Plan, the Grant Notice or the Agreement.

AVANGRID, INC.

PARTICIPANT

By: /s/ Sheila Duncan
 Print Name: Sheila Duncan
 Title: Chief Human Resources Officer

By: /s/ Peter T. Church
 Print Name: Peter T. Church

EXHIBIT A
TO RESTRICTED STOCK UNIT GRANT NOTICE
RESTRICTED STOCK UNIT AGREEMENT

Pursuant to the Grant Notice to which this Agreement is attached, the Company has granted to Participant the number of RSUs set forth in the Grant Notice.

ARTICLE I.
GENERAL

1.1 Defined Terms. Capitalized terms not specifically defined herein shall have the meanings specified in the Plan or the Grant Notice.

1.2 Incorporation of Terms of Plan. The RSUs and the shares of Common Stock (“Stock”) to be issued to Participant hereunder (“Shares”) are subject to the terms and conditions set forth in this Agreement and the Plan, which is incorporated herein by reference. In the event of any inconsistency between the Plan and this Agreement, the terms of the Plan shall control.

ARTICLE II.
AWARD OF RESTRICTED STOCK UNITS AND DIVIDEND EQUIVALENTS; RESTRICTIVE COVENANTS

2.1 Award of RSUs and Dividend Equivalents.

(a) In consideration of Participant’s past and/or continued employment with or service to the Company or a Subsidiary and for other good and valuable consideration, effective as of the grant date set forth in the Grant Notice (the “Grant Date”), the Company has granted to Participant the number of RSUs set forth in the Grant Notice, upon the terms and conditions set forth in the Grant Notice, the Plan and this Agreement, subject to adjustments as provided in Section 8 of the Plan. Each RSU represents the right to receive one Share or, at the option of the Company, an amount of cash as set forth in Section 2.3(b), in either case, at the times and subject to the conditions set forth herein, subject to the provisions of Section 2.3(a). However, unless and until the RSUs have vested, Participant will have no right to the payment of any Shares subject thereto. Prior to the actual delivery of any Shares, the RSUs will represent an unsecured obligation of the Company, payable only from the general assets of the Company.

(b) The Company hereby grants to Participant an Award of Dividend Equivalents with respect to each RSU granted pursuant to the Grant Notice for all ordinary cash dividends which are paid to all or substantially all holders of the outstanding shares of Stock, to be credited as of dividend payment dates with respect to dividends with record dates that occur between the Grant Date and the date when the applicable RSU is distributed or paid to Participant or is forfeited or expires. The Dividend Equivalents for each RSU shall be equal to the amount of cash which is paid as a dividend on one share of Stock. All such Dividend Equivalents shall be credited to Participant and be deemed to be reinvested in additional RSUs as of the date of payment of any such dividend based on the Fair Market Value of a share of Stock on such date. Each additional RSU which results from such deemed reinvestment of Dividend Equivalents granted hereunder shall be subject to the same vesting, distribution or payment, adjustment and other provisions which apply to the underlying RSU to which such additional RSU relates.

2.2 Vesting of RSUs and Dividend Equivalents.

(a) Subject to Participant's continued employment with or service to the Company or a Subsidiary on each applicable vesting date and subject to the terms of this Agreement, the RSUs shall vest in such amounts and at such times as are set forth in the Grant Notice. Each additional RSU which results from deemed reinvestments of Dividend Equivalents pursuant to Section 2.1(b) hereof shall vest whenever the underlying RSU to which such additional RSU relates vests.

(b) In the event Participant incurs a Termination of Service, except as may be otherwise provided by the Administrator or as set forth in a written agreement between Participant and the Company, Participant shall immediately forfeit any and all RSUs and Dividend Equivalents granted under this Agreement which have not vested or do not vest on or prior to the date on which such Termination of Service occurs, and Participant's rights in any such RSUs and Dividend Equivalents which are not so vested shall lapse and expire.

2.3 Distribution or Payment of RSUs.

(a) Participant's RSUs shall be distributed in Shares (either in book-entry form or otherwise) or, at the option of the Company, paid in an amount of cash as set forth in Section 2.3(b), in either case, as soon as administratively practicable following the vesting of the applicable RSU pursuant to Section 2.2, and, in any event, within sixty (60) days following such vesting. Notwithstanding the foregoing, the Company may delay a distribution or payment in settlement of RSUs if it reasonably determines that such payment or distribution will violate Federal securities laws or any other Applicable Law, *provided* that such distribution or payment shall be made at the earliest date at which the Company reasonably determines that the making of such distribution or payment will not cause such violation, as required by Treasury Regulation Section 1.409A-2(b)(7)(ii), and provided further that no payment or distribution shall be delayed under this Section 2.3(a) if such delay will result in a violation of Section 409A of the Code.

(b) In the event that the Company elects to make payment of Participant's RSUs in cash, the amount of cash payable with respect to each RSU shall be equal to the Fair Market Value of a Share on the day immediately preceding the applicable distribution or payment date set forth in Section 2.3(a). All distributions made in Shares shall be made by the Company in the form of whole Shares, and any fractional share shall be distributed in cash in an amount equal to the value of such fractional share determined based on the Fair Market Value as of the date immediately preceding the date of such distribution.

2.4 Conditions to Issuance of Certificates. The Company shall not be required to issue or deliver any certificate or certificates for any Shares prior to the fulfillment of all of the following conditions: (A) the admission of the Shares to listing on all stock exchanges on which such Shares are then listed, (B) the completion of any registration or other qualification of the Shares under any state or federal law or under rulings or regulations of the Securities and Exchange Commission or other governmental regulatory body, which the Administrator shall, in its absolute discretion, deem necessary or advisable, and (C) the obtaining of any approval or other clearance from any state or federal governmental agency that the Administrator shall, in its absolute discretion, determine to be necessary or advisable.

2.5 Tax Withholding. Notwithstanding any other provision of this Agreement:

(a) The Company and its Subsidiaries have the authority to deduct or withhold, or require Participant to remit to the Company or the applicable Subsidiary, an amount sufficient to satisfy applicable federal, state, local and foreign taxes (including the employee portion of any FICA obligation) required by law to be withheld with respect to any taxable event arising pursuant to this Agreement. The

Company and its Subsidiaries may withhold or Participant may make such payment in one or more of the forms specified below:

(i) by cash or check made payable to the Company or the Subsidiary with respect to which the withholding obligation arises;

(ii) by the deduction of such amount from other compensation payable to Participant;

(iii) with respect to any withholding taxes arising in connection with the distribution of the RSUs, with the consent of the Administrator, by requesting that the Company and its Subsidiaries withhold a net number of vested shares of Stock otherwise issuable pursuant to the RSUs having a then current Fair Market Value not exceeding the amount necessary to satisfy the withholding obligation of the Company and its Subsidiaries based on the minimum applicable statutory withholding rates for federal, state, local and foreign income tax and payroll tax purposes;

(iv) with respect to any withholding taxes arising in connection with the distribution of the RSUs, with the consent of the Administrator, by tendering to the Company vested shares of Stock having a then current Fair Market Value not exceeding the amount necessary to satisfy the withholding obligation of the Company and its Subsidiaries based on the minimum applicable statutory withholding rates for federal, state, local and foreign income tax and payroll tax purposes;

(v) with respect to any withholding taxes arising in connection with the distribution of the RSUs, through the delivery of a notice that Participant has placed a market sell order with a broker acceptable to the Company with respect to shares of Stock then issuable to Participant pursuant to the RSUs, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company or the Subsidiary with respect to which the withholding obligation arises in satisfaction of such withholding taxes; *provided* that payment of such proceeds is then made to the Company or the applicable Subsidiary at such time as may be required by the Administrator, but in any event not later than the settlement of such sale; or

(vi) in any combination of the foregoing.

(b) With respect to any withholding taxes arising in connection with the RSUs, in the event Participant fails to provide timely payment of all sums required pursuant to Section 2.5(a), the Company shall have the right and option, but not the obligation, to treat such failure as an election by Participant to satisfy all or any portion of Participant's required payment obligation pursuant to Section 2.5(a)(ii) or Section 2.5(a)(iii) above, or any combination of the foregoing as the Company may determine to be appropriate. The Company shall not be obligated to deliver any certificate representing shares of Stock issuable with respect to the RSUs to Participant or his or her legal representative unless and until Participant or his or her legal representative shall have paid or otherwise satisfied in full the amount of all federal, state, local and foreign taxes applicable with respect to the taxable income of Participant resulting from the vesting or settlement of the RSUs or any other taxable event related to the RSUs.

(c) In the event any tax withholding obligation arising in connection with the RSUs will be satisfied under Section 2.5(a)(iii) above, the Company may elect to instruct any brokerage firm determined acceptable to the Company for such purpose to sell on Participant's behalf a whole number of shares from those shares of Stock then issuable to Participant pursuant to the RSUs as the Company determines to be appropriate to generate cash proceeds sufficient to satisfy the tax withholding obligation and to remit the proceeds of such sale to the Company or the Subsidiary with respect to which the withholding obligation

arises. Participant's acceptance of this Award constitutes Participant's instruction and authorization to the Company and such brokerage firm to complete the transactions described in this Section 2.5(c), including the transactions described in the previous sentence, as applicable. The Company may refuse to issue any shares of Stock in settlement of the RSUs to Participant until the foregoing tax withholding obligations are satisfied, provided that no payment shall be delayed under this Section 2.5(c) if such delay will result in a violation of Section 409A of the Code.

(d) Participant is ultimately liable and responsible for all taxes owed in connection with the RSUs, regardless of any action the Company or any Subsidiary takes with respect to any tax withholding obligations that arise in connection with the RSUs. Neither the Company nor any Subsidiary makes any representation or undertaking regarding the treatment of any tax withholding in connection with the awarding, vesting or payment of the RSUs or the subsequent sale of the Shares. The Company and the Subsidiaries do not commit and are under no obligation to structure the RSUs to reduce or eliminate Participant's tax liability.

2.6 Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares (which may be in book-entry form) will have been issued and recorded on the records of the Company or its transfer agents or registrars and delivered to Participant (including through electronic delivery to a brokerage account). Except as otherwise provided herein, after such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to such Shares, including, without limitation, the right to receipt of dividends and distributions on such Shares.

2.7 "**Fair Market Value**" means, as of any date, the value of Common Stock on such date as determined by such reasonable methods or procedures as may be established from time to time by the Administrator in accordance with the requirements of the Code and all Applicable Laws. Unless otherwise determined by the Administrator, the Fair Market Value of Common Stock shall be determined as follows: (i) if the Common Stock is listed on any established stock exchange, its Fair Market Value will be the closing sales price for such Common Stock as quoted on such exchange for such date, or if no sale occurred on such date, the last day preceding such date during which a sale occurred, as reported in The Wall Street Journal or another source the Administrator deems reliable; (ii) if the Common Stock is not traded on a stock exchange but is quoted on a national market or other quotation system, the closing sales price on such date, or if no sales occurred on such date, then on the last date preceding such date during which a sale occurred, as reported in The Wall Street Journal or another source the Administrator deems reliable; or (iii) without an established market for the Common Stock, the Administrator will determine the Fair Market Value in its discretion.

ARTICLE III. OTHER PROVISIONS

3.1 Administration. The Administrator shall have the power to interpret the Plan, the Grant Notice and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan, the Grant Notice and this Agreement as are consistent therewith and to interpret, amend or revoke any such rules. All actions taken and all interpretations and determinations made by the Administrator will be final and binding upon Participant, the Company and all other interested persons. To the extent allowable pursuant to Applicable Law, no member of the Committee or the Board will be personally liable for any action, determination or interpretation made with respect to the Plan, the Grant Notice or this Agreement.

3.2 RSUs Not Transferable. The RSUs may not be sold, pledged, assigned or transferred in any manner other than by will or the laws of descent and distribution, unless and until the Shares underlying the RSUs have been issued, and all restrictions applicable to such Shares have lapsed. No RSUs or any interest or right therein or part thereof shall be liable for the debts, contracts or engagements of Participant or his or her successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, encumbrance, assignment or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect, except to the extent that such disposition is permitted by the preceding sentence.

3.3 Adjustments. The Administrator may accelerate the vesting of all or a portion of the RSUs in such circumstances as it, in its sole discretion, may determine. Participant acknowledges that the RSUs and the Shares subject to the RSUs are subject to adjustment, modification and termination in certain events as provided in this Agreement and Section 8 of the Plan.

3.4 Titles. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

3.5 Governing Law. The laws of the State of Delaware shall govern the interpretation, validity, administration, enforcement and performance of the terms of this Agreement regardless of the law that might be applied under principles of conflicts of laws.

3.6 Conformity to Securities Laws. Participant acknowledges that the Plan, the Grant Notice and this Agreement are intended to conform to the extent necessary with all Applicable Laws, including, without limitation, the provisions of the Securities Act and the Exchange Act, and any and all regulations and rules promulgated thereunder by the Securities and Exchange Commission, and state securities laws and regulations. Notwithstanding anything herein to the contrary, the Plan shall be administered, and the RSUs are granted, only in such a manner as to conform to Applicable Law. To the extent permitted by Applicable Law, the Plan and this Agreement shall be deemed amended to the extent necessary to conform to Applicable Law.

3.7 Amendment, Suspension and Termination. To the extent permitted by the Plan, this Agreement may be wholly or partially amended or otherwise modified, suspended or terminated at any time or from time to time by the Administrator or the Board, *provided* that, except as may otherwise be provided by the Plan, no amendment, modification, suspension or termination of this Agreement shall adversely affect the RSUs in any material way without the prior written consent of Participant.

3.8 Successors and Assigns. The Company may assign any of its rights under this Agreement to single or multiple assignees, and this Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer set forth in Section 3.2 and the Plan, this Agreement shall be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

3.9 Limitations Applicable to Section 16 Persons. Notwithstanding any other provision of the Plan or this Agreement, if Participant is subject to Section 16 of the Exchange Act, the Plan, the RSUs (including RSUs which result from the deemed reinvestment of Dividend Equivalents), the Dividend Equivalents, the Grant Notice and this Agreement shall be subject to any additional limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including any amendment to Rule 16b-3 of the Exchange Act) that are requirements for the application of such exemptive rule. To the extent

permitted by Applicable Law, this Agreement shall be deemed amended to the extent necessary to conform to such applicable exemptive rule.

3.10 Not a Contract of Employment. Nothing in this Agreement or in the Plan shall confer upon Participant any right to continue to serve as an employee or other service provider of the Company or any Subsidiary or shall interfere with or restrict in any way the rights of the Company and its Subsidiaries, which rights are hereby expressly reserved, to discharge or terminate the services of Participant at any time for any reason whatsoever, with or without cause, except to the extent expressly provided otherwise in a written agreement between the Company or a Subsidiary and Participant.

3.11 Entire Agreement. The Plan, the Grant Notice and this Agreement (including any exhibit hereto) constitute the entire agreement of the parties and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof.

3.12 Section 409A. This Award is not intended to constitute “nonqualified deferred compensation” within the meaning of Section 409A of the Code (together with any Department of Treasury regulations and other interpretive guidance issued thereunder, including without limitation any such regulations or other guidance that may be issued after the date hereof, “Section 409A”). However, notwithstanding any other provision of the Plan, the Grant Notice or this Agreement, if at any time the Administrator determines that this Award (or any portion thereof) may be subject to Section 409A, the Administrator shall have the right in its sole discretion (without any obligation to do so or to indemnify Participant or any other person for failure to do so) to adopt such amendments to the Plan, the Grant Notice or this Agreement, or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Administrator determines are necessary or appropriate for this Award either to be exempt from the application of Section 409A or to comply with the requirements of Section 409A.

3.13 Limitation on Participant’s Rights. Participation in the Plan confers no rights or interests other than as herein provided. This Agreement creates only a contractual obligation on the part of the Company as to amounts payable and shall not be construed as creating a trust. Neither the Plan nor any underlying program, in and of itself, has any assets. Participant shall have only the rights of a general unsecured creditor of the Company with respect to amounts credited and benefits payable, if any, with respect to the RSUs and Dividend Equivalents.

3.14 Counterparts. The Grant Notice may be executed in one or more counterparts, including by way of any electronic signature, subject to Applicable Law, each of which shall be deemed an original and all of which together shall constitute one instrument.

* * *

LIST OF SUBSIDIARIES OF Avangrid, Inc.

Name of Subsidiary	State or Jurisdiction of Incorporation Or Organization
Avangrid Networks, Inc.(1)*	Maine
New York State Electric & Gas Corporation(2)	New York
Rochester Gas and Electric Corporation(2)	New York
Central Maine Power Company(2)	Maine
Maine Natural Gas Corporation(2)	Maine
UIL Holdings Corporation(2)	Connecticut
The United Illuminating Company(4)	Connecticut
The Southern Connecticut Gas Company(4)	Connecticut
Connecticut Natural Gas Corporation(4)	Connecticut
The Berkshire Gas Company(4)	Massachusetts
Avangrid Renewables Holdings, Inc.(1)*	Delaware
Avangrid Renewables, LLC(3)	Oregon

(1) Subsidiary of Avangrid, Inc.

(2) Subsidiary of Avangrid Networks, Inc.

(3) Subsidiary of Avangrid Renewables Holdings, Inc.

(4) Subsidiary of UIL Holdings Corporation

* Holding Company

Consent of Independent Registered Public Accounting Firm

The Board of Directors

Avangrid, Inc.:

We consent to the incorporation by reference in the registration statements (No. 333-212606 and No. 333-208571) on Form S-8 of Avangrid, Inc. of our reports dated March 1, 2019, with respect to the consolidated balance sheets of Avangrid, Inc. as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the two-year period ended December 31, 2018, and the related notes (and financial statement schedule I) (collectively, the “consolidated financial statements”), and the effectiveness of internal control over financial reporting as of December 31, 2018, which reports appear in the December 31, 2018 annual report on Form 10-K of Avangrid, Inc.

/s/ KPMG LLP

New York, New York

March 1, 2019

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-8 No. 333-212616) pertaining to Avangrid, Inc.'s common stock to be available for issuance under the Avangrid, Inc. Omnibus Incentive Plan, and
- (2) Registration Statement (Form S-8 No. 333-208571) pertaining to Avangrid, Inc.'s common stock to be available for issuance under the UIL Holdings Corporation 2008 Stock and Incentive Compensation Plan and the UIL Holdings Corporation Deferred Compensation Plan;

of our report dated March 10, 2017, except for the paragraph in Note 2 titled Previously Reported Immaterial Corrections to Prior Periods, as to which the date is March 26, 2018, with respect to the Avangrid, Inc. consolidated financial statements and schedule for the year ended December 31, 2016, included in this Annual Report (Form 10-K) of Avangrid, Inc. for the year ended December 31, 2018.

/s/ Ernst & Young LLP

New York, New York
March 1, 2019

CERTIFICATION

I, James P. Torgerson, certify that:

1. I have reviewed this annual report on Form 10-K of Avangrid, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 1, 2019

/s/ James P. Torgerson

James P. Torgerson
Director and Chief Executive Officer

CERTIFICATION

I, Douglas K. Stuver, certify that:

1. I have reviewed this annual report on Form 10-K of Avangrid, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 1, 2019

/s/ Douglas K. Stuver

Douglas K. Stuver
Chief Financial Officer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. 1350, the undersigned, James P. Torgerson and Douglas K. Stuver, the Chief Executive Officer and Chief Financial Officer, respectively, of Avangrid, Inc. (the “issuer”), do each hereby certify that the report on Form 10-K to which this certification is attached as an exhibit (the “report”) fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and that information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

/s/ James P. Torgerson

James P. Torgerson
Director and Chief Executive Officer
Avangrid, Inc.
March 1, 2019

/s/ Douglas K. Stuver

Douglas K. Stuver
Chief Financial Officer
Avangrid, Inc.
March 1, 2019



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.6-12 Avangrid Renewables Accounts 2017

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2017

Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____
Commission File No. 001-37660



Avangrid, Inc.

(Exact name of registrant as specified in its charter)

New York
(State or other jurisdiction of
incorporation or organization)
180 Marsh Hill Road
Orange, Connecticut
(Address of principal executive offices)

U 4911 U
U (Primary Standard Industrial
Classification Code Number)

14-1798693
(I.R.S. Employer
Identification No.)
06477
(Zip Code)

Telephone: (207) 629-1200
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	U	<u>Name of each exchange on which registered</u>
Common Stock, \$0.01 par value per share par value		New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the Avangrid, Inc.'s voting stock held by non-affiliates, computed by reference to the price at which the common equity was last sold as of the last business day of Avangrid, Inc.'s most recently completed second fiscal quarter (June 30, 2017) was \$2,472 million based on a closing sales price of \$44.15 per share.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 309,086,480 shares of common stock, par value \$0.01, were outstanding as of March 20, 2018.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the documents listed below have been incorporated by reference into the indicated parts of this report, as specified in the responses to the item numbers involved. Designated portions of the Proxy Statement relating to the 2018 Annual Meeting of the Shareholders are incorporated by reference into Part III to the extent described therein.

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GLOSSARY OF TERMS AND ABBREVIATIONS

Unless the context indicates otherwise, references in this Annual Report on Form 10-K to “AVANGRID,” the “Company,” “we,” “our,” and “us” refer to Avangrid, Inc. and its consolidated subsidiaries.

Consent order refers to the partial consent order issued by DEEP in August 2016.

English station site refers to the former generation site on the Mill River in New Haven, Connecticut.

GenConn Devon refers to GenConn’s peaking generating plant in Devon, Connecticut.

GenConn Middletown refers to GenConn’s peaking generating plant in Middletown, Connecticut.

Ginna refers to the Ginna Nuclear Power Plant, LLC and the R.E. Ginna Nuclear Power Plant.

Iberdrola refers to Iberdrola, S.A., which owns 81.5% of the outstanding shares of Avangrid, Inc.

Iberdrola Group refers to the group of companies controlled by Iberdrola, S.A.

Installed capacity refers to the production capacity of a power plant or wind farm based either on its rated (nameplate) capacity or actual capacity.

Joint Proposal refers to the Joint Proposal, filed with the NYPSC on February 19, 2016, by NYSEG, RG&E and certain other signatory parties for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016.

Klamath Plant refers to the Klamath gas-fired cogeneration facility located in the city of Klamath, Oregon.

Merger Agreement refers to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among Avangrid, Inc., Green Merger Sub, Inc. and UIL Holdings Corporation.

NED pipeline refers to TGP’s proposed Northeast Energy Direct project.

Non-GAAP refers to the financial measures that are not prepared in accordance with U.S. GAAP, including adjusted gross margin, adjusted EBITDA, adjusted net income and adjusted earnings per share.

AGT	Algonquin Gas Transmission
AMI	Automated Metering Infrastructure
AOCI	Accumulated other comprehensive income
ARHI	Avangrid Renewables Holdings, Inc.
ASC	Accounting Standards Codification
Asnat	Asnat Realty, LLC
Army Corps	U.S. Army Corps of Engineers
ARO	Asset retirement obligation
AVANGRID	Avangrid, Inc.
Bcf	One billion cubic feet
BGC	The Berkshire Gas Company
BGEPA	Bald and Golden Eagle Protection Act
BLM	U.S. Bureau of Land Management
Cayuga	Cayuga Operating Company, LLC
CENG	Constellation Energy Nuclear Group, LLC

CfDs	Contracts for Differences
CFTC	Commodity Futures Trading Commission
CL&P	The Connecticut Light and Power Company
CMP	Central Maine Power Company
CNG	Connecticut Natural Gas Corporation
DCF	Discounted cash flow
DEEP	Connecticut Department of Energy and Environmental Protection
DIMP	Distribution Integrity Management Program
DER	Distributed energy resources
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act
DOE	Department of Energy
DOJ	Department of Justice
DPA	Deferred Payment Arrangements
DPU	Massachusetts Department of Public Utilities
DSIP	Distributed System Implementation Plan
DSP	Distributed System Platform
DTh	Dekatherm
EAMs	Earnings adjustment mechanisms
EBITDA	Earnings before interest, taxes, depreciation and amortization
EDF	Environmental Defense Fund
EPA	Environmental Protection Agency
EPAct 2005	Energy Policy Act of 2005
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
ESC	Earnings Smart Community
ESM	Earnings sharing mechanism
Evergreen Power	Evergreen Power III, LLC
Exchange Act	The Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
FirstEnergy	FirstEnergy Corp.
FPA	Federal Power Act
Gas	Enstor Gas, LLC
GenConn	GenConn Energy LLC
Ginna Facility	R.E. Ginna Nuclear Power Plant
GNPP	Ginna Nuclear Power Plant, LLC.
HLPsA	Hazardous Liquids Pipeline Safety Act of 1979

IRS	Internal Revenue Service
ISO	Independent system operator
ISO-NE	ISO New England, Inc.
Kinder Morgan	Kinder Morgan, Inc.
kV	Kilovolts
kWh	Kilowatt-hour
LDCs	Local distribution companies
LIBOR	London Interbank Offer Rate
LIPA	Long Island Power Authority
LNG	Liquefied natural gas
LNS	Local Network Service
MBTA	Migratory Bird Treaty Act
Mcf	One thousand cubic feet
Merger Sub	Green Merger Sub, Inc.
MEPCO	Maine Electric Power Corporation
MGP	Manufactured gas plants
MISO	Midcontinent Independent System Operator, Inc.
MHI	Mitsubishi Heavy Industries
MNG	Maine Natural Gas Corporation
MPRP	Maine Reliability Power Program
MPUC	Maine Public Utilities Commission
MtM	Mark-to-market
MW	Megawatts
MWh	Megawatt-hours
NAV	Net asset value
NECEC	New England Clean Energy Connect
NEEWS	New England East West Solution
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NETOs	New England Transmission Owners
Networks	Avangrid Networks, Inc.
New York TransCo	New York TransCo, LLC.
NIPSCO	Northern Indiana Public Service Company
NGA	Natural Gas Act of 1938
NGPSA	Natural Gas Pipeline Safety Act of 1968
NOL	Net operating loss

NPNS	Normal purchases and normal sales
NYISO	New York Independent System Operator, Inc.
NYPA	New York Power Authority
NYPSC	New York State Public Service Commission
NYSE	New York Stock Exchange
NYSEG	New York State Electric & Gas Corporation
NYSERDA	New York State Energy Research and Development Authority
OATT	Open Access Transmission Tariff
OCC	Connecticut Office of Consumer Counsel
OCI	Other comprehensive income
OSHA	Occupational Safety and Health Act, as amended
PCB	Polychlorinated Biphenyls
PHMSA	Pipeline and Hazardous Materials Safety Administration
PPA	Power purchase agreement
PTF	Pool Transmission Facilities
PUCT	Public Utility Commission of Texas
PUHCA 2005	Public Utility Holding Company Act of 2005
PURA	Connecticut Public Utilities Regulatory Authority
RAM	Rate Adjustment Mechanism
RCRA	Resource Conservation and Recovery Act
RDM	Revenue decoupling mechanism
REC	Renewable Energy Certificate
RFP	Request for Proposals
Renewables	Avangrid Renewables, LLC
REV	Reforming the Energy Vision
RG&E	Rochester Gas and Electric Corporation
ROE	Return on equity
RNS	Regional Network Service
RPS	Renewable Portfolio Standards
RSSA	Reliability Support Services Agreement
RTO	Regional transmission organizations
SCG	The Southern Connecticut Gas Company
Scottish Power	Scottish Power Ltd.
SEC	United States Securities and Exchange Commission
SPHI	Scottish Power Holdings, Inc.
Tax Act	Tax Cuts and Jobs Act of 2017 enacted by the U.S. federal government on December 22, 2017
TEF	Tax equity financing arrangements

TGP U	Tennessee Gas Pipeline Company LLC
TOTS	Transmission Owner Transmission Solutions
UI	The United Illuminating Company
UIL	UIL Holdings Corporation
U.S. GAAP U	Generally accepted accounting principles for financial reporting in the United States.
VaR U	Value-at-risk
VIEs U	Variable interest entities
WECC	Western Electricity Coordinating Council

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains a number of forward-looking statements. Forward-looking statements may be identified by the use of forward-looking terms such as “may,” “will,” “should,” “would,” “could,” “can,” “expect(s),” “believe(s),” “anticipate(s),” “intend(s),” “plan(s),” “estimate(s),” “project(s),” “assume(s),” “guide(s),” “target(s),” “forecast(s),” “are (is) confident that” and “seek(s)” or the negative of such terms or other variations on such terms or comparable terminology. Such forward-looking statements include, but are not limited to, statements about our plans, objectives and intentions, outlooks or expectations for earnings, revenues, expenses or other future financial or business performance, strategies or expectations, or the impact of legal or regulatory matters on business, results of operations or financial condition of the business and other statements that are not historical facts. Such statements are based upon the current reasonable beliefs, expectations and assumptions of our management and are subject to significant risks and uncertainties that could cause actual outcomes and results to differ materially. Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, without limitation:

- the future financial performance, anticipated liquidity and capital expenditures;
- actions or inactions of local, state or federal regulatory agencies;
- success in retaining or recruiting, our officers, key employees or directors;
- changes in levels or timing of capital expenditures;
- adverse developments in general market, business, economic, labor, regulatory and political conditions;
- fluctuations in weather patterns;
- technological developments;
- the impact of any cyber-breaches, grid disturbances, acts of war or terrorism or natural disasters; and
- the impact of any change to applicable laws and regulations affecting operations, including those relating to environmental and climate change, taxes, price controls, regulatory approval and permitting; and
- other presently unknown unforeseen factors.

Additional risks and uncertainties are set forth under Part I, Item 1A, “Risk Factors” in this Annual Report on Form 10-K. Should one or more of these risks or uncertainties materialize, or should any of the underlying assumptions prove incorrect, actual results may vary in material respects from those expressed or implied by these forward-looking statements. You should not place undue reliance on these forward-looking statements. We do not undertake any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this report, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. Other risk factors are detailed from time to time in our reports filed with the Securities and Exchange Commission, or SEC, and we encourage you to consult such disclosures.

PART I

Item 1. Business

Overview

Avangrid, Inc., or AVANGRID, or the Company, formerly Iberdrola USA, Inc., is a New York corporation headquartered in Orange, Connecticut. AVANGRID is a diversified energy and utility company with approximately \$32 billion in assets and operations in 27 states. The Company operates regulated utilities and electricity generation through two primary lines of business, Avangrid Networks and Avangrid Renewables. Avangrid Networks includes eight electric and natural gas utilities, serving 3.2 million customers in New York and New England. Avangrid Renewables operates 7.1 gigawatts of electricity capacity, primarily through wind power, with presence in 22 states across the United States. AVANGRID employs approximately 6,600 people. The company was formed by a merger between Iberdrola USA, Inc. and UIL Holdings Corporation, or UIL, in 2015. Iberdrola S.A., a corporation (*sociedad anónima*) organized under the laws of the Kingdom of Spain, a worldwide leader in the energy industry, directly owns 81.5% of outstanding shares of AVANGRID common stock. Our primary business is ownership of our operating businesses, which are described below.

Our direct, wholly-owned subsidiaries include Avangrid Networks, Inc., or Networks, and Avangrid Renewables Holdings, Inc., or ARHI. ARHI in turn holds subsidiaries including Avangrid Renewables LLC, or Renewables. Networks, owns and operates our regulated utility businesses through its subsidiaries, including electric transmission and distribution and natural gas distribution, transportation and sales. Renewables operates a portfolio of renewable energy generation facilities primarily using onshore wind power and also solar, biomass and thermal power. The following chart depicts our current organizational structure.



Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 1 million natural gas public utility customers as of December 31, 2017. The interstate transmission and wholesale sale of electricity by these regulated utilities is regulated by the Federal Energy Regulatory Commission, or FERC, under the Federal Power Act, or FPA, including with respect to transmission rates. Further, Networks' electric and gas distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the New York State Public Service Commission, or NYPSC, the Maine Public Utilities Commission, or MPUC, the Connecticut Public Utilities Regulatory Authority, or PURA, and the Massachusetts Department of Public Utilities, or DPU, respectively. Networks strives to be a leader in safety, reliability and quality of service to its utility customers.

Through Renewables, we had a combined wind, solar and thermal installed capacity of 7,129 megawatts, or MW, as of December 31, 2017, including Renewables' share of joint projects, of which 6,387 MW was installed wind capacity. Approximately 72% of the capacity was contracted as of December 31, 2017, for an average period of 9.6 years. Being among the top three largest wind operators in the United States based on installed capacity as of December 31, 2017, Renewables strives to lead the transformation of the U.S. energy industry to a competitive, clean energy future. Renewables currently operates 58 wind farms in 21 states across the United States.

ARHI also holds a subsidiary, Enstor Gas, LLC, or Gas, which owns non-core natural gas storage and gas trading businesses (Gas) through Enstor Energy Services, LLC (gas trading) and Enstor Inc. (gas storage). Through Gas, as of December 31, 2017, we

own approximately 67.5 billion cubic feet, or Bcf, of net working gas storage capacity. Gas operates 50.3 Bcf of contracted or managed natural gas storage capacity in North America through Enstor Energy Services, LLC, as of December 31, 2017.

In December 2017, our management committed to a plan to sell the gas storage and trading businesses because they represent non-core businesses that are not aligned with our strategic objectives. As a result, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. The gas trading and storage businesses are being marketed for sale, and it is the Company's intention to complete the sales of these assets and liabilities within twelve months following their initial classification as held for sale. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC (CCI). On February 16, 2018, the Company entered into a definitive agreement to sell Enstor Gas, LLC, which operates the AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC. The agreement includes, among other things, a transition services agreement which obligates ARHI to provide certain transition services for up to one year after the closing date and includes a guarantee the Company will release certain obligations to Amphora Gas Storage USA, LLC. The transaction, which is subject to the satisfaction of customary closing conditions, is expected to be completed during the second quarter of 2018. Additional details on held for sale classification are provided in Note 25 to our consolidated financial statements contained in this Annual Report on Form 10-K.

Further information regarding the amount of revenues from external customers, including revenues by products and services, a measure of profit or loss and total assets for each segment for each of the last three fiscal years is provided in Note 22 to our consolidated financial statements contained in this Annual Report on Form 10-K.

See "Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*" for further details.

History

We were incorporated in 1997 as a New York corporation under the name NGE Resources, Inc. and subsequently changed our name to Energy East Corporation. The stock of Energy East Corporation was publicly traded on the New York Stock Exchange, or the NYSE. In 2007, Iberdrola, S.A. acquired Scottish Power Ltd., or Scottish Power, including ScottishPower Holdings, Inc., or SPHI, the parent company of Scottish Power's U.S. subsidiaries. Through this acquisition, Iberdrola, S.A. acquired PPM Energy, a subsidiary that operated SPHI's U.S. wind business, thermal generation operations and the gas storage and energy management businesses and changed PPM Energy's name to Iberdrola Renewables. In 2008, Iberdrola, S.A. acquired Energy East Corporation and we changed our name to Iberdrola USA, Inc. in December 2009. In 2013, we completed an internal corporate reorganization to create a unified corporate presence for the Iberdrola brand in the United States, bringing all of its U.S. energy companies under one single holding company, Iberdrola USA, Inc. The internal reorganization, completed in November 2013, resulted in the concentration of our principal businesses in two major subsidiaries: Networks, which holds all of our regulated utilities; and Renewables, which holds our renewable and thermal generation businesses, and gas storage and marketing businesses.

We were the corporate parent of The Southern Connecticut Gas Company, or SCG, Connecticut Natural Gas Corporation, or CNG and The Berkshire Gas Company, or BGC, prior to UIL acquiring those companies in 2010.

On December 16, 2015, we completed the acquisition of UIL, pursuant to which UIL merged with and into our wholly-owned subsidiary, Green Merger Sub, Inc., or Merger Sub, with Merger Sub surviving as our wholly-owned subsidiary. The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, or the Merger Agreement, by and among us, Merger Sub, and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation" and we were renamed Avangrid, Inc. Immediately following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola, S.A. owned the remaining shares. Effective as of April 30, 2016, UIL and its subsidiaries were transferred to a wholly-owned subsidiary of Networks.

Networks

Overview

Networks holds our regulated utility businesses, including electric generation, transmission and distribution and natural gas distribution, transportation and sales. Networks serves as a super-regional energy services and delivery company through the eight regulated utilities it owns directly:

- New York State Electric & Gas Corporation, or NYSEG, which serves electric and natural gas customers across more than 40% of the upstate New York geographic area;
- Rochester Gas and Electric, or RG&E, which serves electric and natural gas customers within a nine-county region in western New York, centered around Rochester;
- The United Illuminating Company, or UI, which serves electric customers in southwestern Connecticut;
- Central Maine Power Company, or CMP, which serves electric customers in central and southern Maine;
- SCG, which serves natural gas customers in Connecticut;
- CNG, which serves natural gas customers in Connecticut;
- BGC, which serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation, or MNG, which serves natural gas customers in several communities in central and southern Maine.

For the year ended December 31, 2017, Networks distributed approximately 36.6 million megawatt-hours, or MWh, of electricity. As of December 31, 2017, Networks provided electric service to its approximately 2.2 million customers in the states of New York, Maine and Connecticut. In total, the electric system of Networks' regulated utilities consisted of 8,657 miles of transmission lines, 70,934 miles of distribution lines and 822 substations as of December 31, 2017. Furthermore, for the year ended December 31, 2017, Networks delivered approximately 175 million dekatherms, or DTh, of natural gas, to approximately 1 million customers, providing service in the states of New York, Maine, Connecticut and Massachusetts.

The demand for electric power and natural gas is affected by seasonal differences in the weather. Demand for electricity in each of the states in which Networks operates tends to increase during the summer months to meet cooling load or in winter months for heating load while statewide demand for natural gas tends to increase during the winter to meet heating load.

The following table sets forth certain information relating to the rate base, number of customers and the amount of electricity or natural gas provided by each of Networks' regulated utilities as of and for the year ended December 31, 2017:

Utility	Rate Base(1) (in billions)	Electricity Customers	Electricity Delivered (in MWh)	Natural Gas Customers	Natural Gas Delivered (in DTh)
NYSEG	\$ 2.4	893,782	15,374,000	266,351	41,283,000
RG&E	\$ 1.6	378,461	7,016,000	313,043	51,465,000
CMP	\$ 2.3	624,378	9,107,000	—	—
MNG	\$ 0.1	—	—	4,617	1,358,000
UI	\$ 1.6	334,955	5,094,000	—	—
SCG	\$ 0.5	—	—	197,253	34,772,000
CNG	\$ 0.5	—	—	176,836	36,736,000
BGC	\$ 0.1	—	—	40,136	9,863,000

(1) "Rate base" means the net assets upon which a utility can receive a specified return, based on the value of such assets. The rate base is set by the relevant regulatory authority and typically represents the value of specified property, such as plants, facilities and other investments of the utility. These rate base values have been calculated using the best estimates as of December 31, 2017.

During the last five years, Networks has invested nearly \$5.8 billion in creating a delivery network with greater capacity and improved reliability, environmental security and sustainability, efficiency and automation. Networks continuously improves its grid to accommodate new requirements for advanced metering, demand response and enhanced outage management, while improving its flexibility for the integration and management of distributed energy resources, or DER.

New York

As of December 31, 2017, NYSEG served approximately 894,000 electricity customers and 266,000 natural gas customers across more than 40% of upstate New York's geographic area, while RG&E served approximately 378,000 electricity customers and 313,000 natural gas customers in a nine-county region centered around Rochester, in western New York.

In 2017, the nine hydroelectric plants owned by NYSEG and RG&E generated approximately 385 million kilowatt-hours, or kWh, of clean hydropower, which is enough energy to power 53,500 homes across New York State, assuming an average electricity consumption of 600 kWh per month per customer. See "—Properties—Networks" for more information regarding Networks' electric generation plants.

Networks also holds an approximate 20% ownership interest in the regulated New York TransCo, LLC, or New York TransCo. Through New York TransCo, Networks has formed a partnership with Central Hudson Gas and Electric Corporation, Consolidated Edison, Inc., National Grid, plc, and Orange and Rockland Utilities, Inc. to develop a portfolio of interconnected transmission lines and substations to fulfill the objectives of the New York energy highway initiative, a proposal to install up to 3,200 MW of new electric generation and transmission capacity in order to deliver more power generated from upstate New York power plants to downstate New York.

Maine

As of December 31, 2017, CMP delivered electricity to more than 624,000 customers in an 11,000 square-mile service area in central and southern Maine. CMP completed a \$1.4 billion investment plan for the construction of upgrades to the bulk power transmission grid in Maine, the largest transmission investment in the history of Maine, which includes the construction of five new 345-kilovolt, or kV, substations and related facilities linked by approximately 440 miles of new transmission lines (refers to the Maine Power Reliability Program, or MPRP).

CMP also owns 78% of the Maine Electric Power Corporation, or MEPCO, a single-asset 182 mile 345kV electric transmission line from the Maine/New Brunswick border to Wiscasset, Maine.

As of December 31, 2017, MNG delivers natural gas to 4,617 customers in central and southern Maine. MNG continues to build out in 12 communities.

On February 14, 2018, the New England Clean Energy Connect, or NECEC, transmission project proposed in a joint bid by CMP and Hydro-Québec, was selected by the Massachusetts electric utilities and the Massachusetts Department of Energy Resources in the Commonwealth of Massachusetts's 83D clean energy Request for Proposal, or RFP, to move forward as the alternative if the Northern Pass Transmission project fails to win approval from the New Hampshire Site Evaluation Committee by March 27, 2018. The proposed NECEC transmission project includes a 145-mile transmission line linking the electrical grids in Québec, Canada and New England. The project, which has an estimated cost of approximately \$950 million, would add 1,200 megawatts of transmission capacity to supply New England with power from reliable hydroelectric generation.

Connecticut

As of December 31, 2017, UI served more than 335,000 residential, commercial and industrial customers in a service area of approximately 335 square miles in the southwestern part of Connecticut. The service area includes Bridgeport and New Haven and is home to a diverse array of business sectors including aerospace manufacturing, healthcare, biotech, financial services, precision manufacturing, retail and education. UI's retail electric revenues vary by season, with the highest revenues typically in the third quarter of the year reflecting seasonal rates, hotter weather and air conditioning use.

UI is also a party to a joint venture with NRG Yield Operating LLC, a subsidiary of NRG Yield, Inc., or NYLD, which is an affiliate of NRG Energy, Inc., or NRG, pursuant to which UI holds 50% of the membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC, or GenConn, operates peaking generation plants in Devon, Connecticut, or GenConn Devon, and Middletown, Connecticut, or GenConn Middletown. In February 2018, NRG announced that it has agreed to sell its ownership stake in NYLD. This sale is expected to close during the second half of 2018 and is not expected to have an impact on GenConn.

As of December 31, 2017, SCG and CNG provided local gas distribution services to approximately 374,000 customers in the greater Hartford-New Britain area, Greenwich and the southern Connecticut coast from Westport to Old Saybrook, including the cities of Bridgeport and New Haven.

Massachusetts

As of December 31, 2017, BGC provided local gas distribution services to approximately 40,000 customers in a service area in western Massachusetts, which includes the cities of Pittsfield, North Adams and Greenfield.

Rate Base

These rate base values were calculated using the best estimates as of December 31, 2017. The rate base of Networks' regulated utilities for the years indicated below were as follows:

Rate base	2015	2016	2017
	(in millions)		
NYSEG Electric	\$ 1,825	\$ 1,828	\$ 1,872
NYSEG Gas	531	490	534
RG&E Electric	1,175	1,061	1,218
RG&E Gas	446	407	428
Subtotal New York	3,977	3,786	4,052
CMP Dist	781	790	854
CMP Trans	1,472	1,447	1,460
MNG	60	69	67
Subtotal Maine	2,313	2,306	2,381
UI Dist	942	972	1,007
UI Trans	508	544	570
SCG	477	510	536
CNG	396	429	449
Subtotal Connecticut	2,323	2,456	2,562
BGC	91	91	107
Total	\$ 8,704	\$ 8,638	\$ 9,103

Earnings Sharing Mechanisms

Networks' regulated utilities' rate plans approved by State regulators often include earnings sharing mechanisms, or ESM, that are intended to encourage regulated utilities to operate efficiently. Pursuant to ESMs, if certain of the regulated utilities of Networks earn more than certain threshold amounts, they must share with customers a specified percentage of these earnings. Below is a history of ESMs over the past three years:

	2015	2016	2017
NYSEG Electric	50% / 50%: 10.90% - 11.65% 85% / 15%: over 11.65%; Based on Actual Equity Ratio up to 50%	50% / 50%: 9.50% - 10.00% 75% / 25%: 10.00% - 10.50% 90% / 10%: over 10.50%; Based on Actual Equity Ratio up to 50% *	50% / 50%: 9.65% - 10.15% 75% / 25%: 10.15% - 10.65% 90% / 10%: over 10.65%; Based on Actual Equity Ratio up to 50%
NYSEG Gas	Same as above	Same as above	Same as above
RG&E Electric	Same as above	Same as above	Same as above
RG&E Gas	Same as above	Same as above	Same as above
CMP Dist.	No ESM	No ESM	No ESM
CMP Trans.	No ESM	No ESM	No ESM
MNG	No ESM	No ESM	50% / 50% over 11.55%
UI	50% / 50% over 9.15%	50% / 50% over 9.15%	50% / 50% over 9.10%
SCG	No ESM	No ESM	No ESM **
CNG	50% / 50% over 9.18%	50% / 50% over 9.18%	50% / 50% over 9.18%
BGC	No ESM	No ESM	No ESM

*No ESM from January through April 2016.

** ESM is effective from January 1, 2018.

Renewables

The Renewables business, based in Portland Oregon, is engaged primarily in the design, development, construction, management and operation of generation plants that produce electricity using renewable resources and, with more than 60 renewable energy projects, is one of the leaders in renewable energy production in the United States based on installed capacity. Renewables' primary business is onshore wind energy generation, which represented approximately 90% of Renewables' combined installed capacity as of December 31, 2017. For the year ended December 31, 2017, Renewables produced approximately 14,488,000 MWh of energy through wind power generation. Renewables had a pipeline of approximately 12,000 MW (approximately 8,000 MW - onshore and approximately 4,000 MW - offshore) of future renewable energy projects in various stages of development as of December 31, 2017.

Typically, Renewables enters into long-term lease agreements with property owners who lease their land for renewable projects. Electricity generated at a wind project is then transmitted to customers through long-term agreements with purchasers. There are a limited number of turbine suppliers in the market. Renewables' largest turbine suppliers, Siemens-Gamesa, in which Iberdrola has an 8.1% ownership, and GE Wind, in the aggregate supplied turbines which accounted for 73% of Renewables' installed wind capacity as of December 31, 2017.

Renewables currently operates 58 wind farms in 21 states across the United States. To monetize the tax benefits resulting from production tax credits and accelerated tax depreciation available to qualifying wind energy projects, Renewables has entered into "tax equity" financing structures with third party investors for a portion of its wind farms. Renewables holds 9 operating wind farms under these structures through limited liability companies jointly owned by one or more third party investors. These investors generally provide an up-front investment or, in some cases, enter into fixed and contingent notes for their membership interests in the financing structures. In return, the investors receive substantially all of the cash flows and tax benefits generated by the wind farms until such benefits achieve a negotiated return on their investment. Upon attainment of this target return, the sharing of the cash flows and tax benefits flip, with Renewables receiving substantially all of these amounts thereafter. We also have an option to repurchase the investor's interest within a certain timeframe after the target return is met. Renewables maintains operational and management control over the wind farm businesses, subject to investor approval of certain major decisions. See "—Properties—Renewables" for more information regarding Renewables' wind power generation properties.

Additionally, as part of the Renewables portfolio, Renewables operates two thermal generation facilities in the United States, with 636 MW of combined capacity as of December 31, 2017. Renewables worked closely with the City of Klamath Falls, Oregon to develop the Klamath Plant, which has a current capacity of 536 MW. The Klamath Plant operates by creating two useful forms of energy, electricity and process steam, from a single fuel source of natural gas. In addition, Renewables operates a highly flexible 100 MW Klamath Peaking Plant adjacent to the Klamath Plant, providing customers of Renewables additional capability to meet their peak summer and winter power needs.

In addition to its wind assets, Renewables operates three solar photovoltaic facilities with an installed capacity of 106 MW. The solar photovoltaic facilities produced over 164,000 MWh of renewable energy for the year ended December 31, 2017. Solar accounted for 1.1% of the total renewable energy generation from Renewables in these same periods.

Renewables is pursuing the continued development of a large pipeline of wind energy projects in various regions across the United States. Each site features a range of different atmospheric characteristics that ultimately drive the selection of turbine technology for the proposed project. As part of Renewables' wind resource assessment investigation, critical atmospheric parameters such as mean wind speed, extreme wind speed, turbulence intensity, and mean air density are characterized to represent long-term conditions, for over 20 years. The summary wind characteristics are then combined with a terrain, or orography, analysis to assess siting risks in order to mitigate any future operations and maintenance concerns that may arise due to improper turbine siting.

Renewables maintains close relationships with key turbine suppliers, including Gamesa, GE, Vestas, Siemens, and others in order to identify the turbine technology that safely delivers the lowest cost of energy for each candidate project in its portfolio. Renewables has deployed the following mix of turbines under this strategy. See “—Properties—Renewables” for more information regarding Renewables’ turbine technology.

MFG	Model	Rating	Turbines	MW
Gamesa	G83	2.0	60	120
Gamesa	G87	2.0	651	1,302
Gamesa	G90	2.0	237	474
Gamesa	G97	2.0	109	218
Gamesa	G114	2.0	282	581
GE	1.5s	1.5	133	200
GE	1.5sle	1.5	1,072	1,608
GE	2.3	2.3	57	131
MHI	MWT62/1.0	1.0	45	45
MHI	MWT92/2.4	2.4	168	403
MHI	MWT95/2.4	2.4	125	300
MHI	MWT102/2.4	2.4	1	2
NEG	NM48	0.7	3	2
Siemens	SWT2.3-93	2.3	44	101
Suzlon	S88	2.1	341	716
Vestas	V47	0.7	34	22
Vestas	V82	1.7	97	160
Total			<u>3,459</u>	<u>6,385</u>

The Renewables meteorology team supports the commercial development of wind energy projects in Renewables’ pipeline by performing a wide variety of detailed investigations to characterize the expected wind energy production from a proposed wind farm in its pre-construction phase of development. These investigations include measuring the wind resource with several well-equipped meteorological masts, utilizing state of the art laser-based and acoustic-based remote sensing equipment, computational fluid dynamics modeling software, and energy modeling software packages that characterize wake losses from any upwind turbines that may be present. The Renewables fleet of measurement masts consists of over 170 towers that are currently in operation. Additionally, a total of 6 light detecting and ranging, and 5 sonic detecting and ranging, remote sensing devices are deployed at sites across the United States. These remote sensing devices allow hub-height wind speed measurement from a ground-based sensor that can be rapidly deployed and moved as the project matures or changes in nature. The resulting pre-construction energy production estimates that utilize these measurements have been shown to be accurate in a multi-year internal study that compares results to actual, operational data in a benchmarking analysis. This study provides a critical feedback loop that is used to define methodology requirements for future pre-construction energy production estimates to ensure confidence in project investment. Renewables’ commitment to obtaining robust atmospheric measurement is driven by a company culture that values business case confidence and understands the role that accurate meteorological data play in the pursuit of this goal.

Gas

The Gas business, based in Houston, Texas, operates a natural gas storage and natural gas trading business through its wholly-owned direct subsidiaries, Enstor, Inc., an Oregon corporation (natural gas storage) and Enstor Energy Services, LLC, a Delaware limited liability company (natural gas trading). Gas owns and operates four natural gas storage facilities, with a total storage capacity of 88.5 Bcf and a net working gas storage capacity of 67.5 Bcf. Enstor Operating Company, LLC, a Texas limited liability company and wholly-owned direct subsidiary of Enstor, Inc., manages all four natural gas storage facilities. The demand for natural gas storage is dependent upon the seasonal differences in the weather. Since market prices and temporal price spreads for natural gas reflect the demand for these products and their availability at a given time, the overall operating results of Gas’ business may fluctuate substantially on a seasonal basis. Severe weather, such as ice and snow storms, hurricanes and other natural disasters may cause outages, bodily injury or property damage, which may require Gas to incur additional costs, such as operation and maintenance expenses, which may not be recoverable from customers. See “—Properties—Gas” for more information regarding Gas’ natural gas storage facilities. Enstor Energy Services, LLC also contracts and manages natural gas storage and pipeline capacity throughout the United States and parts of Canada. Gas operates 53.0 Bcf of contracted or managed natural gas storage capacity in North America through Enstor Energy Services, LLC, as of December 31, 2017.

The gas trading and storage businesses are being marketed for sale, and it is the Company’s intention to complete the sales of these assets and liabilities within twelve months following their initial classification as held for sale. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID’s gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC (CCI). On February 16, 2018, the Company entered into a definitive agreement to sell Enstor Gas, LLC, which operates the AVANGRID’s gas storage business, to Amphora Gas Storage USA, LLC. The agreement includes, among other things, a transition services agreement which obligates ARHI to provide certain transition

services for up to one year after the closing date and includes a guarantee the Company will release certain obligations to Amphora Gas Storage USA, LLC. The transaction, which is subject to the satisfaction of customary closing conditions, is expected to be completed during the second quarter of 2018. Additional details on held for sale classification are provided in Note 25 to our consolidated financial statements contained in this Annual Report on Form 10-K.

Regulatory Environment and Principal Markets

Federal Energy Regulatory Commission

Among other things, the FERC regulates the transmission and wholesale sales of electricity in interstate commerce and the transmission and sale of natural gas for resale in interstate commerce. Certain aspects of Networks' businesses, Renewables' competitive generation and Gas' natural gas storage and energy trading businesses are subject to regulation by the FERC.

Pursuant to the FPA, electric utilities must maintain tariffs and rate schedules on file with the FERC, which govern the rates, terms and conditions for the provision of the FERC-jurisdictional wholesale power and transmission services. Unless otherwise exempt, any person that owns or operates facilities used for the wholesale sale or transmission of power in interstate commerce is a public utility subject to the FERC's jurisdiction. The FERC regulates, among other things, the disposition of certain utility property, the issuance of securities by public utilities, the rates, the terms and conditions for the transmission or wholesale sale of power in interstate commerce, interlocking officer and director positions, and the uniform system of accounts and reporting requirements for public utilities.

With respect to Networks' regulated electric utilities in Maine, New York and Connecticut, the FERC governs the return on equity, or ROE, on all transmission assets in Maine and Connecticut and certain New York TransCo assets in New York; FERC also oversees the rates, terms and conditions of transmission of electric energy in interstate commerce, interconnection service in interstate commerce (which applies to independent power generators, for example), and the rates, terms and conditions of wholesale sales of electric energy in interstate commerce, which includes cost-based rates, market-based rates and the operations of regional capacity and electric energy markets in New England administered by an independent entity, ISO New England, Inc., or ISO-NE, and in New York, administered by another independent entity, the New York Independent System Operator, Inc., or NYISO. The FERC approves CMP, UI and New York TransCo regulated electric utilities' transmission revenue requirements. Wholesale electric transmission revenues are recovered through formula rates that are approved by the FERC. CMP's, MEPCO's and UI's electric transmission revenues are recovered from New England customers through charges that recover costs of transmission and other transmission-related services provided by all regional transmission owners. NYSEG's and RG&E's electric transmission revenues are recovered from New York customers through charges that recover the costs of transmission, and other transmission-related services provided by all transmission owners in New York. Several of our affiliates have been granted authority to engage in sales at market-based rates and blanket authority to issue securities, and have also been granted certain waivers of the FERC reporting and accounting regulations available to non-traditional public utilities; however, we cannot be assured that such authorizations or waivers will not be revoked for these affiliates or will be granted in the future to other affiliates.

Pursuant to a series of orders involving the ROE for regionally planned New England electric transmission projects, the FERC established a base-level transmission ROE of 11.14%, as well as providing a 50 basis point ROE adder on Pool Transmission Facilities, or PTF, for participation in the RTO for New England and a 100 basis point ROE incentive for projects included in the ISO-NE Regional System Plan that were completed and on line as of December 31, 2008. Certain other transmission projects received authorization for incentives up to 125 basis points.

Since 2011, several parties have filed four separate complaints with the FERC against ISO-NE and several New England transmission owners, or NETOs, including UI, CMP and MEPCO, claiming that the current approved base ROE of 11.14% was not just and reasonable, seeking a reduction of the base ROE and a refund to customers for the 15-month refund periods beginning October 1, 2011 (Complaint I), December 27, 2012 (Complaint II), July 31, 2014 (Complaint III) and April 29, 2016 (Complaint IV).

In 2014, the FERC determined that the base ROE in Complaint I should be set at 10.57% for the first complaint refund period and that a utility's total or maximum ROE should not exceed 11.74%. The FERC issued an order consolidating the second and third complaints and establishing hearing procedures. The administrative law judge issued an initial decision in the second and third complaints on March 22, 2016. The initial decision determined that: (1) for the 15 month refund period in the second complaint, the base ROE should be 9.59% and the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and (2) for the 15 month refund period in the third complaint and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The initial decision in the second and third complaints is the administrative law judge's recommendation to the FERC Commissioners. The FERC is expected to make its final decision in 2018.

On March 3, 2015, the FERC issued an Order on Rehearing in the first complaint denying all rehearing requests from the complainants and the NETOs. In June 2015 the NETOs and complainants both filed an appeal in the U.S. Court of Appeals for the District of Columbia of the FERC's final order. On April 14, 2017, the Court of Appeals, or the Court, vacated FERC's decision on Complaint I and remanded it to FERC. The Court held that FERC, as directed by statute, did not determine first that the existing ROE was unjust and unreasonable before determining a new base ROE. The Court ruled that FERC should have first determined that the then existing 11.14% base ROE was unjust and unreasonable before selecting the 10.57% as the new base ROE. The Court also found that FERC did not provide reasoned judgment as to why 10.57%, the point ROE at the midpoint of the upper end of the zone of reasonableness, is a just and reasonable ROE. Instead, FERC had only explained in its order that the midpoint of 9.39% was not just and reasonable and a higher base ROE was warranted. On June 5, 2017, the NETOs made a filing with FERC seeking to reinstate transmission rates to the status quo ante (effect of the Court vacating order is to return the parties to the rates in effect prior to FERC Final decision in Complaint I) as of June 8, 2017, the date the Court decision became effective. In that filing, the NETOs stated that they would not begin billing at the higher rates until 60 days after FERC has a quorum of commissioners. On October 6, 2017, FERC issued an order rejecting the NETOs request to collect transmission revenue requirements at the higher ROE of 11.14%, pending FERC order on remand. In reaching this decision, FERC stated that it has broad remedial authority to make whatever ROE it eventually determines to be just and reasonable effective for the Complaint I refund period and prospectively from October 2014, the effective date of the Complaint I Order. Therefore the NETOs will not be harmed financially by not immediately returning to their pre-Complaint I ROE. We anticipate FERC to address the Court decision during 2018. Complaint IV is proceeding through litigation with an initial decision expected from the administrative law judge by March 31, 2018.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC instituted proceedings because it found that ISO-NE Transmission, Markets, and Services Tariff is unjust, unreasonable, and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE Participating Transmission Owners, including UI, MEPCO and CMP. The FERC also found that the current Regional Network Service, or RNS and Local Network Service, or LNS, formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates. A settlement judge has been appointed and settlement discussions are underway. We are unable to predict the outcome of this proceeding at this time.

On October 5, 2017, the NETOs filed a Motion for Dismissal of Pancaked Return on Equity Complaints in light of the decision by the Court in April 2017 that became effective on June 8, 2017. The NETOs assert that all four complaints should be dismissed because the complainants have not shown that the existing ROE of 11.14% is unjust and unreasonable as the Court decision requires. In addition, the NETOs assert that Complaints II, III and IV should also be dismissed because the Court decision implicitly found that FERC's acceptance of Pancaked FPA Section 206 complaints was statutorily improper as Congress intended that the 15-month refund period under Section 206 applies whenever FERC does not complete its review of a complaint within the 15-month period. In the event FERC chooses not to dismiss the complaints, the NETOs request that FERC consolidate the complaints for decision as the evidentiary records are either closed or advanced enough for FERC to address the requirements of the Court decision and expeditiously issue a final order.

The FERC has the right to review books and records of "holding companies," as defined in the Public Utility Holding Company Act of 2005, or PUHCA 2005, that are determined by FERC to be relevant to the companies' respective FERC-jurisdictional rates. We are a holding company, as defined in PUHCA 2005.

The FERC has civil penalty authority over violations of any provision of Part II of the FPA, as well as any rule or order issued thereunder. FERC is authorized to assess a maximum civil penalty of \$1.0 million per violation for each day that the violation continues. The FPA also provides for the assessment of criminal fines and imprisonment for violations under Part II of the FPA. Pursuant to the Energy Policy Act of 2005, or EPAct 2005, the North American Electric Reliability Corporation, or NERC, has been certified by the FERC as the Electric Reliability Organization for North America responsible for developing and overseeing the enforcement of electric system reliability standards applicable throughout the United States. FERC-approved reliability standards may be enforced by the FERC independently, or alternatively, by NERC and the regional reliability organizations with frontline responsibility for auditing, investigating and otherwise ensuring compliance with reliability standards, subject to the FERC oversight.

Gas' current natural gas storage operations in the United States are subject to the jurisdiction of the FERC under the Natural Gas Act of 1938, or NGA, as a Section 7(c) natural gas storage provider and by providing interstate storage and storage related services under Section 311 of the Natural Gas Policy Act of 1978, at market based rates. Gas' interstate and intrastate high-deliverability multi-cycle natural gas storage service projects and operations are subject to FERC regulation under the NGA for rates and terms of service.

The gas distribution operations of NYSEG, RG&E, SCG, CNG and BGC, similar to Gas, are also subject to the FERC regulation with respect to their gas purchases/sales and contracted transportation/storage capacity. FERC has civil penalty authority

under the NGA to impose penalties for certain violations of up to \$1.0 million per day for violations. FERC also has the authority to order the disgorgement of profits from transactions deemed to violate the NGA and EPCA 2005.

Market Anti-Manipulation Regulation

The FERC and the Commodity Futures Trading Commission, or CFTC, monitor certain segments of the physical and futures energy commodities market pursuant to the FPA, the Commodity Exchange Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, including our businesses' energy transactions and operations in the United States. With regard to the physical purchases and sales of electricity and natural gas, the gathering storage, transmission and delivery of these energy commodities and any related trading or hedging transactions that some of our operating subsidiaries undertake, our operating subsidiaries are required to observe these anti-market manipulation laws and related regulations enforced by the FERC and CFTC. The FERC and CFTC hold substantial enforcement authority, including the ability to assess civil penalties of up to \$1.0 million per day per violation, to order disgorgement of profits and to recommend criminal penalties.

State Regulation

Networks' regulated utilities are subject to regulation by the applicable state public utility commissions, including with regard to their rates, terms and conditions of service, issuance of securities, purchase or sale of utility assets and other accounting and operational matters. NYSEG and RG&E are subject to regulation by the NYPSC; CMP and MNG are subject to regulation by the MPUC; UI, SCG and CNG are subject to regulation by the PURA; and BGC is subject to regulation by the DPU. The NYPSC, MPUC and the Connecticut Siting Council, or CSC, exercise jurisdiction over the siting of electric transmission lines in their respective states, and each of the NYPSC, MPUC, PURA and DPU exercise jurisdiction over the approval of certain mergers or other business combinations involving Networks' regulated utilities. In addition, each of the utility commissions has the authority to impose penalties on these regulated utilities, which could be substantial, for violating state utility laws and regulations and their orders.

Networks' regulated distribution utilities deliver electricity and/or natural gas to all customers in their service territory at rates established under cost of service regulation. Under this regulatory structure, Networks' regulated distribution utilities recover the cost of providing distribution service to their customers based on its costs, and earn a return on their capital investment in utility assets.

The following provides a summary of Networks regulated utilities' most recent rate cases:

- *New York.* On May 20, 2015, NYSEG and RG&E initiated a distribution rate case to ensure that the companies are able to continue to provide safe, adequate and reliable service, continue to make investments to modernize infrastructure, enhance low income programs and improve both gas and electric reliability, while maintaining the Companies' financial integrity. On February 19, 2016, NYSEG, RG&E and other signatory parties filed a Joint Proposal, with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016. The Joint Proposal was approved on June 15, 2016 by the NYPSC. For more information on rate case activity in New York, see Note 4 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.
- *Maine.* On May 1, 2013, CMP filed a distribution service rate case in order to recover past and future investments and provide safe and adequate service. On August 25, 2014, MPUC approved a stipulation agreement that provided for a distribution rate increase of approximately \$24.3 million, effective July 1, 2014, with an allowed ROE of 9.45% and an allowed equity ratio of 50%. The stipulation provided for the implementation of a revenue decoupling mechanism, reserve accounting and sharing of incremental storm costs, a separate proceeding for recovery of a new billing system and no earning sharing.

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service.

On May 3, 2016, all active parties to the case filed a stipulation that settled all matters at issue in the case and reflected a 10-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a 10-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge that increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation.

- *Connecticut.* In December 2016, PURA approved distribution rate schedules for UI for three years that became effective January 1, 2017 and which, among other things, provides for annual tariff increases and an ROE of 9.10% based on a 50% equity ratio, continued UI's existing ESM pursuant to which UI and its customers share on a 50/50 basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism, and approved the continuation of a requested storm reserve. Any dollars due to customers from the ESM continue to be first applied against any storm regulatory asset balance (if one exists at that time) or refunded to customers through a bill credit if such storm regulatory asset balance does not exist.

On June 30, 2017, SCG filed an application with PURA for new tariffs to become effective January 1, 2018. SCG requested a three-year rate plan for calendar years 2018, 2019 and 2020 and a proposed ROE of 9.95%. SCG also requested to implement a RDM and Distribution Integrity Management Program, or DIMP, mechanism similar to the mechanisms authorized for CNG. PURA approved the rate case on December 13, 2017, and new tariffs became effective on January 1, 2018. For more information on rate case activity in Connecticut, see Note 4 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.

- *Massachusetts.* BGC's rates are established by the DPU. BGC's 10-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan. In accordance with the approval by the DPU of the acquisition, BGC agreed not to file a rate case for new rates effective before June 1, 2018.

In addition, as a result of a restructuring of the utility industry in New York, Maine, Connecticut and Massachusetts, most of Networks' distribution utilities' customers have the opportunity to purchase their electricity or natural gas supplies from third-party energy supply vendors. Most customers in New York, however, continue to purchase such supplies through the distribution utilities under regulated energy rates and tariffs. In Maine, CMP customers can also purchase electric supply from competitive providers but the majority receives baseline standard offer service that is provided through a MPUC procurement process. Networks' regulated utilities in New York, Connecticut and Massachusetts and MNG purchase electricity or natural gas from unaffiliated wholesale suppliers and recover the actual approved costs of these supplies on a pass-through basis, as well as certain costs associated with industry restructuring, through reconciling rate mechanisms that are periodically adjusted.

In April 2014 the NYPSC instituted its Reforming the Energy Vision, or REV, proceeding, the goals of which are to improve electric system efficiency and reliability, encourage renewable energy resources, support DER, and empower customer choice. Within REV and its related proceedings, the NYPSC is examining the establishment of a Distributed System Platform, or DSP, to manage and coordinate DER, and to provide customers with market data and tools to manage their energy use. The NYPSC has determined distribution utilities should be the DSP providers. The NYPSC also is examining how its regulatory practices should be modified to incent utility practices to promote REV objectives. The REV-related proceedings involve a two-phased schedule with an initial order relating to policy determinations for DSP and related matters issued in February 2015 and an initial order for regulatory design and regulatory matters issued in May 2016. All electric utilities were ordered to file an initial Distributed System Implementation Plan, or DSIP, by June 30, 2016. An initial DSIP was filed by NYSEG and RG&E and included information regarding the potential deployment of Automated Metering Infrastructure, or AMI. A separate petition for the cost recovery associated with full deployment of AMI was filed by NYSEG and RG&E in December 2016. In March, 2017, the NYPSC issued three separate REV-related orders. These orders created a series of filing requirements for NYSEG and RG&E beginning in March 2017 and extending through the end of 2018. The three orders involve: 1) modifications to the electric utilities' proposed interconnection earnings adjustment mechanism framework; 2) further DSIP requirements, including filing of an updated DSIP plan by mid-2018 and implementing two energy storage projects at each company by the end of 2018; and 3) Net Energy Metering Transition including implementation of Phase One of the Value of DER. In September 2017, the NYPSC issued another order related to the Value of DER, requiring tariff filings, changes to Standard Interconnection Requirements, and planning for the implementation of automated consolidated billing.

State public utility commissions may also have jurisdiction over certain aspects of Renewables' competitive generation businesses. For example, in New York, certain Renewables' generation subsidiaries are electric corporations subject to "lightened" regulation by the NYPSC. As such, the NYPSC exercises its jurisdictional authority over certain non-rate aspects of the facilities, including safety, retirements, and the issuance of debt secured by recourse to those generation assets located in New York. In Texas, Renewables' operations within the Electric Reliability Council of Texas, or ERCOT, footprint are not subject to regulation by FERC, as they are deemed to operate solely within the ERCOT market and not in interstate commerce. These operations are subject to regulation by the Public Utility Commission of Texas, or PUCT. In California, Renewables' generation subsidiaries are subject to regulation by the California Public Utilities Commission with regard to certain non-rate aspects of the facilities, including health and safety, outage reporting and other aspects of the facilities' operations. Furthermore, Gas' natural gas storage operations are subject to certain state regulations, such as the Railroad Commission of Texas for its facilities located in Texas.

Tax Cuts and Jobs Act

On December 22, 2017, the Tax Cuts and Jobs Act of 2017, or the Tax Act, was signed into law. The Tax Act contains significant changes to the federal tax structure, including among other things, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017. The NYPSC, MPUC, PURA and DPU have instituted separate proceedings in New York, Maine, Connecticut and Massachusetts to review and address the implications associated with the Tax Act on the utilities providing service in those states. We expect the regulators in each jurisdiction, including the FERC, to issue requirements in 2018 regarding how all tax benefits associated with the Tax Act will be returned to customers.

RTOs and ISOs

Networks' regulated electric utilities in New York, Connecticut and Maine, as well as some of Renewables' generation fleet, operate in or have access to organized energy markets, known as regional transmission organizations, or RTOs, or independent system operators, or ISOs, particularly NYISO and ISO-NE. Each organized market administers centralized bid-based energy, capacity and ancillary services markets pursuant to tariffs approved by FERC, or in the case of ERCOT, market rules approved by the PUCT. These tariffs and rules dictate how the energy, capacity and ancillary service markets operate, how market participants bid, clear, are dispatched, make bilateral sales with one another, and how entities with market-based rates are compensated. Certain of these markets set prices, referred to as Locational Marginal Prices that reflect the value of energy, capacity or certain ancillary services, based upon geographic locations, transmission constraints, and other factors. Each market is subject to market mitigation measures designed to limit the exercise of market power. Some markets limit the prices of the bidder based upon some level of cost justification. These market structures impact the bidding, operation, dispatch and sale of energy, capacity and ancillary services.

The RTOs and ISOs are also responsible for transmission planning and operations within their respective regions. Each of Networks' transmission-owning subsidiaries in New York, Connecticut and Maine has transferred operational control over certain of its electric transmission facilities to its respective ISOs, such as ISO-NE and NYISO.

New Renewable Source Generation

Under Connecticut law Public Act 11-80, or PA 11-80, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I Renewable Energy Certificates, or RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over approximately 21 years. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, pursuant to which UI has developed 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for The Connecticut Light and Power Company, or CL&P, (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the project. The cost of this program, a 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, all of which are now operational, was \$41.5 million.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15 year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provides that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On May 25, 2017, UI entered into six 20-year power purchase agreements, or PPAs, totaling approximately 32 MW with developers of wind and solar generation. These PPAs originated from a three-state Clean Energy RFP, and were entered into pursuant Connecticut Public Act (PA) 13-303 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 13, 2017.

On June 20, 2017, UI entered into twenty-two 20-year PPAs totaling approximately 72 MW with developers of wind and solar generation. These PPAs originated from RFP issued by the Connecticut Department of Energy and Environmental Protection, or

DEEP, under PA 15-107 1(b) which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 7, 2017. One contract was terminated on October 24, 2017, resulting in UI having twenty-one remaining contracts from this solicitation totaling approximately 70 MW.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or RECs, from qualifying resources. The MPUC is further authorized to order Maine Transmission and Distribution Utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, on March 31, 2010, to purchase capacity and energy from Evergreen's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Pursuant to Maine Law 35-A M.R.S.A §3604, the MPUC is authorized to direct Maine Transmission and Distribution Utilities to enter into long-term contracts to purchase capacity, energy and renewable energy credits from up to 50 MW of qualifying Community-Based Renewable Energy facilities. In accordance with §3604, on October 22, 2016, CMP commenced purchases from Athens Energy LLC for a contract term of three years. CMP purchase obligations under the Athens contract are approximately \$6 million per year. Under the provisions of §3604 and MPUC implementing orders, CMP will periodically auction the purchased products from Athens for resale to wholesale market purchasers and recover any differences between power purchase costs and resale revenues through a reconcilable component of its retail distribution rates. Although the MPUC has certified several additional Community - Based Renewable Energy generation projects under §3604 and authorized similar PPAs between these sellers and CMP, no additional facilities have advanced to operational status.

Environmental, Health and Safety

Permitting and Other Regulatory Requirements

Networks. Similar to Renewables and Gas, Networks' distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to various federal, state and local laws and regulations in connection with the environmental, health and safety effects of its operations. The distribution utilities of Networks are subject to regulation by the applicable state public utility commission with respect to the siting and approval of electric transmission lines, with the exception of UI, the siting of whose transmission lines is subject to the jurisdiction of the CSC, and with respect to pipeline safety regulations for intrastate gas pipeline operators.

The National Environmental Policy Act, or NEPA, requires that detailed statements of the environmental effect of Networks' facilities be prepared in connection with the issuance of various federal permits and licenses. Federal agencies are required by NEPA to make an independent environmental evaluation of the facilities as part of their actions during proceedings with respect to these permits and licenses.

Under the federal Toxic Substances Control Act, the Environmental Protection Agency, or EPA, has issued regulations that control the use and disposal of Polychlorinated Biphenyls, or PCBs. PCBs were widely used as insulating fluids in many electric utility transformers and capacitors manufactured before the federal Toxic Substances Control Act prohibited any further manufacture of such PCB equipment. Fluids with a concentration of PCBs higher than 500 parts per million and materials (such as electrical capacitors) that contain such fluids must be disposed of through burning in high temperature incinerators approved by the EPA. For our gas distribution companies, PCBs are sometimes found in the distribution system. Networks tests any distribution piping being removed or repaired for the presence of PCBs and comply with relevant disposal procedures, as needed.

Under the federal Resource Conservation and Recovery Act, or RCRA, the generation, transportation, treatment, storage and disposal of hazardous wastes are subject to regulations adopted by the EPA. All of Networks' subsidiaries have complied with the notification and application requirements of present regulations, and the procedures by which the subsidiaries handle, store, treat and dispose of hazardous waste products comply with these regulations.

Prior to the last quarter of the 20th century, when environmental best practices laws and regulations were implemented, utility companies, including Networks' subsidiaries, often disposed of residues from operations by depositing or burying them on-site or disposing of them at off-site landfills or other facilities. Typical materials disposed of include coal gasification byproducts, fuel oils, ash, and other materials that might contain PCBs or that otherwise might be hazardous. In recent years it has been determined that such disposal practices, under certain circumstances, can cause groundwater contamination.

Renewables. Renewables' projects are subject to a variety of state environmental review and permitting requirements. Many states where Renewables' projects are located, or may be located in the future, have laws that require state agencies to evaluate a broad array of environmental impacts before granting state permits. Generally, State agencies evaluate similar issues as federal agencies, including the project's impact on wildlife, historic sites, aesthetics, wetlands and water resources, agricultural operations and scenic areas. States may impose different or additional monitoring or mitigation requirements than federal agencies. Additional approvals may be required for specific aspects of a project, such as stream or wetland crossings, impacts to designated significant wildlife habitats, storm water management and highway department authorizations for oversize loads and state road closings during construction. Permitting requirements related to transmission lines may be required in certain cases.

Renewables' projects also are subject to local environmental and regulatory requirements, including county and municipal land use, zoning, building and transportation requirements. Permitting at the local municipal or county level often consists of obtaining a special use or conditional use permit under a land use ordinance or code, or, in some cases, rezoning is required for a project. Obtaining a permit usually requires that Renewables demonstrates that the project will conform to certain development standards specified under the ordinance so that the project is compatible with existing land uses and protects natural and human environments. Local or state regulatory agencies may require modeling and measurement of permissible sound levels in connection with the permitting and approval of Renewables' projects. Local or state agencies also may require Renewables to develop decommissioning plans for dismantling the project at the end of its functional life and establish financial assurances for carrying out the decommissioning plan.

In addition to permits required under state and local laws, Renewables' projects may be subject to permitting and other regulatory requirements arising under federal law. For example, if a project is located near wetlands, a permit may be required from the U.S. Army Corps of Engineers, or Army Corps, with respect to the discharge of dredged or fill material into the waters of the United States. The Army Corps may also require the mitigation of any loss of wetland functions and values that accompanies the project's activities. In addition, Renewables may be required to obtain permits under the federal Clean Water Act for water discharges, such as storm water runoff associated with construction activities, and to follow a variety of best management practices to ensure that water quality is protected and impacts are minimized. Renewables' projects also may be located, or partially located, on lands administered by the U.S. Bureau of Land Management, or BLM. Therefore, Renewables may be required to obtain and maintain BLM right-of-way grants for access to, or operations on, such lands. To obtain and maintain a grant, there must be environmental reviews conducted, a plan of development implemented and a demonstration that there has been compliance with the plan to protect the environment, including measures to protect biological, archeological and cultural resources encountered on the grant.

Renewables' projects may be subject to requirements pursuant to the Endangered Species Act, or ESA, and analogous state laws. For example, federal agencies granting permits for Renewables' projects consider the impact on endangered and threatened species and their habitat under the ESA, which prohibits and imposes stringent penalties for harming endangered or threatened species and their habitats. Renewables' projects also need to consider the Migratory Bird Treaty Act, or MBTA, and the Bald and Golden Eagle Protection Act, or BGEPA, which protect migratory birds and bald and golden eagles and are administered by the U.S. Fish and Wildlife Service. Criminal liability can result from violations of the MBTA and the BGEPA, even for incidental takings of migratory birds. For example, the U.S. Department of Justice, or DOJ, has recently entered into settlements with two large wind farm operators, pursuant to which those operators pled guilty to criminal violations of the MBTA and agreed to substantial penalties and mitigation measures.

In addition to regulations, voluntary wind turbine siting guidelines established by the U.S. Fish and Wildlife Service set forth siting, monitoring and coordination protocols that are designed to support wind development in the United States while also protecting both birds and bats and their habitats. These guidelines include provisions for specific monitoring and study conditions which need to be met in order for projects to be in adherence with these voluntary guidelines. Most states also have similar laws. Because the operation of wind turbines may result in injury or fatalities to birds and bats, federal and state agencies often recommend or require that Renewables conduct avian and bat risk assessments prior to issuing permits for its projects. They may also require ongoing monitoring or mitigation activities as a condition to approving a project.

Gas. Gas' natural gas storage operations are regulated by the U.S. Department of Transportation Office of Pipeline Safety through the Pipeline and Hazardous Materials Safety Administration, or PHMSA, under the Natural Gas Pipeline Safety Act of 1968, or NGPSA, as amended by Pipeline Safety Act of 1979, and the Hazardous Liquids Pipeline Safety Act of 1979, or HLPSP. PHMSA, through the NGPSA and HLPSP, regulates the design, installation, testing, construction, operation, maintenance, repair, inspection, replacement and management of interstate and certain intrastate natural gas pipeline facilities. PHMSA has also developed regulations that require transportation pipeline operators to implement integrity management programs to comprehensively evaluate certain high risk areas along Gas' natural gas pipelines and take additional measures to protect natural gas pipeline segments located in highly populated areas.

Gas' natural gas storage operations are also regulated by the EPA, and equivalent state environmental agencies, with respect to the environmental effects of its operations, including air and water quality control, solid and hazardous waste disposal, greenhouse gas emissions, noise and limitations on land use.

Global Climate Change and Greenhouse Gas Emission Issues

Global climate change and greenhouse gas emission issues continue to receive an increased focus from state governments and the federal government. In November 2010, the EPA published final rules for monitoring and reporting requirements for petroleum and natural gas systems that emit greenhouse gases under the authority of the Clean Air Act beginning in 2011. These regulations apply to facilities that emit greenhouse gases above the threshold level of 25,000 metric tons equivalent per year. SCG and CNG both exceed this threshold and are subject to reporting requirements. The liquefied natural gas, or LNG, facilities owned and/or contracted by SCG and CNG are also subject to the monitoring and reporting requirements under the regulations. Similarly, Networks is subject to reporting requirements under provisions of the greenhouse gases regulations, which regulate electric transmission and distribution equipment that emit sulfur hexafluoride.

We are continuously evaluating the regulatory risks and regulatory uncertainty presented by climate change and greenhouse gas emission. Such concerns could potentially lead to additional rules and regulations that impact how we operate our business. We expect that any costs of these rules and regulations would be recovered from customers.

OSHA and Certain Other Federal Safety Laws

We are subject to the requirements of the federal Occupational Safety and Health Act, as amended, or OSHA, and comparable state laws that regulate the protection of the health and safety of employees. In addition, OSHA's hazard communication standard and standards administered by other federal as well as state agencies, including the Emergency Planning and Community Right to Know Act and the related implementing regulations require that information be maintained about hazardous materials used or produced in operations of our subsidiaries and that this information be provided to employees, state and local government authorities and citizens.

Management, Disposal and Remediation of Hazardous Substances

We own or lease real property and may be subject to federal, state and local requirements regarding the storage, use, transportation and disposal of petroleum products and toxic or hazardous substances, including spill prevention, control and counter-measure requirements. Project properties and materials stored or disposed thereon may be subject to the federal RCRA, the Toxic Substances Control Act, the Comprehensive Environmental Response, Compensation and Liability Act and analogous state laws. If any of our owned or leased properties are contaminated, whether during or prior to our ownership or operation, we could be responsible for the costs of investigation and cleanup and for any related liabilities, including claims for damage to property, persons or natural resources. Such responsibility may arise even if we were not at fault and did not cause the contamination. In addition, waste generated by our operating subsidiaries is at times sent to third party disposal facilities. If such facilities become contaminated, the operating subsidiary and any other persons who arranged for the disposal or treatment of hazardous substances at those sites may be jointly and severally responsible for the costs of investigation and remediation, as well as for any claims of damages to third parties, their property or natural resources.

On September 16, 2015, UI signed the consent order that was issued by DEEP in August 2016 related to the investigation and remediation of the English Station site. The consent order requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such cost and \$30 million to be applied to a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut, and the Commissioner of DEEP. However, UI is obligated to comply with the consent order even if the cost of such compliance exceeds \$30 million. The State may discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding.

Customers

Networks delivers natural gas and electricity to residential, commercial and institutional customers through its regulated utilities in New York, Maine, Connecticut and Massachusetts. Networks' customer payment terms are regulated by the states of New York, with respect to NYSEG and RG&E; Maine, with respect to CMP and MNG; Connecticut, with respect to UI, SCG and CNG; and Massachusetts, with respect to BGC, and each of the regulated utilities must provide extended payment arrangements to customers for past due balances. See "—Networks" for more information relating to the customers of Networks.

Renewables sells the majority of its output to large investor-owned utilities, public utilities and other credit-worthy entities. Additionally, Renewables generates and provides power, among other services, to federal and state agencies, institutional retail and joint action agencies. Offtakers typically purchase renewable energy from Renewables through long-term PPAs, allowing Renewables to limit its exposure to market volatility. Approximately 72% of Renewables' wind generating capacity is fully committed under PPAs as of December 31, 2017, with an average duration of 9.6 years. Renewables also delivers thermal output to wholesale customers in the Western United States.

Gas' natural gas storage and management services customers include a diversified mix of natural gas distribution companies, power generators, natural gas marketers and producers, utilities using gas as fuel, gas storage customers, financial institutions and energy marketers.

Competition

Networks' regulated public utilities in New York, Maine, Connecticut and Massachusetts do not generally face competition from other companies that transmit and distribute electricity and natural gas. However, demand for electricity and natural gas may be negatively impacted by federal and state legislation mandating that certain percentages of power delivered to end users be produced from renewable resources, such as wind, thermal and solar energy.

Networks faces competition from self-contained micro-grids that integrate renewable energy sources in the areas served by Networks. However, there has been limited development of these micro-grids in Networks' service areas to date, and Networks expects that growth in distributed generation of renewable energy will continue due to financial incentives being provided by federal and state legislation. Networks has experienced significant growth in alternative distribution sources of generation on its network over the past ten years, with approximately 90% of the growth coming from solar photovoltaic facilities.

Renewables has competitive advantages, including a robust development pipeline, a management team with extensive experience, strong relationships with suppliers and clients, expert regulatory knowledge and brand awareness. However, Renewables faces competition throughout the life cycles of its energy facilities, including during the development phase, in the identification and procurement of suitable sites with high wind resource availability, grid connection capacity and land availability. Renewables also competes with other suppliers in securing long-term PPAs with power purchasers and participates in competitive bilateral and organized energy markets with other energy sources for power that is not sold under PPAs. Competitive conditions may be substantially affected by various forms of energy legislation and regulation considered from time to time by federal, state and local legislatures and administrative agencies.

Gas, through its subsidiaries, Enstor, Inc. and Enstor Energy Services, LLC, faces competition from others in the natural gas market. Enstor, Inc. encounters regional competition, such as in the Gulf South region, from other independent natural gas storage providers, a combination of interstate and intrastate pipeline companies and local distribution companies. Furthermore, Enstor Energy Services, LLC competes with various entities, ranging from natural gas marketing companies, to financial institutions and producer/marketers.

Properties

Networks

The following table sets forth certain information relating to Networks' electricity generation facilities and their respective locations, type and installed capacity as of December 31, 2017. Unless noted otherwise, Networks owns each of these facilities and all our generating properties are regulated under cost of service regulation.

Operating Company	Facility Location	Facility Type	Installed Capacity (in MW)	Year(s) Commissioned
NYSEG	Newcomb, NY	Diesel Turbine	4.3	1967, 2017
NYSEG	Auburn, NY(1)	Natural Gas Turbine	7.3	2000
NYSEG	Eastern New York (6 locations)	Hydroelectric	61.4	1921—1983
RG&E	Rochester, NY (3 locations)	Hydroelectric	57.5	1917—1960

(1) The Auburn, NY natural gas turbine generating unit is leased.

UI is also party to a 50-50 joint venture with certain affiliates of NRG Energy, Inc. in GCE Holding LLC, whose wholly owned subsidiary, GenConn, operates two 188 MW peaking generation plants, GenConn Devon and GenConn Middletown, in Connecticut.

The following table sets forth certain operating data relating to the electricity transmission and distribution activities of each of Networks' regulated utilities as of December 31, 2017.

Utility	State	Substations	Transmission Lines (in miles)	Overhead Distribution Lines (in pole miles)	Underground Lines (in miles)	Total Distribution (in miles)	Electricity Customers
NYSEG	New York	430	4,513	32,254	2,827	35,081	893,782
RG&E	New York	154	1,094	5,934	2,874	8,808	378,461
CMP	Maine	209	2,911	22,072	1,484	23,556	624,378
UI	Connecticut	29	139	3,282	207	3,489	334,955

The following table sets forth certain operating data relating to the natural gas transmission and distribution activities of each of Networks' regulated utilities, as of December 31, 2017.

Utility	State	Natural Gas Customers	Transmission Pipeline (in miles)	Distribution Pipeline (in miles)
NYSEG	New York	266,351	20	8,151
RG&E	New York	313,043	105	10,592
MNG	Maine	4,617	2	205
SCG	Connecticut	197,253	—	2,426
CNG	Connecticut	176,836	—	2,160
BGC	Massachusetts	40,136	—	764

CNG owns and operates a LNG plant which can store up to 1.2 Bcf of natural gas and can vaporize up to 115,000 Mcf per day of LNG to meet peak demand. SCG has contract rights to and operates a similar plant, which can also store up to 1.2 Bcf of natural gas. SCG's LNG facilities can vaporize up to 90,000 Mcf per day of LNG to meet peak demand. SCG and CNG have also contracted for 21 Bcf of storage with a maximum peak day delivery capability of 209,000 Mcf per day.

Renewables

The following table sets forth Renewables' portfolio of wind projects as of December 31, 2017. Unless noted otherwise, Renewables wholly owns each of these facilities.

Location	Wind Project	Turbines	Total Installed Capacity (MW)	Commercial Operation Date	North American Electric Reliability Corporation (NERC) Region
Arizona	Dry Lake I	30 (Suzlon S88, 2.1 MW)	63	2009	WECC
	Dry Lake II	31 (Suzlon, 2.1 MW)	65	2010	WECC
California	Dillon	45 (Mitsubishi, 1 MW)	45	2008	WECC
	Manzana	126 (GE, 1.5 MW)	189	2011	WECC
	Mountain View III	34 (Vestas V47, 0.66 MW)	22	2003	WECC
	Phoenix Wind Power	3 (Neg Micon (Vestas), 0.66 MW)	2	1999	WECC
	Shiloh	100 (GE, 1.5 MW)	150	2006	WECC
	Tule	57 (GE, 2.3 MW)	131	2017	WECC
Colorado	Colorado Green(1)	54 (GE, 1.5 MW)	81	2003	WECC
	Twin Buttes	50 (GE, 1.5 MW)	75	2007	WECC
		30 (Gamesa G114, 2.10 MW);			
	Twin Buttes II	6 (Gamesa G114, 2.0 MW)	75	2017	WECC
Illinois	Providence Heights	36 (Gamesa G87, 2.0 MW)	72	2008	MRO
	Streator Cayuga Ridge South	150 (Gamesa, 2.0MW)	300	2010	SERC
Iowa	Barton	80 (Gamesa, 2.0 MW)	160	2009	MRO
	Flying Cloud	29 (GE, 1.5 MW)	44	2004	MRO
	New Harvest	50 (Gamesa G87, 2.0W)	100	2012	MRO
	Top of Iowa II	40 (Gamesa G87, 2.0 MW)	80	2008	MRO
	Winnebago I	10 (Gamesa G83, 2.0 MW)	20	2008	MRO
Kansas	Elk River	100 (GE, 1.5 MW)	150	2005	MRO
Massachusetts	Hoosac	19 (GE, 1.5 MW)	29	2012	NPCC
Minnesota	Elm Creek	66 (GE, 1.5 MW)	99	2008	MRO
	MinnDakota	100 (GE, 1.5 MW)	150	2008	MRO
	Trimont	67 (GE, 1.5 MW)	100	2005	MRO
	Elm Creek II	62 (Mitsubishi, 2.4)	149	2010	MRO
	Moraine I	34 (GE, 1.5 MW)	51	2003	MRO
	Moraine II	33 (GE, 1.5 MW)	50	2009	MRO
Missouri	Farmers City	73 (Gamesa G87, 2.0 MW)	146	2009	MRO
New Hampshire	Groton	24 (Gamesa G87, 2.0 MW)	48	2012	NPCC
	Lempster	12 (Gamesa, 2 MW)	24	2008	NPCC
		140 (Gamesa G114, 2.1 MW);			
New Mexico	El Cabo	2 (Gamesa G114, 2.0 MW)	298	2017	WECC
New York	Hardscrabble	37 (Gamesa G90, 2MW)	74	2011	NPCC
	Maple Ridge I(2)	70 (Vestas V82, 1.65 MW)	116	2006	NPCC
	Maple Ridge II(2)	27 (Vestas V82, 1.65 MW)	45	2006	NPCC
North Carolina	Amazon Wind Farm US - East	104 (Gamesa G114, 2.0 MW)	208	2016	SERC
North Dakota	Rugby	71 (Suzlon S88, 2.1 MW)	149	2009	MRO
Ohio	Blue Creek	152 (Gamesa G90 – 2.0 MW)	304	2012	RFC
Oregon	Hay Canyon	48 (Suzlon S88, 2.1 MW)	101	2009	WECC
	Klondike I	16 (GE, 1.5 S – 1.5 MW)	24	2001	WECC
	Klondike II	50 (GE, 1.5 S – 1.5 MW)	75	2005	WECC
	Klondike III	44 (Siemens, 2.3 MW); 80 (GE, 1.5 SLE, 1.5 MW); 1 (Mitsubishi, 2.4 MW)	224	2007	WECC
	Klondike IIIa	51 (GE, 1.5 MW)	77	2008	WECC
	Leaning Juniper II	74 (GE, 1.5 MW); 43 (Suzlon, 2.1 MW)	201	2011	WECC
	Pebble Springs	47 (Suzlon S88/2100, 2.1 MW)	99	2009	WECC
	Star Point	47 (Suzlon, 2.1 MW)	99	2010	WECC
Pennsylvania	Casselman	23 (GE, 1.5 MW)	35	2008	RFC
	Locust Ridge I	13 (Gamesa G87, 2.0)	26	2006	RFC
	Locust Ridge II	51 (Gamesa G83, 2.0 MW)	102	2009	RFC
	South Chestnut	23 (Gamesa, 2.0 MW)	46	2012	RFC
South Dakota	Buffalo Ridge I	24 (Suzlon, 2.1 MW)	50	2009	MRO
	Buffalo Ridge II	105 (Gamesa G87, 2.0 MW)	210	2010	MRO
Texas	Baffin	101 (Gamesa G97, 2.0 MW)	202	2015	TRE
	Barton Chapel	60 (Gamesa, 2.0 MW)	120	2009	TRE
	Peñascal I	84 (Mitsubishi, 2.4 MW)	202	2009	TRE
	Peñascal II	84 (Mitsubishi, 2.4 MW)	202	2010	TRE

Vermont	Deerfield	7 (Gamesa G87, 2.0 MW); 8 (Gamesa G97, 2.0 MW)	30	2017	NPCC
Washington	Big Horn I	133 (GE, 1.5 MW)	200	2006	WECC
	Big Horn II	25 (Gamesa, 2.0 MW)	50	2010	WECC
	Juniper Canyon	63 (Mitsubishi, 2.4 MW)	151	2011	WECC

(1) Jointly owned with Shell Wind Energy; capacity amounts represent only Renewables' share of the wind farm.

(2) Jointly owned with Horizon Wind Energy; capacity amounts represent only Renewables' share of the wind farm.

Additionally, set forth below are the solar and thermal facilities operated by Renewables as of December 31, 2017. Unless otherwise noted, Renewables owns each such facility.

Facility	Location	Type of Facility	Installed Capacity (MW)	Commercial Operation Date
Copper Crossing Solar Ranch	Pinal County, Arizona	Solar	20	2011
San Luis Valley Solar Ranch(1)	Alamosa County, Colorado	Solar	30	2012
Gala Solar	Deschutes County, Oregon	Solar	56	2017
Klamath Cogeneration	Klamath Falls, Oregon	Thermal	536	2001
Klamath Peakers	Klamath Falls, Oregon	Thermal	100	2009

(1) Operated pursuant to a sale-and-leaseback agreement.

Gas

Gas owns and operates four natural gas storage facilities, all near key trading hubs. The following table provides an overview of these storage facilities as of December 31, 2017. Unless noted otherwise, Enstor, Inc., a wholly-owned direct subsidiary of Gas, owns and operates each of these facilities.

Facility	Type of Facility	Storage capacity (Bcf)	Max Injection (MMcfd)/ Max Withdrawal (MMcfd)	Pipeline Connections	Commercial Operation Date
Caledonia Energy Partners, L.L.C., Mississippi	Depleted gas reservoir	18.5	558/550	Tennessee Gas Pipeline 500	2005
Freebird Gas Storage, LLC, Alabama(1)	Depleted gas reservoir	9.8	350/305	Tennessee Gas Pipeline 500	2001
Enstor Grama Ridge Storage and Transportation, LLC, New Mexico	Depleted gas reservoir	15.7	200/200	El Paso Natural Gas, Natural Gas Pipeline Company of America and the DCP Midstream Raptor Pipeline	1973
Enstor Katy Storage and Transportation, L.P., Texas	Depleted gas reservoir	23.5	750/700	Connected to 14 different pipelines	1992

(1) 13% owned by Northwest Alabama Gas District.

Infrastructure Protection and Cyber Security Measures

We have risk based security measures in place designed to protect our facilities, assets and cyber-infrastructure, such as our transmission and distribution system.

While we have not had any significant security breaches, a physical security intrusion could potentially lead to theft and the release of critical operating information. In addition to physical security intrusions, a cyber breach could potentially lead to theft and the release of critical operating information or confidential customer information.

To manage these operational risks, pursuant to the AVANGRID Cybersecurity Risk Policy and corporate security policy approved by the AVANGRID board, we have implemented cyber and physical security measures and continue to strengthen our security posture by improving and expanding our physical and cyber security capabilities to protect critical assets.

In an effort to reduce our vulnerability to cyber attacks, we have appointed an officer responsible for security (chief security officer) and established a dedicated corporate security office, responsible for improving and coordinating security and NERC compliance across the company. We have adopted a comprehensive company-wide physical and cyber security program, which is

supported by a governance program to manage, oversee and assist us in meeting our corporate, legal, and regulatory responsibilities with regard to the protection of our cyber, physical and information assets.

However, as threats evolve and grow increasingly more sophisticated, we cannot ensure that a potential security breach may not occur or quantify the potential impact of such an event. We continue to invest in technology, processes, security measures and services to predict, detect, mitigate and protect our assets, both physical and cyber. These investments include upgrades to our cyber-infrastructure assets, network architecture and physical security measures, and compliance with emerging industry best practice and regulation.

Employees

As of December 31, 2017, we had 6,570 employees excluding 8 international assignees. Of these 6,570 employees, 48.4% are represented by a union. The following table provides an overview of the number of employees at each business segment as of December 31, 2017:

Business Segment	Number of Employees (excluding International Assignees)	% of Union Workforce Subject to Collective Bargaining Agreement
Networks	5,408	58.8%
Renewables	796	—
Gas	98	—
Corporate	268	—
Total	6,570	48.4%

We have not experienced any work stoppages in the last five years and enjoy good relations with our labor unions. Virtually all of our employees work full-time.

Available Information

Copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to these reports filed with the SEC may be requested, viewed, or downloaded on-line, free of charge, on our website www.avangrid.com. Printed copies of these reports may be obtained free of charge by writing to our Investor Relations Department at 180 Marsh Hill Road, Orange, Connecticut, 06477.

Item 1A. Risk Factors

Risks Relating to Our Regulatory Environment

Our businesses are subject to substantial regulation by federal, state and local regulatory agencies and our businesses, results of operations and prospects may be materially adversely affected by legislative or regulatory changes, as well as liability under, or any future inability to comply with, existing or future regulations or requirements.

The operations of our businesses are subject to, and influenced by, complex and comprehensive federal, state and local regulation and legislation, including regulations promulgated by state utility commissions and the FERC. This extensive regulatory and legislative framework, portions of which are more specifically identified in the following risk factors, regulates, among other things and to varying degrees, the industries in which our subsidiaries operate, our business segments, rates for our products and services, financings, capital structures, cost structures, construction, environmental obligations (including in respect of, among others, air emissions, water consumption, water discharge, protections for wildlife and humans, nuisance prohibitions and allowances, and regulation of gas infrastructure operations, and associated environmental and facility permitting), development and operation of electric generation facilities and electric and gas transmission and distribution facilities, natural gas transportation, processing and storage facilities, acquisition, disposal, depreciation and amortization of facilities and other assets, service reliability, hedging, derivatives transactions and commodities trading.

In our business planning and in the management of our subsidiaries' operations, we must address the effects of regulation on our businesses, including the significant and increasing compliance costs imposed on our operations as a result of such regulation, and any inability or failure to do so timely and adequately could have a material adverse effect on our businesses, results of operations, financial condition and cash flows. The federal, state and local political and economic environment has had, and may in the future have, an adverse effect on regulatory decisions with negative consequences for our businesses. These decisions may require, for example, our businesses to cancel or delay planned development activities, to reduce or delay other planned capital expenditures or investments or otherwise incur costs that we may not be able to recover through rates, any of which could have a material adverse effect on the business, results of operations, financial condition and cash flows of our businesses. In addition, changes in the nature of the regulation of our business could have a material adverse effect on our business, results of operations, financial condition and cash flows. We are unable to predict future legislative or regulatory changes, initiatives or interpretations, and there can be no assurance that we will be able to respond adequately or sufficiently quickly to such changes, although any such changes, initiatives or interpretations may increase costs and competitive pressures on us, which could have a material adverse effect on our business, results of operations, financial condition and cash flows. There can be no assurance that we will be able to respond adequately or sufficiently quickly to such rules and developments, or to any other changes that reverse or restrict the competitive restructuring of the energy industry in those jurisdictions in which such restructuring has occurred. Any of these events could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our businesses are subject to the jurisdiction of various federal, state and local regulatory agencies including, but not limited to, the FERC, the CFTC, the DOE, and the EPA. Further, Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to the jurisdiction of the NYPSC, the MPUC, the New York State Department of Environmental Conservation, the Maine Department of Environmental Protection, the PURA, the CSC, the DEEP, and the DPU. These regulatory agencies cover a wide range of business activities, including, among other items, the retail and wholesale rates for electric energy, capacity and ancillary services, and for the transmission and distribution of these products, the costs charged to Networks' customers through tariffs including cost recovery clauses, the terms and conditions of Networks' services, procurement of electricity for Networks' customers, issuances of securities, the provision of services by affiliates and the allocation of those service costs, certain accounting matters, and certain aspects of the siting, construction and transmission and distribution systems. The FERC has the authority to impose penalties, which could be substantial, for violations of the FPA, the NGA, or related rules, including reliability and cyber security rules as described in further detail below. The Financial Accounting Standards Board, or FASB, or the SEC, may enact new accounting standards that could impact the way we are required to record revenue, expenses, assets and liabilities. Certain regulatory agencies have the authority to review and disallow recovery of costs that they consider excessive or imprudently incurred and to determine the level of return that our businesses are permitted to earn on invested capital.

The regulatory process, which may be adversely affected by the political, regulatory and economic environment in New York, Maine, Connecticut and Massachusetts, as applicable, may limit our ability to increase earnings and does not provide any assurance as to achievement of authorized or other earnings levels. The disallowance of the recovery of costs incurred by us or a decrease in the rate of return that we are permitted to earn on our invested capital could have a material adverse effect on our business, results of operation, financial condition and cash flows. Certain of these regulatory agencies also have the authority to audit the management and operations of our businesses in New York, Maine, Connecticut and Massachusetts and require or recommend operational changes. Such audits and post-audit work requires the attention of our management and employees and may divert their attention from other regulatory, operational or financial matters. The last management audit of UI by PURA was completed in 2015. This audit resulted in 64 recommendations. The last management audit of CNG and SCG was completed in 2016. This audit resulted in approximately 94 recommendations. The

NYPSC completed an operations staffing audit of all NY utilities in January 2017. The audit resulted in 17 specific recommendations for NYSEG and RG&E and one general recommendation for all NY utilities. The NYPSC initiated a management audit of NYSEG and RG&E in 2017. The audit is expected to be completed in early 2018. We cannot predict the outcome of these audits.

As previously described, we are subject to a variety of federal, state, local laws and regulations. The introduction of new laws or regulations or changes in existing laws or regulations, or the interpretation thereof, may alter the environment in which we do business and could increase the costs of doing business for us or restrict our actions and adversely affect our financial condition, operating results and cash flows.

Any failure to meet the reliability standards mandated by NERC could have a material adverse effect on our business, results of operation, financial condition and cash flows.

As a result of the EPA act 2005, owners, operators and users of bulk electric systems are subject to mandatory reliability standards developed by NERC and are subject to oversight by the FERC in the U.S. and governmental authorities in Canada. The standards are based on the functions that need to be performed to ensure that the bulk electric system operates reliably. Networks' and Renewables' businesses have been, and will continue to be, subject to routine audits and monitoring with respect to compliance with applicable NERC reliability standards, including standards approved by the FERC that could result in an increase in the number of assets (including cyber-security assets) designated as "BES Cyber Systems," which would subject such assets to NERC cyber-security standards. The implementation of the Balancing Authority registration for the Northwest Renewable assets in 2018 will result in increased NERC compliance requirements and additional compliance risks including increase in assets, budgets and experienced resources. This new registration as a Balancing Authority also changes the NERC audit cycle from 6 years down to 3 years for Renewables and may impact other AVANGRID NERC registrations at Networks. NERC and the FERC can be expected to continue to refine existing reliability standards as well as develop and adopt new reliability standards. Compliance with modified or new reliability standards may subject Networks' and/or Renewables' businesses to new requirements resulting in higher operating costs and/or increased capital expenditures. If Networks' and/or Renewables' businesses were found not to be in compliance with the mandatory reliability standards, it could be subject to penalties of up to \$1.2 million per day per violation. Both the costs of regulatory compliance and the costs that may be imposed as a result of any actual or alleged compliance failures could have a material adverse effect on our business, results of operation, financial condition, reputation and prospects. UIL will have an onsite NERC CIP audit in 2018.

The NYPSC has initiated a proceeding that may result in the alteration of the public utility model in New York State and could materially and adversely impact our business and operations in New York State.

In April 2014, the NYPSC commenced a proceeding titled REV, which is an initiative to reform New York State's energy industry and regulatory practices. REV has followed several simultaneous paths, including a formal Track 1 dealing with market design and platform technology and Track 2 dealing with regulatory reform. REV's objectives include the promotion of more efficient use of energy, increased utilization of renewable energy resources such as wind and solar in support of New York State's renewable energy goals, and wider deployment of "distributed" energy resources, such as micro grids, on-site power supplies, and storage. Track 1 of the REV initiative involves the examination of the role that distribution utilities will have in the enablement of market-based deployment of DER to promote load management, system efficiency, and peak load reductions. NYSEG and RG&E are participating in all aspects of the REV initiative with other New York utilities as well as providing their unique perspective. PSC staff has conducted public statement hearings across New York State regarding REV.

Various other REV-related proceedings have also been initiated by the PSC, each of which is following its own schedule. These proceedings include the Clean Energy Fund, Demand Response Tariffs, Community Choice Aggregation, Large Scale Renewables, and Community Distributed Generation. As part of this initiative, NYSEG and RG&E entered into agreements with New York State Energy Research and Development Authority, or NYSERDA, for Renewable Energy Credits, or RECs and Zero-Emission Credits, or ZECs in 2017. Additionally, the PSC has issued an order requiring New York utilities, including NYSEG and RG&E, to implement energy storage projects within distribution substations prior to December 31, 2018.

Track 2 of the REV initiative is also underway, and through a NYPSC Staff Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York State and NYPSC policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for Earnings adjustment mechanisms (EAMs), platform service revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of system efficiency, energy efficiency, interconnections, and clean air. NYSEG and RG&E continue to engage through a number of working groups that have been established to assist the implementation of the DSIP items and delivering the Value of DER/Net Metering changes.

We are not able to predict the outcome of the REV proceeding or its impact on our business, results of operations, financial condition and cash flows. While the end result of the REV process at the NYPSC remains unclear, it could alter the utility model in New York in a manner that could create material adverse impacts on our businesses and operations in New York.

Changes in regulatory and/or legislative policy could negatively impact Networks' transmission planning and cost allocation.

The existing FERC-approved ISO-NE, transmission tariff allocates the costs of transmission facilities that provide regional benefits to all customers of participating transmission-owning utilities in New England. As new investment in regional transmission infrastructure occurs in any one state, its cost is shared across New England in accordance with a FERC-approved formula found in the transmission tariff. Participating New England transmission owners' agreement to this regional cost allocation is set forth in the transmission operating agreement. This agreement can be modified with the approval of a majority of the transmission-owning utilities and approval by the FERC. In addition, other parties, such as state regulators, may seek certain changes to the regional cost allocation formula, which could have adverse effects on the rates Networks' distribution companies in New England charge their retail customers. FERC has found that the New England rate protocols lacked transparency and have established a hearing and settlement procedures. We cannot predict the outcome of this proceeding.

The FERC has issued rules requiring all RTOs, and transmission owning utilities to make compliance changes to their tariffs and contracts in order to further encourage the construction of transmission for generation, including renewable generation. This compliance will require RTOs (such as ISO-NE and NYISO) and the transmission owners in New England and New York to develop methodologies that allow for regional planning and cost allocation for transmission projects chosen in the regional plan that are designed to meet public policy goals such as reducing greenhouse gas emissions or encouraging renewable generation. Such compliance may also allow non-incumbent utilities and other entities to participate in the planning and construction of new projects in Networks' service areas and regionally.

Changes in RTO tariffs, transmission owners' agreements, or legislative policy, or implementation of these new FERC planning rules, could adversely affect our transmission planning, results of operations, financial condition and cash flows.

We are subject to numerous environmental laws, regulations and other standards, including rules and regulations with respect to climate change, which could result in capital expenditures, increased operating costs and various liabilities, and could require us to cancel or delay planned projects or limit or eliminate certain operations.

Our businesses are subject to environmental laws and regulations, including, but not limited to, extensive federal, state and local environmental statutes, rules and regulations relating to air quality, water quality and usage, climate change, emissions of greenhouse gases (including, but not limited to carbon dioxide), waste management, hazardous wastes (including the clean-up of former manufactured gas and electric generation facilities), marine, avian and other wildlife mortality and habitat protection, historical artifact preservation, natural resources and health and safety (including, but not limited to, electric and magnetic fields from power lines and substations, and ice throw, shadow flicker and noise related to wind turbines) that could, among other things, prevent or delay the development of power generation, power or natural gas transmission, or other infrastructure projects, restrict the output of some existing facilities, limit the availability and use of some fuels required for the production of electricity, require additional pollution control equipment, and otherwise increase costs, increase capital expenditures and limit or eliminate certain operations. There are significant capital, operating and other costs associated with compliance with these environmental statutes, rules and regulations, and those costs could be even more significant in the future as a result of new legislation. For example, new laws, regulations or treaties relating to climate change could mandate new or increased requirements to control or reduce the emission of greenhouse gases, such as carbon dioxide, taxes or fees on fossil fuels or emissions, cap and trade programs, emission limits and clean or renewable energy standards or mandates that require curtailment of operations for certain periods of time due to potential electromagnetic interference. Violations of current or future laws, rules, regulations or other standards could expose our subsidiaries to regulatory and legal proceedings, disputes with, and legal challenges by, third parties, and potentially significant civil fines, criminal penalties and other sanctions, which could have an adverse effect on our operations, financial condition and cash flows.

Our regulated utility operations may not be able to recover costs in a timely manner or at all or obtain a return on certain assets or invested capital through base rates, cost recovery clauses, other regulatory mechanisms or otherwise.

Our regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to periodic review of their rates by the NYPSC, MPUC, PURA and DPU, respectively, and the retail rates charged to our regulated utilities' customers through base rates and cost recovery clauses are subject to the jurisdiction of the NYPSC, MPUC, PURA and DPU, as applicable. New rates may be proposed by Network's businesses, which are then subject to review, modification and final authorization and implementation by regulators. Alternatively, regulators may review the rates of Networks' regulated utilities on their own motion. Networks' regulated utilities' rate plans cover specified periods, but rates determined pursuant to a plan generally continue in effect until a new rate plan is approved by the state utility regulator. Networks' regulated utilities' business rate plans approved by state utility regulators limit the

rates Networks' regulated utilities can charge their customers. The rates are generally designed for, but do not guarantee, the recovery of Networks' regulated utilities' respective cost of service and the opportunity to earn a reasonable rate of return (ROE). Actual costs may increase due to inflation or other factors and exceed levels provided for such costs in the rate plans for Networks' regulated utilities. Utility regulators can initiate proceedings to prohibit Networks' regulated utilities from recovering from their customers the cost of service (including energy costs) that the regulators determine to have been imprudently incurred. Networks' regulated utilities defer for future recovery certain costs including major storm costs and environmental costs. In a number of proceedings in recent years, Networks' regulated subsidiaries have been denied recovery, or deferred recovery pending the next general rate case, including denials or deferrals related to major storm costs and construction expenditures. In some instances, denial of recovery may cause the regulated subsidiaries to record an impairment of assets. If Networks' regulated utilities' costs are not fully and timely recovered through the rates ultimately approved by regulators, our cash flows, results of operations and financial condition, and our ability to earn a return on investment and meet financial obligations, could be adversely affected.

Certain of the current electric and gas rate plans of Networks' regulated utilities include revenue decoupling mechanisms, or RDMs, and the provisions for the recovery of energy costs, including reconciliation of the actual amount paid by such regulated utilities. There is no guarantee that such decoupling mechanisms or recovery and reconciliation mechanism will remain part of the rate plan of Networks in future rate proceedings.

In addition, there are pending challenges at the FERC against New England transmission owners (including UI and CMP) seeking to lower the ROE that these transmission owners are allowed by the FERC to receive for wholesale transmission service pursuant to the ISO-NE Open Access Transmission Tariff. Reductions to ROE adversely impact the revenues that Networks' regulated utilities receive from wholesale transmission customers and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Harming of protected species can result in curtailment of wind project operations and could have a material adverse effect on our business, results of operation, financial condition and cash flows.

The operation of energy projects and transmission of energy can adversely affect endangered, threatened or otherwise protected animal species under federal and state statutes, laws, rules and regulations. Wind projects involve a risk that protected flying species, such as birds and bats, will be harmed due to collision. Transmission and distribution lines are another source of potential avian collision as well as electrocution. Energy generation and transmission facilities can result in impacts to protected wildlife, including death caused by collision, electrocution and poisoning. Energy infrastructure occasionally affects endangered or protected species. Our businesses observe industry guidelines and government-recommended best practices to avoid, minimize and mitigate harm to protected species, but complete avoidance is not possible and subsequent penalties may result. Where appropriate, our businesses can apply for an "incidental take" permit for some protected species, which may be conditioned upon the institution of costly avoidance and remediation measures.

Violations of wildlife protection laws in certain jurisdictions may result in civil or criminal penalties, including violations of certain laws protecting migratory birds, endangered species and eagles. The ESA and analogous state laws restrict activities without a permit that may adversely affect endangered and threatened species or their habitat. The ESA also provides for private causes of actions against a development project, an operating facility, or the agency that oversees the alleged violation of law. Similar protections are offered to migratory birds under the MBTA, which implements various treaties and conventions between the United States and certain other nations for the protection of migratory birds and, pursuant to which the taking, killing or possessing of migratory birds is unlawful. Complying with the state and federal laws protecting migratory birds, endangered species and eagles may require implementation of operating restrictions or a temporary, seasonal, or permanent ban on operations in affected areas, which can have a material adverse effect on the revenue of those projects. For example, there have been recent sightings of the protected California condor at Renewables' Manzana wind facility. Any incidental taking of a California condor could result in substantial financial, legal and reputational harm to us. The DOJ has investigated Renewables for potential violations under the MBTA and the ESA at its Blue Creek facility due to an Indiana Bat and other bird fatalities. Although the investigation expired in October 2017 with no negative outcome, similar investigations may occur in the future that could have a material adverse effect on our business, results of operation, financial condition and cash flows.

Renewables relies in part on governmental policies that support utility-scale renewable energy. Any reductions to, or the elimination of, governmental mandates and incentives that support utility-scale renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables relies, in part, upon government policies that support utility-scale renewable energy projects and enhance the economic feasibility of developing and operating wind energy projects in regions in which Renewables operates or plans to develop and operate renewable energy facilities. The federal government and many states and local jurisdictions have policies or other

mechanisms, such as tax incentives or renewable portfolio standards, or RPS, that support the sale of energy from utility-scale renewable energy facilities, such as wind energy facilities. As a result of budgetary constraints, political factors or otherwise, federal, state and local governments from time to time may review their policies and other mechanisms that support renewable energy and consider actions that would make them less conducive to the development or operation of renewable energy facilities. Any reductions to, or the elimination of, governmental policies or other mechanisms that support renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in, among other items, the lack of a satisfactory market for the development of new renewable energy projects, Renewables abandoning the development of new renewable energy projects, a loss of Renewables' investments in the projects and reduced project returns, any of which could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our businesses may face risks related to obtaining governmental approvals and permits in respect of project siting, financing, construction, operation and the negotiation of project development agreements which could cause delay a project and could materially adversely affect our businesses, results of operations or financial condition.

Renewables owns, develops, constructs and/or operates electricity generation, including renewable and thermal generators, and associated transmission facilities. Networks develops, constructs, manages and operates transmission and distribution facilities to meet customer needs. As part of these operations, our businesses must periodically apply for licenses and permits from various local, state, federal and other regulatory authorities and abide by their respective conditions. In particular, with respect to Renewables, over the past years noise standards and siting criteria in the Northeast, where population density is higher compared to the Northwest, where Renewables also operates, have grown more restrictive. During 2017 federal and state siting legislation has increased its focus on potential conflicts with military installations. If our businesses are unsuccessful in obtaining necessary licenses or permits on acceptable terms, there is a delay in obtaining or renewing necessary licenses or permits or regulatory authorities initiate any associated investigations or enforcement actions or impose related penalties or disallowances on us, they individually or in the aggregate could have a material adverse effect on our businesses, results of operations, financial condition and cash flows.

Our operating subsidiaries' purchases and sales of energy commodities and related transportation and services expose us to potential regulatory risks that could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Under the EPA act 2005 and the Dodd-Frank Act, our businesses are subject to enhanced FERC and CFTC statutory authority to monitor certain segments of the physical and financial energy commodities markets. These agencies have imposed broad regulations prohibiting fraud and manipulation of the electricity and gas markets. Under these laws, the FERC and CFTC have promulgated new regulations that have increased compliance costs and imposed new reporting requirements on our businesses. For example, the Dodd-Frank Act substantially increased regulation of the over-the-counter derivative contracts market and futures contract markets, which impacts our businesses. The new regulations require our operating subsidiaries to comply with certain margin requirements for our over-the-counter derivative contracts with certain CFTC- or SEC-registered entities and if the rules implementing the new regulations require us to post significant amounts of cash collateral with respect to swap transactions, this could have a material adverse effect on our liquidity. We cannot predict the impact these new regulations will have on our businesses' ability to hedge their commodity and interest rate risks or on over-the-counter derivatives markets as a whole, but they could potentially have a material adverse effect on our businesses' risk exposure, as well as reduce market liquidity and further increase the cost of hedging activities.

With regard to the physical purchases and sales of energy commodities, the physical trading of energy commodities and any related transportation and/or hedging activities that some of our operating subsidiaries undertake, our operating subsidiaries are required to observe the market-related regulations and certain reporting and other requirements enforced by the FERC, the CFTC and the SEC. Additionally, to the extent that the operating subsidiaries enter into transportation contracts with natural gas pipelines or transmission contracts with electricity transmission providers that are subject to FERC regulation, the operating subsidiaries are subject to FERC requirements related to the use of such transportation or transmission capacity. Any failure on the part of our operating subsidiaries to comply with the regulations and policies of the FERC, the CFTC or the SEC relating to the physical or financial trading and sales of natural gas or other energy commodities, transportation or transmission of these energy commodities or trading or hedging of these commodities could result in the imposition of significant civil and criminal penalties. Failure to comply with such regulations, as interpreted and enforced, could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables' ability to generate revenue from certain utility-scale wind energy power plants depends on having continuing interconnection arrangements, PPAs, or other market mechanisms and depends upon interconnecting utility and RTO rules, policies, procedures and FERC tariffs that do not present restrictions to current and future wind project operations.

The electric generation facilities owned by Renewables rely on interconnection and/or transmission agreements and transmission networks in order to sell the energy generated by such facility. If the interconnection and/or transmission agreement of an

electric generating facility Renewables owns is terminated for any reason, Renewables may not be able to replace it with an interconnection or transmission arrangement on terms as favorable as the existing arrangement, or at all, or it may experience significant delays or costs in securing a replacement. If a transmission network to which one or more of Renewables' electric generating facilities is connected experiences outages or curtailments, the affected projects may lose revenue. These factors could materially affect Renewables' ability to forecast operations and negatively affect our business, results of operations, financial condition and cash flows. In addition, certain of Renewables' operating facilities' generation of electricity may be physically or economically curtailed, and offtakers or transmission or interconnection providers may be permitted to restrict wind project operations without paying full compensation to Renewables pursuant to PPAs or interconnection agreements or FERC tariff provisions or rules, policies or procedures of RTOs, which may reduce our revenues and impair our ability to capitalize fully on a particular facility's generating potential. Such curtailments or operational limitations could have a material adverse effect on our business, financial condition, results of operations and cash flows. Furthermore, economic congestion on the transmission grid (for instance, a negative price difference between the location where power is put on the grid by a project and the location where power is taken off the grid by the project's customer) in certain of the bulk power markets in which Renewables operates may occur and its businesses may be responsible for those congestion costs. Similarly, negative congestion costs may require that the wind projects either not participate in the energy markets or bid and clear at negative prices which may require the wind projects to pay money to operate each hour in which prices are negative. If such businesses were liable for such congestion costs or if the wind projects are required to pay money to operate in any given hour when prices are negative, then our financial results could be adversely affected.

Risks Relating to Our Business and Operations

Disruptions, uncertainty or volatility in the credit and capital markets may negatively affect our liquidity and capital needs and our ability to meet our growth objectives and can also materially adversely affect our results of operations and financial condition.

A crisis affecting the banking system and the financial markets including severe volatility in stock and bond markets could impact our financial operating conditions, our day-to-day activities, our liquidity and cash positions, the loss of significant investment opportunities, the value of our business and our financial condition. In addition, during periods of slow or little economic growth, energy conservation efforts often increase and the amount of uncollectible customer accounts increases. These factors may also reduce earnings and cash flow.

Increases in interest rates or reductions in credit ratings could have an adverse impact on our cash flows, results of operations and financial condition.

Trends in the general level of interest rates and in the debt capital and credit markets could increase the cost of our borrowings and our ability to access the credit markets. We have floating rate exposure under our commercial paper program, our credit facilities and our auction rate bonds which closely tracks movements in the London Interbank Offer Rate, or LIBOR. The cost of new long-term debt can be affected by the level of US treasury rates and conditions in the debt capital markets that affect credit spreads.

In addition, AVANGRID and certain of its subsidiaries have credit ratings which directly affect the cost of maintaining and borrowing under revolving credit facilities and which indirectly affect the cost of borrowing under our commercial paper program and the cost of new long-term debt raised in the debt capital markets. In addition, we intend to access the capital markets and issue debt securities from time to time, and a decrease in credit ratings or outlook could adversely affect our liquidity, increase borrowing costs and decrease demand for our debt securities and increase the expense and difficulty of financing our operations and investments. The Tax Act may negatively affect cash flows and financial ratios used by rating agencies, increasing the risk of adverse rating actions. Lower credit ratings could increase the cost of debt and equity capital and, depending on the rating and market conditions, preclude access to the debt and equity capital markets. Any of these events could have a materially adverse effect on our business, results of operations, financial condition and cash flows.

If Networks' electricity and natural gas transmission, transportation and distribution systems do not operate as expected, they could require unplanned expenditures, including the maintenance and refurbishment of Networks' facilities, which could adversely affect our business, results of operations, financial position and cash flows.

Networks' ability to operate its electricity and natural gas transmission, transportation and distribution systems is critical to the financial performance of our business. The ongoing operation of Networks' facilities involves risks customary to the electric and natural gas industry that include the breakdown, failure, loss of use or destruction of Networks' facilities, equipment or processes or the facilities, equipment or processes of third parties due to natural disasters, war or acts of terrorism, operational and safety performance below expected levels, errors in the operation or maintenance of these facilities and the inability to transport electricity or natural gas to customers in an efficient manner. These and other occurrences could reduce potential earnings and cash flows and increase the costs of repairs and replacement of assets. Losses incurred by Networks in respect of such occurrences may not be fully recoverable through insurance or customer rates. Further, certain of Networks' facilities require periodic upgrading and improvement.

In addition, unplanned outages typically increase Networks' operation and maintenance expenses. Any unexpected failure, including failure associated with breakdowns, forced outages or any unanticipated capital expenditures, accident, failure of major equipment, shortage of or inability to acquire critical replacement or spare parts could result in reduced profitability, harm to our reputation or regulatory penalties. For more information, see "*Risks Relating to Our Regulatory Environment*" above.

Our businesses' operations and power production may fall below expectations due to the impact of severe weather or other natural events, which could adversely affect our cash flows, results of operations and financial position.

Weather conditions directly influence the demand for electricity and natural gas and other fuels and affect the price of energy and energy-related commodities. Severe weather, such as ice and snow storms, hurricanes and other natural disasters, such as floods and earthquakes, can be destructive and cause power outages, bodily injury and property damage or affect the availability of fuel and water, which may require additional costs or loss of revenues, for example, the costs incurred to restore service and repair damaged facilities, to obtain replacement power and to access available financing sources, may not be recoverable from customers, and could adversely affect our cash flows, results of operations and financial position. Many of our facilities could be placed at greater risk of damage should changes in the global climate produce unusual variations in temperature and weather patterns, resulting in more intense, frequent and extreme weather events, abnormal levels of precipitation and a change in sea level. A disruption or failure of electric generation, transmission or distribution systems or natural gas production, transmission, transportation, storage or distribution systems in the event of ice and snow storms, long periods of severe weather, hurricane, tornado or other severe weather event, or otherwise, could prevent us from operating our business in the normal course and could result in any of the adverse consequences described above. Because utility companies, including our regulated utilities, have large customer bases, they are subject to adverse publicity focused on the reliability of their distribution services and the speed with which they are able to respond to electric outages, natural gas leaks and similar interruptions caused by storm damage or other unanticipated events. Adverse publicity of this nature could harm our reputations and the reputations of our subsidiaries.

Furthermore, Renewables can incur damage to wind turbine equipment, either through natural events such as lightning strikes that damage blades or in-ground electrical systems used to collect electricity from turbines. Many of the operating facilities of Networks and Enstor, Inc., Gas' wholly-owned direct subsidiary, are located either in, or close to, densely populated public places. A failure of, or damage to, these facilities, could result in bodily injury or death, property damage, the release of hazardous substances or extended service interruptions. The cost of repairing damage to Networks' and Gas' facilities and the potential disruption of their operations due to storms, natural disasters or other catastrophic events could be substantial. In respect of our businesses where cost recovery is available, recovery of costs to restore service and repair damaged facilities is or may be subject to regulatory approval, and any determination by the regulator not to permit timely and full recovery of the costs incurred could have a material adverse effect on our business, results of operations, financial condition and cash flows.

If wind conditions are unfavorable or below Renewables' production forecasts, or Renewables' wind turbines are not available for operation, Renewables projects' electricity generation and the revenue generated from its projects may be substantially below our expectations.

Changing wind patterns or lower than expected wind resource could cause reductions in electricity generation at Renewables' projects, which could affect the revenues produced by these wind generating facilities. Renewables' wind projects are sited, developed and operated to maximize wind performance. Prior to siting a wind facility, detailed studies are conducted to measure the wind resource in order to estimate future production. However, wind patterns or wind resource in the future might deviate from historical patterns and are difficult to predict. These events could negatively impact the results of operations of Renewables, which may vary significantly from period to period, depending on the level of available resources. To the extent that resources are not available at planned levels, the financial results from these facilities may be less than expected. Changing wind patterns or lower than expected wind resources could also degrade equipment or components and the interconnection and transmission facilities' lives or maintenance costs. Replacement and spare parts for wind turbines and key pieces of electrical equipment may be difficult or costly to acquire or may be unavailable. The loss of any suppliers or service providers or inability to find replacement suppliers or service providers or to purchase turbines at rates currently offered by Renewables' existing suppliers or a change in the terms of Renewables' supply or operations and maintenance agreements, such as increased prices for maintenance services or for spare parts, could have a material adverse effect on Renewables' ability to construct and maintain wind farms or the profitability of wind farm development and operation.

The revenues generated by Renewables' facilities depend upon Renewables' ability to maintain the working order of its wind turbines. A natural disaster, severe weather, accident, failure of major equipment, shortage of or inability to acquire critical replacement or spare parts, failure in the operation of any future transmission facilities that Renewables may acquire, including the failure of interconnection to available electricity transmission or distribution networks, could damage or require Renewables to shut down its turbines or related equipment and facilities, leading to decreases in electricity generation levels and revenues. Additionally, Renewables' operating projects generally do not hold spare substation main transformers in inventory. These transformers are

designed specifically for each wind power project, and order lead times can be lengthy. If one of Renewables' projects had to replace any of its substation main transformers, it would be unable to sell all of its power until a replacement is installed.

If Renewables experiences a prolonged interruption at one of its operating projects due to natural events or operational problems and such events are not fully covered by insurance, Renewables' electricity generation levels could materially decrease, which could have a material adverse effect on its business, results of operation and financial condition and could adversely affect our cash flows, results of operations and financial position.

Cyber breaches, acts of war or terrorism, grid disturbances or security breaches involving the misappropriation of confidential and proprietary customer, employee, financial or system operating information could negatively impact our business.

Cyber breaches, acts of war or terrorism or grid disturbances resulting from internal or external sources could target our generation, transmission and distribution facilities or our information technology systems. In the regular course of business, we maintain sensitive customer, employee, financial and system operating information and are required by various federal and state laws to safeguard this information. Cyber or physical security intrusions could potentially lead to disabling damage to our generation, transmission and distribution facilities and to theft and the release of critical operating information or confidential customer or employee information, which could adversely affect our operations or adversely impact our reputation, and could result in significant costs, fines and litigation. Additionally, because our generation and transmission facilities are part of an interconnected regional grid, we face the risk of blackout due to a disruption on a neighboring interconnected system. The Company maintains a specific insurance program for cyber-risk in accordance with insurance market current offerings; and that will need to be periodically reviewed due to the rapid evolution and broad range of cyber risks. While we maintain insurance coverage that is designed to address losses or claims that may arise in connection with cyber risks, such insurance coverage may be insufficient to cover all losses or claims that may arise from such risks. As threats evolve and grow increasingly more sophisticated, we may incur significant costs to upgrade or enhance our security measures to protect against such risks and we may face difficulties in fully anticipating or implementing adequate preventive measures or mitigating potential harms. In addition, we cannot ensure that a potential security breach may not occur or quantify the potential impact of such an event. Any such cyber breaches could result in a significant decrease in revenues, significant expense to repair system damage or security breaches, adversely impact our reputation, regulatory penalties and liability claims, which could have a material adverse effect on our cash flows, results of operations and financial condition.

Risks including but not limited to any physical security breach involving unauthorized access, electricity or equipment theft and vandalism could adversely affect our business operations and adversely impact our reputation.

A physical attack on our transmission and distribution infrastructure could interfere with normal business operations and affect our ability to control our transmission and distribution assets. A physical security intrusion could potentially lead to theft and the release of critical operating information, which could adversely affect our operations or adversely impact our reputation, and could result in significant costs, fines and litigation. Additionally, certain of our power generation and transmission and distribution assets and equipment are at risk for theft and damage. For example, Networks is at risk for copper wire theft, especially, due to an increased demand for copper in the United States and internationally. Theft of copper wire or solar panels can cause significant disruption to Networks' and Renewables' operations, respectively, and can lead to operating losses at those locations. Furthermore, Renewables can incur damage to wind turbine equipment through vandalism, such as gunshots into towers or other generating equipment. Such damage can cause disruption of operations for unspecified periods which may lead to operating losses at those locations.

Our risk management policies cannot fully eliminate the risk associated with some of our operating subsidiaries' commodity trading and hedging activities, which may result in significant losses.

Renewables has exposure to commodity price movements through their "natural" long positions in electricity and natural gas storage in addition to proprietary trading and hedging activities. Since market prices and temporal price spreads for natural gas reflect the demand for these products and their availability at a given time, the overall operating results of Gas' business may fluctuate substantially on a seasonal basis.

Networks and Renewables manage the exposure to risks of commodity price movements through internal risk management policies, enforcement of established risk limits and risk management procedures. These risk policies, risk limits and risk management procedures may not work as planned and cannot eliminate all risks associated with these activities. Even when these risk policies and procedures are followed, and decisions are made based on projections and estimates of future performance, results of operations may be diminished if the judgments and assumptions underlying those decisions prove to be incorrect. Our risk management tools and metrics associated with our hedging and trading procedures, such as daily value at risk, stop loss limits and liquidity guidelines, are based on historical price movements. Due to the inherent uncertainty involved in price movements and potential deviation from historical pricing behavior, we are unable to assure that our risk management tools and metrics will be effective to protect against

material adverse effects on our business, financial condition, results of operations and prospects. Factors, such as future prices and demand for power and other energy-related commodities, become more difficult to predict and the calculations become less reliable the further into the future estimates are made. As a result, we cannot fully predict the impact that some of our subsidiaries' commodity trading and hedging activities and risk management decisions may have on our business, results of operations, financial condition and cash flows.

We expect to invest in development opportunities in all segments of our business, but such opportunities may not be successful, projects may not commence operation as scheduled and/or within budget or at all, which could have a material adverse effect on our business prospects.

We are pursuing broader development investment opportunities related to all segments of our business, particularly in respect of additional opportunities related to electric transmission, renewable energy generation, interconnections to generating resources and other development investment opportunities. The development, construction and expansion of such projects involve numerous risks. Various factors could result in increased costs or result in delays or cancellation of these projects. Risks include regulatory approval processes, permitting, new legislation, economic events, environmental and community concerns, negative publicity, design and siting issues, difficulties in obtaining required rights of way, construction delays and cost overruns, including delays in equipment deliveries, particularly of wind turbines or transformers, severe weather, competition from incumbent facilities and other entities, and actions of strategic partners. For example, there may be delays or unexpected developments in completing current and future construction projects. While most of Renewables' construction projects are constructed under fixed-price and fixed-schedule contracts with construction and equipment suppliers, these contracts provide for limitations on the liability of these contractors to pay liquidated damages for cost overruns and construction delays. These circumstances could prevent Renewables' construction projects from commencing operations or from meeting original expectations about how much electricity it will generate or the returns it will achieve. In addition, for Renewables' projects that are subject to PPAs, substantial delays could cause defaults under the PPAs, which generally require the completion of project construction by a certain date at specified performance levels. A delay resulting in a wind project failing to qualify for federal production tax credits could result in losses that would be substantially greater than the amount of liquidated damages paid to Renewables. In December 2015, the Consolidated Appropriations Act, 2016 extended the expiration date for this tax credit to December 31, 2019, for wind facilities commencing construction, with a phase-down beginning for wind projects commencing construction after December 31, 2016. The Tax Act enacted in December 2017 kept the 2015 tax credits agreement unchanged. Furthermore, as a result of Connecticut's Comprehensive Energy Strategy, CNG and SCG filed, jointly with Yankee Gas Services Company (Eversource) a comprehensive natural gas expansion plan, or Expansion Plan, outlining a structured approach to add approximately 280,000 new gas heating customers (approximately 200,000 of which relate to SCG and CNG) state-wide over a ten-year period through 2023. SCG and CNG have been executing on the Expansion Plan since 2014 and will continue to do so through 2023. In order to serve new customers to comply with the Expansion Plan, SCG and CNG need to lay significant miles of new pipeline, maintain, expand and potentially upgrade their existing distribution and/or storage infrastructure, and build new gate stations. Various factors may prevent or delay SCG and CNG from completing such projects or make completion more costly, such as the inability to obtain required approval from local or state regulatory and governmental bodies, public opposition to the project, lack of potential customers as a result of reduced economic benefits for switching to gas, inability to obtain adequate financing, construction delays, cost overruns, and inability to negotiate acceptable agreements relating to rights-of-way, construction or other material development components. As a result, SCG and CNG may not be able to adequately support the proposed customer growth, which would negatively impact their businesses, cash flows, results of operations and financial condition. Should any of these factors result in such delays or cancellations, our growth projections, financial position, results of operations, and cash flows could be adversely affected or our future growth opportunities may not be realized as anticipated.

Advances in technology and rate design initiatives could impair or eliminate the competitive advantage of our business or could result in customer defection, which could have a material adverse effect on our growth, business, financial condition and results of operations.

The emergence of technology and initiatives designed to reduce greenhouse gas emissions or limit the effects of global warming and overall climate change has increased the development of new technologies for solar generation, energy efficiency, and for investment in research and development to make those technologies more efficient and cost effective. There is a potential that new technology or rate design incentives could adversely affect the demand for services of our regulated subsidiaries thus impacting our revenues, which could adversely affect our cash flows, results of operations and financial concerns. For example, net energy metering allows electricity customers who supply their own electricity from on-site generation to pay only for the net energy obtained from the utility. Further, the behind-the-meter storage systems and grid integration components such as inverters or electronics could result in electricity delivery customers abandoning the grid system or replacing part of grid services with self-supply or self-balancing, which could impact the return on current or future Networks' assets deployed and designed to serve projected load. Such emergence of alternative sources of energy supply can result in customers relying on the power grid for limited use, such as in the case of a deficit or an emergency, or completely abandoning the grid, which is known as customer defection. While certain of the regulated utilities of Networks are subject to RDMs, they are either legislatively or regulatory in nature and there is no assurance such mechanisms will

always be available. The progressive reduction in the costs of distributed energy assets, as a result of technological improvements, large scale deployment in certain jurisdictions and constructive support regimes could result in customer defection (individually or integrated in micro-grids) when a net benefit analysis of investing in self-supply and storage of energy compared to energy provided by utility service appears attractive for certain customer classes. Similarly, future investments in Networks could be impacted if adequate rate making does not fully contemplate the characteristics of an integrated reliable grid from a unified perspective, regardless of customer disconnection. Further, the interoperability, integration and standard connection of these distributed energy devices and systems could place a burden on the system of Networks' operating subsidiaries, without adequately compensating them. Furthermore, the technologies used in the renewable energy sector change and evolve rapidly. Techniques for the production of electricity from renewable sources are constantly improving and becoming more complex. In order to maintain Renewables' competitiveness and expand its business, Renewables must adjust effectively to changes in technology. If Renewables fails to react effectively to current and future technological changes in the sector in a timely manner, Renewables' future business growth, results of operations and financial condition could be materially adversely affected.

Renewables' revenue may be reduced significantly upon expiration or early termination of PPAs if the market price of electricity decreases and Renewables is otherwise unable to negotiate favorable pricing terms.

Renewables' portfolio of PPAs is made up of PPAs that primarily have fixed or otherwise predetermined electricity prices for the life of the PPA. A decrease in the market price of electricity, including lower prices for traditional fossil fuels, could result in a decrease in revenues once a PPA has expired or upon a renewal of a PPA. Any decrease in the price payable to Renewables under new PPAs could have a material adverse effect on our business, results of operations, financial conditions and cash flows. For the majority of Renewables' wind energy generation projects, upon the expiration of a PPA, the project becomes a merchant project subject to market risks, unless Renewables can negotiate a renewal of the PPA. If Renewables is not able to replace an expiring PPA with a contract on equivalent terms and conditions or otherwise obtain prices that permit operation of the related facility on a profitable basis, the affected site may temporarily or permanently cease operations and trigger an asset value impairment. The majority of the Renewables PPAs are fixed price contracts. An early termination of any may result in economic losses.

There are a limited number of purchasers of utility-scale quantities of electricity, which exposes Renewables' utility-scale projects to additional risk that could have a material adverse effect on its business.

Since the transmission and distribution of electricity is highly concentrated in most jurisdictions, there are a limited number of possible purchasers for utility-scale quantities of electricity in a given geographic location, including transmission grid operators, state and investor-owned power companies, public utility districts and cooperatives. As a result, there is a concentrated pool of potential buyers for electricity generated by Renewables' businesses, which may restrict our ability to negotiate favorable terms under new PPAs and could impact our ability to find new customers for the electricity generated by our generation facilities should this become necessary. Renewables' PPA portfolio is mostly contracted with low risk regulated utility companies. In the past few years, there has been increased participation from commercial and industrial businesses. The higher long term business risk profile of these companies results in increased credit risk. Furthermore, if the financial condition of these utilities and/or power purchasers deteriorated or the RPS programs, climate change programs or other regulations to which they are currently subject and that compel them to source renewable energy supplies change, demand for electricity produced by Renewables' businesses could be negatively impacted.

Lower prices for other fuel sources may reduce the demand for wind and solar energy development, which could have a material adverse effect on Renewables' ability to grow its business.

Wind and solar energy demand is affected by the price and availability of other fuels, including nuclear, coal, natural gas and oil, as well as other sources of renewable energy. To the extent renewable energy, particularly wind energy, becomes less cost-competitive due to reduced government targets, increases in the cost of wind energy, as a result of new regulations, and incentives that favor alternative renewable energy, cheaper alternatives or otherwise, demand for wind energy and other forms of renewable energy could decrease. Slow growth or a long-term reduction in the demand for renewable energy could have a material adverse effect on Renewables' ability to grow its business.

Volatility in the price of natural gas and home heating oil could adversely impact the demand for gas conversions and could have a material adverse effect on our regulated gas utilities' ability to grow their businesses.

Conversion from home heating oil to natural gas requires a significant investment by customers. If the price of natural gas does not remain sufficiently below the prices of home heating oil, current oil heating customers may elect not to convert to natural gas. Volatility in oil prices demonstrates the difficulty to predict future home heating costs. In addition, any new regulations imposed on natural gas, particularly on extraction of natural gas from shale formations, could lead to substantial increases in the price of natural gas. Reduced prices for heating oil or increases in in prices for natural gas may cause potential natural gas customers to forgo

converting their heating systems to natural gas and as a result, could negatively impact the forecasted growth of the CNG, SCG and BGC businesses, and their cash flows, results of operations and financial condition.

Our subsidiaries do not own all of the land on which their projects are located and their use and enjoyment of real property rights for their projects may be adversely affected by the rights of lienholders and leaseholders that are superior to those of the grantors of those real property rights to our subsidiaries' projects, which could have a material adverse effect on their business, results of operations, financial condition and cash flows.

Our subsidiaries do not own all of the land on which their projects are located. For example, Renewables does not own all of the land on which its wind projects are located and Gas does not own all of the land on which its natural gas storage projects are located. Such projects generally are, and future projects may be, located on land occupied under long-term easements, leases and rights of way. The ownership interests in the land subject to these easements, leases and rights of way may be subject to mortgages securing loans or other liens and other easements, lease rights and rights of way of third parties that were created previously. As a result, some of the rights under such easements, leases or rights of way held by our operating subsidiaries may be subject to the rights of these third parties, and the rights of our operating subsidiaries to use the land on which their projects are or will be located and their projects' rights to such easements, leases and rights of way could be lost or curtailed. Any such loss or curtailment of the rights of our operating subsidiaries to use the land on which their projects are or will be located could have a material adverse effect on their business, results of operations, financial condition and cash flows.

We and our subsidiaries are subject to litigation or administrative proceedings, the outcome or settlement of which could adversely affect our business, results of operations, financial condition and cash flows.

Our operating subsidiaries have been and continue to be involved in legal proceedings, administrative proceedings, claims and other litigation that arise in the ordinary course of business. These actions may include environmental claims, employment-related claims and contractual disputes or claims for personal injury or property damage that occur in connection with services performed relating to the operation of our businesses, or actions by regulatory or tax authorities. Unfavorable outcomes or developments relating to these proceedings or future proceedings, such as judgments for monetary damages, injunctions or denial or revocation of permits, could have a material adverse effect on our business, financial condition and results of operations. In addition, settlement of claims could adversely affect our business, results of operations, financial condition and cash flows.

Storing, transporting and distributing natural gas involves inherent risks that could cause us to incur significant financial losses.

There are inherent hazards and operation risks in gas distribution activities, such as leaks, accidental explosions and mechanical problems that could cause the loss of human life, significant damage to property, environmental pollution and impairment of operations. The location of pipelines and storage facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages resulting from these risks. These activities may subject us to litigation and administrative proceedings that could result in substantial monetary judgments, fines or penalties. To the extent that the occurrence of any of these events is not fully covered by insurance or natural gas hedges, they could adversely affect our revenue, earnings and cash flow.

We are not able to insure against all potential risks and may become subject to higher insurance premiums, and our ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers.

Our businesses and activities are exposed to the risks inherent in the construction and operation of our respective assets, such as electrical power plants, wind power plants and other renewable energy projects and natural gas storage facilities, including breakdowns, manufacturing defects, natural disasters, terrorist attacks, cyber attacks and sabotage. Our subsidiaries are also exposed to third party liability risks and environmental risks. While our operating subsidiaries maintain insurance coverage, such insurance may not continue to be offered on an economically feasible basis and may not cover all events that could give rise to a loss or claim involving the assets or operations of our subsidiaries. For example, Renewables currently has 540 megawatts, or MW, of installed capacity in California subject to known earthquake risks and approximately 600 MW of installed capacity on the Texas Gulf Coast subject to known hurricane and windstorm risks. Further, while insurance coverage applies to property damages and business interruptions, this coverage is limited as a result of severe insurance market restrictions and we are generally not fully insured against all significant losses. In addition, our subsidiaries' insurance policies are subject to annual review by their insurers. Our ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers. If insurance coverage is not available or obtainable on acceptable terms, we may be required to pay costs associated with adverse future events. If one of our operating

subsidiaries were to incur a serious uninsured loss or a loss significantly exceeding the limits of their insurance policies, the results could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Furthermore, Networks' gas distribution and transportation activities involve a variety of inherent hazards and operating risks, such as leaks, accidents, explosions, and mechanical problems and could result in serious injury to employees and non-employees, loss of human life, significant damage to property, environmental pollution and impairment of our subsidiaries' operations. In accordance with customary industry practice, our subsidiaries maintain insurance against some, but not all, of these risks and losses. The location of natural gas pipelines and natural gas storage facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages that could potentially result from these risks. The occurrence of any of these events not fully covered by insurance could adversely affect our business, results of operations, financial position and cash flows.

The benefits of any warranties provided by the suppliers of equipment for Networks and Renewables' projects may be limited by the ability of a supplier to satisfy its warranty obligations, or if the term of the warranty has expired or has liability limits which could have a material adverse effect on our business, results of operation, financial condition and cash flows.

Networks and Renewables expect to benefit from various warranties, including product quality and performance warranties, provided by suppliers in connection with the purchase of equipment. The suppliers of our operating subsidiaries may fail to fulfill their warranty obligations or a particular defect may not be covered by a warranty. Even if a supplier fulfills its obligations, the warranty may not be sufficient to compensate the operating subsidiary for all of its losses. In addition, these warranties generally expire within two to five years after the date each equipment item is delivered or commissioned and are subject to liability limits. If installation is delayed, the operating subsidiaries may lose all or a portion of the benefit of a warranty. If Networks or Renewables seeks warranty protection and a supplier is unable or unwilling to perform its warranty obligations, whether as a result of its financial condition or otherwise, or if the term of the warranty has expired or a liability limit has been reached, there may be a reduction or loss of warranty protection for the affected equipment, which could have a material adverse effect on our business, results of operation, financial condition and cash flows.

A disruption in the wholesale energy markets or failure by an energy supplier could adversely affect our business and results of operation.

Almost all the electricity and gas that Networks sells to full-service customers is purchased through the wholesale energy markets or pursuant to contracts with energy suppliers. A disruption in the wholesale energy markets or a failure on the part of energy suppliers or operators of energy delivery systems that connect to Networks' energy facilities could adversely affect Networks' ability to meet its customers' energy needs and adversely affect our business and results of operation.

The increased cost of purchasing natural gas during periods in which natural gas prices are rising significantly could adversely impact our earnings and cash flow.

The rates that are permitted to be charged by our regulated natural gas utilities that allow for rate recovery generally allow such businesses to recover their cost of purchasing natural gas. In general, the various regulatory agencies allow our regulated utilities to recover the costs of natural gas purchased for customers on a dollar-for-dollar basis (in the absence of disallowances), without a profit component. Networks' regulated natural gas utilities periodically adjust customer rates for increases and decreases in the cost of gas purchased by such regulated utilities for sale to its customers. Under the regulatory body-approved gas cost recovery pricing mechanisms, the gas commodity charge portion of gas rates charged to customers may be adjusted upward on a periodic basis. If the cost of purchasing natural gas increases and Networks' regulated natural gas utilities is unable to recover these costs from its customers immediately, or at all, Networks may incur increased costs associated with higher working capital requirements and/or realize increased costs. In addition, any increases in the cost of purchasing natural gas may result in higher customer bad debt expense for uncollectible accounts and reduced sales volume and related margins due to lower customer consumption.

Pension and post-retirement benefit plans could require significant future contributions to such plan that could adversely impact our business, results of operations, financial condition and cash flows.

We provide defined benefit pension plans and other post-retirement benefits administered by our subsidiaries for a significant number of employees, former employees and retirees. Financial market disruptions and significant declines in the market values of the investments held to meet the pension and post-retirement obligations, discount rate assumptions, participant demographics and increasing longevity, and changes in laws and regulations may require us to make significant contributions to the plans. Large funding requirements or significant increases in expenses could adversely impact our business, results of operations, financial condition and cash flows.

Long-term low natural gas prices and/or seasonal or locational variation in natural gas price spreads could have a negative impact on the natural gas business and gas storage services.

The natural gas business benefits from price volatility and temporal price spreads. Variation in price spreads can impact the level of demand and the rates that can be charged for natural gas storage services. If natural gas prices and volatility remain low, or prices decline further, then the natural gas business could generate less revenue and lower demand for natural gas storage services. A sustained decline in these prices and volatility could have an adverse impact on gas business, results of operation, financial condition and cash flows.

Our existing credit facilities contain, and agreements that we may enter into in the future may contain, covenants that could restrict our financial flexibility.

Our existing credit facilities, and the credit facilities of our subsidiaries, contain covenants imposing certain requirements on our business including covenants regarding the ratio of indebtedness to total capitalization. Furthermore, our subsidiaries periodically issue long-term debt, historically consisting of both secured and unsecured indebtedness. These third-party debt agreements also contain covenants, including covenants regarding the ratio of indebtedness to total capitalization. These requirements may limit our ability and the ability of our subsidiaries to take advantage of potential business opportunities as they arise and may adversely affect our conduct and our operating subsidiaries' current business, including restricting our ability to finance future operations and capital needs and limiting the subsidiaries' ability to engage in other business activities. Other covenants place or could place restrictions on our ability and the ability of our operating subsidiaries to, among other things, incur additional debt, create liens, and sell or transfer assets.

Agreements we and our operating subsidiaries enter into in the future may also have similar or more restrictive covenants, especially if the general credit market deteriorates. A breach of any covenant in the existing credit facilities or the agreements governing our other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration of payment of the underlying obligations or may trigger acceleration of payment if not remedied within a specified period. Events of default under one agreement may trigger events of default under other agreements, although our regulated utilities are not subject to the risk of default of affiliates. Should payments become accelerated as the result of an event of default, the principal and interest on such borrowing would become due and payable immediately. If that should occur, we may not be able to make all of the required payments or borrow sufficient funds to refinance the accelerated debt obligations. Even if new financing is then available, it may not be on terms that are acceptable to us.

We may be unable to meet our financial obligations and to pay dividends on our common stock if our subsidiaries are unable to pay dividends or repay loans from us.

We are a holding company and, as such, have no revenue-generating operations of our own. We are dependent on dividends and the repayment of loans from our subsidiaries and on external financings to provide the cash that is necessary to make future investments, service debt we have incurred, pay administrative costs and pay dividends. Our subsidiaries are separate legal entities and have no independent obligation to pay us dividends. Prior to paying us dividends, the subsidiaries have financial obligations that must be satisfied, including among others, their operating expenses and obligations to creditors. Furthermore, our regulated utilities are restricted by regulatory decision from paying us dividends unless a minimum equity-to-total capital ratio is maintained. The future enactment of laws or regulations may prohibit or further restrict the ability of our subsidiaries to pay upstream dividends or to repay funds. In addition, in the event of a subsidiary's liquidation or reorganization, our right to participate in a distribution of assets is subject to the prior claims of the subsidiary's creditors. As a result, our ability to pay dividends on our common stock and meet our financial obligations is reliant on the ability of our subsidiaries to generate sustained earnings and cash flows and pay dividends to and repay loans from us.

Our investments and cash balances are subject to the risk of loss.

Our cash balances and the cash balances at our subsidiaries may be deposited in banks, may be invested in liquid securities such as commercial paper or money market funds or may be deposited in a liquidity agreement in which we are a participant along with other affiliates of the Iberdrola Group. Bank deposits in excess of federal deposit insurance limits would be subject to risks in the counterparty bank. Liquid securities and money market funds are subject to loss of principal, more likely in an adverse market situation, and to the risk of illiquidity.

We have identified a material weakness in our internal control over financial reporting which, if not remediated, could adversely affect our reputation, business or stock price.

In connection with the preparation of our consolidated financial statements for the year ended December 31, 2017, management along with our independent registered public accounting firm identified a material weakness in the internal control over financial

reporting related to the measurement and disclosure of income taxes primarily due to time compression surrounding our income tax controls compounded by the implementation of the Tax Cuts and Jobs Act of 2017 enacted by the U.S. federal government on December 22, 2017. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected on a timely basis.

In connection with the preparation of our consolidated financial statements for the year ended December 31, 2016, management along with our independent registered public accounting firm identified material weaknesses in the internal control over financial reporting. Management identified deficiencies related to: (1) the accounting for the change in the estimated useful life of certain elements of the wind farms at Renewables and other smaller deficiencies related to documentation of internal controls procedures, and enhancement of review controls at Renewables, (2) the preparation of the consolidated financial statements, specifically the classification and disclosure of financial information, and (3) the measurement and disclosure of income taxes.

We engaged in remediation efforts to address the material weaknesses in the internal control over financial reporting, including, among other things, (i) improving general internal control activities and policies, including processes to maintain sufficient documentation evidencing execution of these policies; (ii) increasing accounting personnel to devote additional time and resources related to financial reporting; (iii) educating and re-training internal control employees regarding internal control processes to mitigate identified risks and maintaining adequate documentation to evidence the effective design and operation of such processes; and (iv) implementing enhanced controls to monitor the effectiveness of the underlying business process controls. We believe that the material weaknesses have been remediated as of December 31, 2017 related to (1) the accounting for the change in the estimated useful life of certain elements of the wind farms at Renewables and other smaller deficiencies related to documentation of internal controls procedures, and enhancement of review controls at Renewables and (2) the preparation of the consolidated financial statements, specifically the classification and disclosure of financial information.

We are actively engaged in remediation efforts to address the material weakness in the internal control over financial reporting related to the measurement and disclosure of income taxes, including, among other things, (i) further acceleration of key activities to allow sufficient time for the execution of consolidated deferred income tax controls that were newly designed in fiscal year 2017; (ii) increasing capabilities of income tax accounting resources to devote additional time and internal control resources to consolidated income tax accounting and reporting processes and controls; and (iii) enhancing the automation of income tax processes and controls to allow for the more timely completion and enhanced review. We believe, based on our evaluation to date, that this material weakness will be remediated by December 31, 2018. However, we cannot assure you that this will occur within the contemplated timeframe.

If our remediation efforts are insufficient to address the identified material weakness or if additional material weaknesses in internal controls are discovered in the future, they may adversely affect our ability to record, process, summarize and report financial information timely and accurately and, as a result, our financial statements may contain material misstatements or omissions. The occurrence of or failure to remediate the material weakness may adversely affect our reputation and business and the market price of shares of our common stock.

We and our subsidiaries may suffer the loss of key personnel or the inability to hire and retain qualified employees, which could result in a material adverse effect on our business, financial condition, results of operations and prospects.

The operations of our operating subsidiaries depend on the continued efforts of our employees and our subsidiaries' employees. Retaining key employees and maintaining the ability to attract new employees are important to our financial performance and for our subsidiaries' operations and financial performance. We cannot guarantee that any member of our management or of our subsidiaries' management will continue to serve in any capacity for any particular period of time. In addition, a significant portion of our and our subsidiaries' workforce, including many workers with specialized skills maintaining and servicing the electrical infrastructure, will be eligible to retire over the next five to ten years. Such highly skilled individuals cannot be quickly replaced due to the technically complex work they perform. If a significant amount of such workers retire and are not replaced, the subsequent loss in productivity and increased recruiting and training costs could result in a material adverse effect on our business, financial condition, results of operations and prospects. The announcement of the completion of the strategic review of the Enstor Gas Storage business, including the trading business, and the decision to move forward with a plan to sell such business increases the risk of losing key employees during this period.

We and our subsidiaries face the risk of strikes, work stoppages or an inability to negotiate future collective bargaining agreements on commercially reasonable terms which could have a material adverse effect on our business, results of operations, financial condition and cash flows.

A majority of the employees at Networks' facilities are subject to collective bargaining agreements with various unions. Additionally, unionization activities, including votes for union certification, could occur among non-union employees. If union employees strike, participate in a work stoppage or slowdown or engage in other forms of labor strike or disruption, our subsidiaries could experience reduced power generation or outages if replacement labor is not procured. The ability to procure such replacement

labor is uncertain, though risks are reduced by rigorous contingency planning. Strikes, work stoppages or an inability to negotiate future collective bargaining agreements on commercially reasonable terms could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Changes in tax laws, as well as judgments and estimates used in the determination of tax-related asset and liability amounts, could materially adversely affect our business, results of operations, financial condition and cash flows.

Our provision for income taxes and reporting of tax-related assets and liabilities require significant judgments and the use of estimates. Amounts of tax-related assets and liabilities involve judgments and estimates of the timing and probability of recognition of income, deductions and tax credits, including, but not limited to, estimates for potential adverse outcomes regarding tax positions that have been taken and the ability to utilize tax benefit carryforwards, such as net operating loss, or NOL, and tax credit carryforwards. Actual income taxes could vary significantly from estimated amounts due to the future impacts of, among other things, changes in tax laws, regulations and interpretations, our financial condition and results of operations.

The success of our business depends on achieving our strategic objectives, which may be through acquisitions, joint ventures, dispositions and restructurings.

We are continuously reviewing the alternatives available to ensure that we meet our strategic objectives, which include, among other things, acquisitions, joint ventures, dispositions and restructuring. With respect to potential acquisitions, joint ventures and restructuring actions, we may not achieve expected returns and other benefits as a result of various factors, including integration and collaboration challenges, such as personnel and technology. In addition, we may not achieve anticipated cost savings from restructuring actions. We also may participate in joint ventures with other companies or enterprises in various markets, including joint ventures where we may have a lesser degree of control over the business operations, which may expose us to additional operational, financial, legal or compliance risks. We also continue to evaluate the potential disposition of assets and businesses that may no longer help us meet our objectives. When we decide to sell assets or a business, we may encounter difficulty in finding buyers or executing alternative exit strategies on acceptable terms in a timely manner, which could delay the accomplishment of our strategic objectives. Alternatively, we may dispose of a business at a price or on terms that are less than we had anticipated. Failure to achieve our strategic objectives could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Risks Relating to Ownership of Our Common Stock

The trading price and volume of our common stock may be volatile and the value of your investment could decline.

The trading price of and demand for shares of our common stock could fluctuate and will depend on a number of conditions, including:

- the risk factors described in this Annual Report on Form 10-K;
- general economic conditions in the U.S. and internationally, including changes in interest rates;
- changes in electricity and natural gas prices;
- actual, anticipated or unanticipated fluctuations in our quarterly and annual results and those of our competitors;
- our businesses, operations, results and prospects ;
- future mergers and strategic alliances;
- market conditions in the energy industry;
- changes in law, government regulation, taxes, legal proceedings or other developments;
- shortfalls in our operating results from levels forecasted by securities analysts or by us;
- investor sentiment toward the stock of energy companies in general;
- announcements concerning us or our competitors;

- maintenance of acceptable credit ratings or credit quality; and
- the general state of the securities markets.

These and other factors may impair the development or sustainability of a liquid market for shares of our common stock and the ability of investors to sell shares at an attractive price. These factors also could cause the market price and demand for shares of our common stock to fluctuate substantially, which may negatively affect the price and liquidity of shares of our common stock. These fluctuations could cause you to lose all or part of your investment in shares of our common stock. Many of these factors and conditions are beyond our control and may not be related to our operating performance.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about us or our businesses, the price and trading volume of our common stock could decline.

The trading market for our common stock will, to some extent, depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us should downgrade our shares or change their opinion of our business prospects or report inaccurate information, our share price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our stock price and trading volume to decline.

Iberdrola exercises significant influence over us, and its interests may be different than yours. Additionally, future sales or issuances of our common stock by Iberdrola, S.A. could have a negative impact on the price of our common stock.

Iberdrola owns approximately 81.5% of outstanding shares of our common stock and will be able to exercise significant influence over our business policies and affairs, including the composition of our board of directors and any action requiring the approval of our shareholders, including the adoption of amendments to the certificate of incorporation and bylaws and the approval of a merger or sale of substantially all of our assets, subject to applicable law and the limitations set forth in the shareholder agreement. The directors designated by Iberdrola will have significant authority to effect decisions affecting our capital structure, including the issuance of additional capital stock, incurrence of additional indebtedness, the implementation of stock repurchase programs and the decision of whether or not to declare dividends.

The interests of Iberdrola may conflict with the interests of our other shareholders. For example, Iberdrola may support certain long-term strategies or objectives for us that may not be accretive to shareholders in the short term. The concentration of ownership may also delay, defer or even prevent a change in control, even if such a change in control would benefit our other shareholders, and may make some transactions more difficult or impossible without the support of Iberdrola. This significant concentration of share ownership may adversely affect the trading price for shares of our common stock because investors may perceive disadvantages in owning stock in companies with shareholders who own significant percentages of a company's outstanding stock.

Further, sales of our common stock by Iberdrola or the perception that sales may be made by it could significantly reduce the market price of shares of our common stock. We and Iberdrola are parties to a shareholder agreement pursuant to which Iberdrola will be generally restricted from transferring shares of our common stock, subject to certain exceptions. Iberdrola will also be restricted, for a period of three years after the completion of the proposed merger, from transferring more than an aggregate of 10% of the outstanding shares of our common stock in any transaction or series of transactions, unless all of our shareholders are entitled to participate in such transaction (on a *pro rata* basis) and are entitled to the same per share consideration to be received in such transaction as Iberdrola. In addition, even if Iberdrola does not sell a large number of shares of our common stock into the market, its right to transfer such shares may depress the price of our common stock. Furthermore, pursuant to the shareholder agreement and subject to the terms and conditions therein, Iberdrola will be entitled to customary registration rights of our common stock, including the right to choose the method by which the common stock are distributed, a choice as to the underwriter and fees and expenses to be borne by us. Iberdrola will also retain preemptive rights to protect against dilution in connection with issuances of equity by us. If Iberdrola exercises its registration rights and/or its preemptive rights, the market price of shares of our common stock may be adversely affected.

We have elected to take advantage of the “controlled company” exemption to the corporate governance rules for NYSE-listed companies, which could make shares of our common stock less attractive to some investors or otherwise harm our stock price.

Under the rules of the NYSE, a company in which over 50% of the voting power is held by an individual, a group or another company is a “controlled company” and is not required to have:

- a majority of its board of directors be independent directors;

- a compensation committee, or to have such committees be composed entirely of independent directors; and
- a nominating and corporate governance committee, or to have such committee composed entirely of independent directors.

In October 2016, our board determined that it was in the best interests of the company to establish a compensation, nominating and corporate governance committee. In light of our status as a controlled company, we currently rely on the NYSE exemptions with respect to board, compensation committee and nominating and corporate governance committee independence.

Because we are a controlled company, you will not have the same protections afforded to shareholders of companies that are subject to all of the corporate governance requirements of the NYSE without regard to the exemptions available for “controlled companies.” Our status as a controlled company could make our shares of common stock less attractive to some investors or otherwise harm our stock price.

Our dividend policy is subject to the discretion of our board of directors and may be limited by our debt agreements and limitations under New York law.

Although we currently anticipate paying a regular quarterly dividend, any such determination to pay dividends is at the discretion of our board of directors and dependent on conditions such as our financial condition, earnings, legal requirements, including limitations under New York law, restrictions in our debt agreements that limit our ability to pay dividends to shareholders and other factors the board of directors deem relevant. Our board of directors may, in its sole discretion, change the amount or frequency of dividends or discontinue the payment of dividends entirely. For these reasons, investors may not be able to rely on dividends to receive a return on their investments.

If we are unable to implement and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the trading price of our common stock may be negatively affected.

As a public company, we are subject to reporting, disclosure control and other obligations under the Exchange Act, the Sarbanes-Oxley Act, or SOX, the Dodd-Frank Act, as well as rules adopted, and to be adopted, by the SEC and the NYSE. For example, beginning with the 2016 Annual Report on Form 10-K, Section 404 of SOX requires our management to report on the effectiveness of our internal control over financial reporting and our independent registered public accounting firm to attest to the effectiveness of our internal controls. Our management and other personnel will continue to devote a substantial amount of time to these compliance activities. If we are not able to comply with the requirements of Section 404 in a timely manner or if we are unable to conclude that our internal control over financial reporting is effective, our ability to accurately report our cash flows, results of operations or financial condition could be inhibited and additional financial and management resources could be required. Any failure to maintain internal control over financial reporting or if our independent registered public accounting firm determines the we have a material weakness or significant deficiency in our internal control over financial reporting, could cause investors to lose confidence in the accuracy and completeness of our financial reports, a decline in the market price of our common stock, or subject us to sanctions or investigations by the NYSE, the SEC or other regulatory authorities. Failure to remedy any material weakness or significant deficiency in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets and reduce or eliminate the trading market for our common stock. Further, as a result of becoming a public company, we have incurred and will continue to incur higher legal, accounting and other expenses than we did as a private company, and these expenses may increase even more in the future.

Item 1B. Unresolved Staff Comments.

None

Item 2. Properties.

We have included descriptions of the location and general character of our principal physical operating properties by segment in “Item 1. Business”, which is incorporated herein by reference. The principal offices of AVANGRID and Networks are located in Orange, Connecticut, Portland, Maine, and Rochester, New York, Renewables’ headquarters is located in Portland, Oregon, while Gas is principally located in Houston, Texas. In addition, AVANGRID and its subsidiaries have various administrative offices located throughout the United States. AVANGRID leases part of its administrative and local offices.

The following table sets forth the principal properties of AVANGRID, by location, type, lease or ownership and size as of December 31, 2017:

Location	Type of Facility	Lease/Owned	Size (square feet)
Orange, Connecticut	Office	Owned	401,982
Augusta, Maine	Office	Leased	220,400
Portland, Maine	Office	Leased	16,462
Rochester, New York	Office	Owned	122,494
Portland, Oregon	Office	Leased	57,082
Houston, Texas	Office	Leased	21,571

We believe that our office facilities are adequate for our current needs and that additional office space can be obtained if necessary.

Item 3. Legal Proceedings.

For information with respect to this item see Notes 12 and 13 of our consolidated financial statements included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K, which information is incorporated herein by reference.

Item 4. Mine Safety Disclosures.

Not applicable.

Executive Officers of AVANGRID

The names and ages of all executive officers of AVANGRID as of March 26, 2018 and a brief account of the business experience during the past five years of each executive officer are as follows:

Name	Age (1)	Title
James P. Torgerson	65	Chief Executive Officer
Richard J. Nicholas (2)	62	Senior Vice President – Chief Financial Officer
Daniel Alcain (3)	44	Senior Vice President – Controller
Laura Beane	43	President and Chief Executive Officer of Renewables
Douglas A. Herling	54	President and Chief Executive Officer of CMP
Sheila Duncan	53	Senior Vice President – Human Resources & Corporate Administration
Ignacio Estella	47	Senior Vice President – Corporate Development
Daryl W. Gee	54	Chief Executive Officer of Gas
Robert D. Kump	56	President and Chief Executive Officer of Networks
Carl A. Taylor	53	President and Chief Executive Officer of NYSEG and RG&E
R. Scott Mahoney	52	Senior Vice President – General Counsel and Chief Compliance Officer; Secretary
Anthony Marone	54	President and Chief Executive Officer of UIL

(1) Age as of December 31, 2017.

(2) On March 9, 2018, Mr. Nicholas provided notice of his intention to retire from AVANGRID, effective July 7, 2018.

(3) On February 15, 2018, Mr. Alcain notified AVANGRID that his international assignment from Iberdrola, S.A., AVANGRID's majority shareholder, will conclude in April 2018, and he will be returning to a position with Iberdrola, S.A.

James P. Torgerson. Mr. Torgerson was appointed Chief Executive Officer of AVANGRID on December 16, 2015, upon consummation of the acquisition of UIL. Previously, Mr. Torgerson served as president and chief executive officer of UIL since 2006. Prior to 2006, Mr. Torgerson was president and chief executive officer of Midwest Independent Transmission System Operator. He is a trustee of the Yale-New Haven Hospital, a Director of Yale New Haven Health System, board and executive committee member of the Edison Electric Institute and the American Gas Association, and trustee of the Hartford Bishops' Foundation for the Archdiocese of Hartford. Mr. Torgerson is the former chairman and director of the Connecticut Business and Industry Association and the former chairman of the Connecticut Institute for the 21st Century. Mr. Torgerson holds a bachelor's of business administration degree in accounting from Cleveland State University.

Richard J. Nicholas. Mr. Nicholas was appointed Senior Vice President - Chief Financial Officer of AVANGRID on December 17, 2015, upon consummation of the acquisition of UIL. Previously, Mr. Nicholas served as executive vice president and chief financial officer of two subsidiaries of AVANGRID, UIL and UI, from March 2005 until December 2015. Mr. Nicholas was appointed chief financial officer of BGC, CNG and SCG, all of which are subsidiaries of AVANGRID, in November 2010. Mr. Nicholas earned his undergraduate degree in business and administration with a concentration in finance from Duquesne University and holds a M.B.A. from the University of New Haven.

Daniel Alcain. Mr. Alcain was appointed Senior Vice President – Controller of AVANGRID on December 17, 2015. Previously, Mr. Alcain served as the chief financial officer of Scottish Power, from April 2012 until December 2015, and Iberdrola USA, Inc., from December 2009 until March 2012. Mr. Alcain joined the Iberdrola Group in 2001 and worked for four years in Latin America within the Control area. He holds two degrees in economy and law from the University of Valladolid.

Laura Beane. Ms. Beane was appointed President and Chief Executive Officer of Renewables on April 25, 2017. She was formerly Vice President, Operations and Management Services at Avangrid Renewables from September 2015 to May 2017. Ms. Beane was Director of Market Structure/Policy at Avangrid Renewables from February 2007 to September 2015. Prior to joining Iberdrola/Avangrid Renewables, Ms. Beane worked for the Company's prior affiliate, PacifiCorp, where she held regulatory and project management positions beginning in 1995. Ms. Beane graduated with distinction from the Comillas and Strathclyde universities as part of Iberdrola's first MBA program in the Global Energy Industry cohort and has also earned an MBA and Bachelor of Science degree from the University of Utah.

Douglas A. Herling. Mr. Herling was appointed President and Chief Executive Officer of CMP effective January 2, 2018. Mr. Herling also has functional responsibility for AVANGRID's electrical operations. Previously, Mr. Herling served as Networks vice president – electric operations from 2016 to 2017. From 2001 to 2016 Mr. Herling held various executive management positions at Avangrid Networks and CMP, including vice president – special projects, vice president – engineering & asset management, and engineering and vice president of CMP field operations. Mr. Herling joined CMP in 1985. Mr. Herling earned his Bachelor of Science degree in Marine Engineering from the Maine Maritime Academy.

Sheila Duncan. Ms. Duncan was appointed Senior Vice President – Human Resources & Corporate Administration of AVANGRID on December 17, 2015. She previously served as human resources and shared services director of Scottish Power from March 2009 until December 2015. She holds a Master of Arts (Hons) from the University of Glasgow and is a chartered fellow of the Institute of Personnel & Development in the UK.

Ignacio Estella. Mr. Estella was appointed Senior Vice President – Corporate Development of AVANGRID on December 17, 2015. Previously, Mr. Estella served as corporate vice president of business origination of Iberdrola from May 2009 until November 2013 and vice president – corporate development of Iberdrola USA, Inc., from December 2013 to December 16, 2015. He served as gas markets development director of Iberdrola between February 2007 and April 2009. Mr. Estella holds a degree in law and business administration from the Universidad Pontificia Comillas and a Master of Public Administration, with concentration in industry analysis and strategic negotiation from Harvard University.

Daryl W. Gee. Mr. Gee was appointed Chief Executive Officer of Gas in May, 2014. He has also served as Chief Executive Officer and President of Enstor Energy Services LLC and Enstor, Inc. since 2014, both subsidiaries of AVANGRID. Previously, Mr. Gee served as chief compliance officer and vice president of Gas, Enstor Energy Services LLC and Enstor, Inc. between March, 2013 and May, 2014. From 2002 through March 2013, Mr. Gee served as director of regulatory affairs and director of business development for Enstor, Inc. Mr. Gee holds a bachelor of applied arts and sciences in petroleum land management /petroleum technology and marketing from the Stephen F. Austin State University.

Robert D. Kump. Mr. Kump was appointed President and Chief Executive Officer of Networks in November 2010. Mr. Kump served as AVANGRID's Chief Corporate Officer from January 2014 to December 2016. Mr. Kump also has served as a director of AVANGRID's subsidiaries CMP, NYSEG, and RG&E since 2009, as the President of the Avangrid Management Company, LLC since March 2012, and as the Chief Executive Officer of Avangrid Service Company since October 2009. Mr. Kump held various positions from February 1997 to October 2009 as AVANGRID's senior vice president and chief financial officer, vice president, controller and chief accounting officer, treasurer and secretary. Mr. Kump also previously held a number of positions at NYSEG from 1986 to 1997, including senior accountant-external financial reporting, director-investor relations, director-financial services, and treasurer. Mr. Kump earned a B.A. in accounting from Binghamton University and is a C.P.A. in New York.

Carl A. Taylor. Mr. Taylor was appointed President and Chief Executive Office of NYSEG and RG&E on June 30, 2017, and has functional responsibility for AVANGRID's gas operations. Previously, Mr. Taylor served as Vice President of Customer Service of AVANGRID. Mr. Taylor started with NYSEG in 1987 as an electrical engineer in the generation planning area and progressed through positions of increasing seniority in the organization including president of NYSEG Solutions, Inc., a subsidiary of NYSEG. He earned a Bachelor of Electrical Engineering Degree from Rochester Institute of Technology and a Master's of Business Administration Degree from State University of New York at Binghamton.

R. Scott Mahoney. Mr. Mahoney was appointed Senior Vice President – General Counsel and Chief Compliance Officer of AVANGRID on December 17, 2015. He was appointed Secretary of AVANGRID on January 27, 2016, and previously served as vice president-general counsel and secretary of Networks. Mr. Mahoney has served as AVANGRID's General Counsel since June 2012. Mr. Mahoney previously served as Deputy General Counsel and Chief FERC Compliance Officer for AVANGRID from January 2007 to June 2012, and previously served in legal and senior executive positions at AVANGRID subsidiaries from October 1996 until January 2007. Mr. Mahoney also serves on the board of directors of the Gulf of Maine Research Institute. Mr. Mahoney earned a B.A. from St. Lawrence University, a J.D. from the University of Maine, a master's degree in environmental law from the Vermont Law School, and a postgraduate diploma in business administration from the University of Warwick. He has received bar admission to the State of Maine, the State of New York, the U.S. Court of Appeals, the U.S. District Court and the U.S. Court of Military Appeals.

Anthony Marone. Mr. Marone was appointed President and Chief Executive Officer of UIL on September 9, 2016. In this role, he has overall responsibility for Avangrid Networks' electric and natural gas operating companies in Connecticut and Massachusetts and functional responsibility for AVANGRID's regulatory and asset management & planning. Mr. Marone also serves as President – Connecticut and Massachusetts Operations of Networks. Previously Mr. Marone served as senior vice president of customer and business services of UIL since May 14, 2013. Mr. Marone served as senior vice president – business services of UI and vice president of business services of UIL from November 16, 2010 to May 2013. Mr. Marone received his master's degree in engineering and business management from the University of New Haven and a bachelor's degree in mechanical engineering from the New York Institute of Technology.

PART II

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Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

Our shares of common stock began trading on the New York Stock Exchange, or NYSE, on December 17, 2015, under the symbol "AGR." Prior to that time, there was no public market for shares of our common stock. The following table sets forth on a per share basis, for the periods indicated, the high and low sale prices of our common stock as reported by the NYSE.

	2017 Sales Price		2016 Sales Price	
	High	Low	High	Low
First Quarter	\$ 44.11	\$ 37.42	\$ 42.40	\$ 36.01
Second Quarter	\$ 46.13	\$ 42.42	\$ 46.49	\$ 37.07
Third Quarter	\$ 49.04	\$ 43.13	\$ 46.74	\$ 40.71
Fourth Quarter	\$ 53.46	\$ 47.18	\$ 41.88	\$ 35.42

As of March 20, 2018, there were 3,415 shareholders of record.

Dividends

The quarterly cash dividends declared in 2017 and 2016 were at a rate of \$0.432 per share.

AVANGRID expects to continue paying quarterly cash dividends, although there is no assurance as to the amount of future dividends which depends on future earnings, capital requirements, and financial condition.

Further information regarding payment of dividends is provided in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Annual Report on Form 10-K.

Performance Graph

The line graph appearing below compares the change in AVANGRID's total shareholder return on its shares of common stock with the return on the S&P Composite-500 Stock Index, the S&P Electric Utilities Index and the S&P Utilities Index for the period January 1, 2017 through December 31, 2017.

Cumulative Total Return Comparison
January 1, 2017 – December 31, 2017



	January 1, 2017		December 31, 2017	
AVANGRID	\$	100.00	\$	138.56
S&P 500	\$	100.00	\$	121.82
S&P Electric Utilities Index	\$	100.00	\$	110.61
S&P Utilities Index	\$	100.00	\$	112.11

The above information assumes that the value of the investment in shares of AVANGRID's common stock and each index was \$100 on January 1, 2017, including dividend reinvestment during this time period. The changes displayed are not necessarily indicative of future returns.

Recent Sales of Unregistered Securities

None.

Issuer Repurchases of Equity Securities

AVANGRID repurchased 60,419 shares of common stock in open market transactions during the year ended December 31, 2017 to maintain the relative ownership percentage of Iberdrola at 81.5%. The total cost of these repurchases was approximately \$3 million. There were no repurchases of common stock of AVANGRID during the fourth quarter of the year ended December 31, 2017. The effects of these transactions did not change the number of outstanding shares of AVANGRID common stock.

Equity Compensation Plan Information

For information regarding securities authorized for issuance under equity compensation plans, see Part III, Item 12 of this Annual Report on Form 10-K.

Item 6. Selected Financial Data

The following selected consolidated and combined financial data should be read in conjunction with the consolidated financial statements and the notes thereto in Item 8 of Part II, "Financial Statements and Supplementary Data," and the information contained in Item 7 of Part II, "Management's Discussion and Analysis of Financial Condition and Results of Operations." Historical results are not necessarily indicative of future results.

During the year ended December 31, 2017, we identified immaterial corrections to prior periods related to our deferred income tax liabilities associated with our tax equity financing arrangements in our Renewables reportable segment. For further details, refer to Note 2 in our consolidated financial statements included in this Annual Report on Form 10-K. Accordingly, we have reflected the correction of these prior period amounts in the periods in which they originated and the following tables include our revised selected historical consolidated and combined statements of operations and balance sheet data as of and for the years ended December 31, 2016, 2015, 2014 and 2013.

	Year Ended December 31, (millions, except per share data)				
	2017	2016	2015	2014	2013
Consolidated and Combined Statements of Operations Data: *					
Operating Revenues	\$ 5,963	\$ 6,018	\$ 4,367	\$ 4,594	\$ 4,313
Operating Income	385	1,194	513	885	179
Income (Loss) Before Income Tax	123	1,009	302	707	(13)
Income tax (benefit) expense	(259)	377	29	275	28
Net Income (Loss)	382	632	273	432	(41)
Less: Net income attributable to noncontrolling interests	1	—	—	—	1
Net Income (Loss) Attributable to AVANGRID, Inc.	381	632	273	432	(42)
Total Earnings (Loss) Per Common					
Share, Basic and Diluted	1.23	2.04	1.07	1.71	(0.17)
Weighted-average Number of Common					
Shares Outstanding:					
Basic	309,502,861	309,512,553	254,588,212	252,235,232	252,235,232
Diluted	309,661,883	309,817,322	254,605,111	252,235,232	252,235,232
Consolidated and Combined Balance Sheet Data:*					
As of December 31,	2017	2016	(millions) 2015	2014	2013
(Millions)					
Total Property, Plant and Equipment	\$ 22,669	\$ 21,548	\$ 20,711	\$ 17,133	\$ 16,715
Total Other Assets	3,589	3,976	3,795	2,075	2,137
Total Assets	\$ 31,671	\$ 31,309	\$ 30,743	\$ 24,162	\$ 23,170

As of December 31, (Millions)	2017	2016	(millions) 2015	2014	2013
Liabilities					
Current portion of debt	\$ 183	\$ 349	\$ 206	\$ 148	\$ 25
Non-current debt	5,196	4,510	4,530	2,489	2,669
Total Liabilities	16,575	16,101	15,593	11,607	11,050
Total Stockholder's Equity	15,077	15,195	15,137	12,538	12,105
Total Equity	\$ 15,096	\$ 15,208	\$ 15,150	\$ 12,555	\$ 12,120

*Selected financial data for UIL is included from December 16, 2015.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion of our financial condition and results of operations in conjunction with the consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K. In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in Part I, Item 1A, "Risk Factors."

AVANGRID is a diversified energy and utility company with approximately \$32 billion in assets and operations in 27 states. The Company operates regulated utilities and electricity generation through two primary lines of business. Avangrid Networks includes eight electric and natural gas utilities, serving 3.2 million customers in New York and New England. Avangrid Renewables operates 7.1 gigawatts of electricity capacity, primarily through wind power, with presence in 22 states across the United States. AVANGRID employs approximately 6,600 people. The Company was formed by a merger between Iberdrola USA, Inc. and UIL Holdings Corporation, or UIL, in 2015. Iberdrola S.A., a corporation (*sociedad anónima*) organized under the laws of the Kingdom of Spain, a worldwide leader in the energy industry, directly owns 81.5% of outstanding shares of AVANGRID common stock. Our primary business is ownership of our operating businesses, which are described below.

Our direct, wholly-owned subsidiaries include Avangrid Networks, Inc., or Networks, and Avangrid Renewables Holdings, Inc., or ARHI. ARHI in turn holds subsidiaries including Avangrid Renewables LLC, or Renewables, and Enstor Gas, LLC, or Gas. Networks, owns and operates our regulated utility businesses through its subsidiaries, including electric transmission and distribution and natural gas distribution, transportation and sales. Renewables operates a portfolio of renewable energy generation facilities primarily using onshore wind power and also solar, biomass and thermal power. Gas operates our natural gas storage facilities and gas trading businesses through Enstor Energy Services LLC (gas trading) and Enstor Inc. (gas storage).

In December 2017, our management committed to a plan to sell the gas storage and trading businesses because they represent non-core businesses that are not aligned with our strategic objectives. As a result, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. The gas trading and storage businesses are being marketed for sale, and it is the Company's intention to complete the sales of these assets and liabilities within twelve months following their initial classification as held for sale. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC (CCI). On February 16, 2018, the Company entered into a definitive agreement to sell Enstor Gas, LLC, which operates the AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC. The agreement includes, among other things, a transition services agreement which obligates ARHI to provide certain transition services for up to one year after the closing date and includes a guarantee the Company will release certain obligations to Amphora Gas Storage USA, LLC. The transaction, which is subject to the satisfaction of customary closing conditions, is expected to be completed during the second quarter of 2018. Additional details on held for sale classification are provided in Note 25 to our consolidated financial statements contained in this Annual Report on Form 10-K.

On December 16, 2015, we completed our acquisition of UIL. Immediately following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola owned the remaining shares. The acquisition was accounted for as a business combination. The results of operations of UIL since December 16, 2015, the acquisition date, have been included in the consolidated results of AVANGRID. Effective as of April 30, 2016, UIL and its subsidiaries were transferred to a wholly-owned subsidiary of Networks.

Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 1.0 million natural gas public utility customers as of December 31, 2017.

Networks, a Maine corporation, holds our regulated utility businesses, including electric transmission and distribution and natural gas distribution, transportation and sales. Networks serves as a super-regional energy services and delivery company through the eight regulated utilities it owns directly:

- New York State Electric & Gas Corporation, or NYSEG, which serves electric and natural gas customers across more than 40% of the upstate New York geographic area;
- Rochester Gas and Electric, or RG&E, which serves electric and natural gas customers within a nine-county region in western New York, centered around Rochester;

- The United Illuminating Company, or UI, which serves electric customers in southwestern Connecticut;
- Central Maine Power Company, or CMP, which serves electric customers in central and southern Maine;
- The Southern Connecticut Gas Company, or SCG, which serves natural gas customers in Connecticut;
- Connecticut Natural Gas Corporation, or CNG, which serves natural gas customers in Connecticut;
- The Berkshire Gas Company, or BGC, which serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation, or MNG, which serves natural gas customers in several communities in central and southern Maine.

Through Renewables, we had a combined wind, solar and thermal installed capacity of 7,129 megawatts, or MW, as of December 31, 2017, including Renewables' share of joint projects, of which 6,387 MW was installed wind capacity. Approximately 72% of the capacity was contracted as of December 31, 2017, for an average period of 9.6 years. Being among the top three largest wind operators in the United States based on installed capacity as of December 31, 2017, Renewables strives to lead the transformation of the U.S. energy industry to a competitive, clean energy future. Renewables currently operates 58 wind farms in 21 states across the United States.

Through Gas, as of December 31, 2017, we own approximately 67.5 billion cubic feet, or Bcf, of net working gas storage capacity. Gas operates 50.3 Bcf of contracted or managed natural gas storage capacity in North America through Enstor Energy Services, LLC, as of December 31, 2017.

Summary of Results of Operations

Our operating revenues decreased by 1%, from \$6,018 million for the year ended December 31, 2016, to \$5,963 million for the year ended December 31, 2017.

The Networks revenues decreased due to a decrease in electricity revenue driven by a lower demand in the current period along with a decrease in related regulatory activities, mainly due to decrease in recoveries on the Ginna Reliability Support Services Agreement, or Ginna RSSA. Renewables business revenues increased on the impact of favorable operating condition driven mainly by addition of new capacity and favorable mark-to-market (MtM) changes on derivatives. Gas business revenues decreased on the impact of lower spreads in storage business and unfavorable MtM changes on derivatives.

Net income decreased by 39% from \$632 million for the year ended December 31, 2016, to \$382 million for the year ended December 31, 2017, primarily driven by the Gas net loss increase in the period due to the loss from remeasurement of assets and liabilities held for sale in connection with the committed plan to sell the gas trading and storage businesses. Additionally, Networks net income saw improvements due to impacts from rate case activities in New York and Connecticut, offset by lower revenues driven by lower demand for electricity and decrease in regulatory activity in the current period. Renewables net income increased primarily as a result of impact from measurement of deferred income tax balances as a result of the Tax Cuts and Jobs Act of 2017, or Tax Act, enacted by the U.S. federal government on December 22, 2017.

Adjusted earnings before interest, tax, depreciation and amortization, or adjusted EBITDA (a non-GAAP financial measure), decreased by 7% from \$1.9 billion for the year ended December 31, 2016, to \$1.8 billion for the year ended December 31, 2017. Adjusted gross margin (a non-GAAP financial measure) decreased by 3%, from \$4.5 billion for the year ended December 31, 2016, to \$4.4 billion for the year ended December 31, 2017. The decrease in the non-GAAP adjusted EBITDA and non-GAAP adjusted gross margin is primarily due to a decrease in electricity revenue and related regulatory activities, partially offset by higher average rates at Networks, unfavorable prices and higher energy and transmission purchases at Renewables and unfavorable MtM changes on derivatives along with unfavorable results from the performance in the owned and contracted storage businesses at Gas. For additional information and reconciliation of the non-GAAP adjusted EBITDA to net income and the non-GAAP adjusted gross margin to net income, see “—Non-GAAP Financial Measures”.

See “—Results of Operations” for further analysis of our operating results for the year.

Our financial condition and financing capability will be dependent on many factors, including the level of income and cash flow of its subsidiaries, conditions in the bank and capital markets, economic conditions, interest rates and legislative and regulatory developments.

Networks

Electric Transmission and Distribution and Natural Gas Distribution

The operating subsidiaries of Networks are regulated electric distribution and transmission and natural gas transportation and distribution utilities whose structure and operations are significantly affected by legislation and regulation. The FERC regulates, under the FPA, the interstate transmission and wholesale sale of electricity by these regulated utilities, including transmission rates and allowed ROE on transmission assets. Further, the distribution rates and allowed ROEs for Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the NYPSC, the MPUC, PURA and DPU, respectively. Legislation and regulatory decisions implementing legislation establish a framework for Networks' operations. Other factors affecting Networks' financial results are operational matters, such as the ability to manage expenses, uncollectibles and capital expenditures, in addition to major weather disturbances and environmental regulation. Networks expects to continue to make significant capital investments in its distribution and transmission infrastructure.

Pursuant to Maine law, CMP earns revenue for the delivery of energy to its retail customers, but is prohibited from selling power to them. CMP generally does not enter into purchase or sales arrangements for power with ISO-NE, the New England power pool, or any other ISO or similar entity. CMP generally sells all of its power entitlements under its nonutility generator and other PPAs to unrelated third parties under bilateral contracts. If the MPUC does not approve the terms of bilateral contracts, it can direct CMP to sell power entitlements that it receives from those contracts on the spot market through ISO-NE. NYSEG and RG&E enter into power purchase and sales transactions with the NYISO to have adequate supplies for their customers who choose to purchase energy directly from them. Customers may also choose to purchase energy from other energy supply companies.

Under Connecticut law, UI's retail electricity customers are able to choose their electricity supplier while UI remains their electric distribution company. UI purchases power for those of its customers under standard service rates who do not choose a retail electric supplier and have a maximum demand of less than 500 kilowatts and its customers under supplier of last resort service for those who are not eligible for standard service and who do not choose to purchase electric generation service from a retail electric supplier. The cost of the power is a "pass-through" to those customers through the generation services charge on their bills.

UI has wholesale power supply agreements in place for its entire standard service load for the first half of 2018, 70% of its standard service load for the second half of 2018, and 20% of its standard service load for the first half of 2019. Supplier of last resort service is procured on a quarterly basis, however, from time to time there are no bidders in the procurement process for supplier of last resort service and in such cases UI manages the load directly.

For additional information regarding Networks, including a comprehensive overview of our regulated businesses, please see the section entitled, "Business—Networks" in Part I, Item 1 in this report.

Revenues

Networks utilizes regulatory deferrals to evaluate its financial condition and operating performance by reconciling differences between actual revenue received or cost incurred with the rate allowances provided under the tariffs set by the state utilities commissions and FERC. Regulatory deferrals create regulatory assets and liabilities under FERC, consistent with U.S. GAAP financial accounting standards. Regulatory deferrals in New York include electric and gas supply costs, PPAs, net plant reconciliations (downward only), revenue decoupling, system benefit charges, renewable portfolio standards, energy efficiency portfolio standards, economic development programs, low income programs, pension costs, other post-employment benefits costs, environmental remediation costs, major storm costs, distribution vegetation management costs (downward only), research and development, incremental maintenance initiatives (downward only), property taxes, REV initiatives, Nuclear Electric Insurance Limited, or NEIL, credits, credit and debit card fees, exogenous costs and certain legislative, accounting, regulatory and tax related actions. Regulatory deferrals in Maine include stranded costs, revenue decoupling, power tax regulatory asset, environmental remediation, storm reserve accounting, electric thermal storage pilot costs, standard offer retainage costs, AMI opt-out program costs, AMI deferral costs, AMI legal / health proceeding costs, conservation program costs, demand side management costs, low income program costs, electric lifeline program costs, make-ready line extension costs, electric vehicle pilot program costs and transmission planning and related cost allocation.

Regulatory deferrals in Connecticut include electric and gas supply costs, PPAs, revenue decoupling, system benefit charges, certain hardship bad debt expense, transmission revenue requirements, gas distribution integrity management program costs, gas system expansion costs, certain public policy costs, certain environmental remediation costs, major storm costs, and certain legislative, accounting, regulatory and tax related actions.

Regulatory deferrals in Massachusetts include gas supply costs, gas supply-related bad debt costs, environmental remediation costs, arrearage management program costs, gas system enhancement program costs, energy efficiency program costs and certain other public policy costs.

NYSEG's and RG&E's electric and natural gas rate plans and CMP's and UI's electric rates and CNG's gas rates, each contain a RDM under which their actual energy delivery revenues are compared on a periodic basis with the authorized delivery revenues and the difference accrued, with interest, for refund to or recovery from customers, as applicable. Effective January 1, 2018, SCG has implemented a revenue decoupling mechanism pursuant to the PURA approved amended settlement agreement dated June 30, 2017.

NYSEG, RG&E and UI are energy delivery companies and also provide energy supply as providers of last resort. Energy costs that are set on the wholesale markets are passed on to consumers. The difference between actual energy costs that are incurred and those that are initially billed are reconciled in a process that results in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional, such as the effects of extreme weather conditions, environmental factors, regulatory and accounting changes, and treatment of vulnerable customers, that are offset in the tariff process.

Pursuant to agreements with, or decisions of the NYPSC and the MPUC, Networks' Maine and New York regulated utilities are each subject to a minimum equity ratio requirement that is tied to the capital structure assumed in establishing revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. The minimum equity ratio requirement has the effect of limiting the amount of dividends that can be paid if the minimum equity ratio is not maintained and can, under certain circumstances, require that AVANGRID contribute equity capital. For CMP and MNG, equity distributions that would result in equity falling below the minimum level are prohibited. For NYSEG and RG&E, equity distributions that would result in a 13-month average common equity less than maximum equity ratio, utilized for the earnings sharing mechanism, are prohibited if the credit rating of NYSEG, RG&E, AVANGRID or Iberdrola are downgraded by a nationally recognized rating agency to the lowest investment grade with a negative watch or downgraded to noninvestment grade. UI, SCG, CNG and BGC may not pay dividends if paying such dividend would result in a common equity ratio lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. In addition, UI, SCG, CNG and BGC are prohibited from paying dividend to their parent if the utility's credit rating as rated by any of the three major credit rating agencies, falls below investment grade, or if the utility's credit rating, as determined by two of the three major credit rating agencies falls to the lowest investment grade and there is a negative watch or review downgrade notice. We believe that these minimum equity ratio requirements do not present any material risk with respect to our performance, cash flow or ability to pay quarterly dividends. In the ordinary course, Networks utilities manage their capital structures to allow the maximum level of returns consistent with the levels of equity authorized to set rates, and accordingly, compliance with these requirements does not alter ordinary equity level management. Additionally, the lower monthly minimum equity ratio requirement (a cushion of 300 basis points) provides flexibility to have short-term fluctuations that result in temporary shortfalls of the maximum equity ratio in any given month. The regulated utility subsidiaries are also prohibited by regulation from lending to unregulated affiliates.

Rates

On June 30, 2017, SCG filed an application with PURA for new tariffs to become effective January 1, 2018. SCG requested a three-year rate plan for calendar years 2018, 2019 and 2020 and a proposed ROE of 9.95%. SCG also requested to implement a RDM and Distribution Integrity Management Program, or DIMP, mechanism similar to the mechanisms authorized for CNG. On October 16, 2017, SCG, Prosecutorial Staff from PURA, and the Connecticut Office of Consumer Counsel, or OCC, filed an amended settlement agreement with PURA for approval, which includes among other items the implementation of an RDM, ESM and the DIMP as proposed by SCG, the amortization of certain regulatory liabilities (most notably accumulated hardship deferral balances and certain accumulated deferred income taxes) and tariff increases based on an ROE of 9.25% and approximately 52% equity level. The parties also agreed on a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019, and 2020, respectively. PURA approved the amended rate case settlement agreement on December 13, 2017, and new tariffs became effective on January 1, 2018.

In December 2016, PURA approved distribution rate schedules for UI for three years that became effective January 1, 2017, and which, among other things, provides for annual tariff increases and an ROE of 9.10% based on a 50% equity ratio, continued UI's existing ESM pursuant to which UI and its customers share on a 50/50 basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism, and approved the continuation of the requested storm reserve. Any dollars due to customers from the ESM continue to be first applied against any storm regulatory asset balance (if one exists at that time) or refunded to customers through a bill credit if such storm regulatory asset balance does not exist.

On May 20, 2015, NYSEG and RG&E initiated a distribution rate case to ensure that the companies are able to continue to provide safe, adequate and reliable service, continue to make investments to modernize infrastructure, enhance low income programs and improve both gas and electric reliability, while maintaining their financial integrity. On February 19, 2016, the NYSEG, RG&E and other signatory parties filed a Joint Proposal, with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016, which was approved on June 15, 2016 by the NYPSC. The Joint Proposal balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The proposal reflects many customer attributes including acceleration of the companies' natural gas leak prone main replacement programs and increased electric vegetation management to provide continued safe and reliable service. The delivery rate increase in the proposal can be summarized as follows:

Utility	May 1, 2016		May 1, 2017		May 1, 2018	
	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %
NYSEG Electric	\$ 29.6	4.10%	\$ 29.9	4.10%	\$ 30.3	4.10%
NYSEG Gas	13.1	7.30%	13.9	7.30%	14.8	7.30%
RG&E Electric	3.0	0.70%	21.6	5.00%	25.9	5.70%
RG&E Gas	8.8	5.20%	7.7	4.40%	9.5	5.20%

The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%; however, the actual equity ratio of up to 50% is used for earnings sharing calculation purposes. The customer share of any earnings above allowed levels increases as ROE increases, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% ROE, respectively, in the first rate year covering the period May 1, 2016 – April 30, 2017. The earnings sharing levels increase in rate year two (May 1, 2017 – April 30, 2018) to 9.65%, 10.15% and 10.65% ROE, respectively. The earnings sharing levels further increase in rate year three (May 1, 2018 – April 30, 2019) to 9.75%, 10.25% and 10.75% ROE, respectively. The Joint Proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million will be amortized over ten years and the remaining \$139 million will be amortized over five years. The Joint Proposal also continues reserve accounting for qualifying Major Storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided they meet certain thresholds.

On August 25, 2014, the MPUC approved a stipulation agreement for a CMP rate change which provided for a distribution rate increase of approximately \$24.3 million effective July 1, 2014 with an allowed ROE of 9.45% and an allowed equity ratio of 50%. On December 22, 2009, MPUC approved a stipulation which provided for a rate increase to MNG's base distribution rates for a three year period, with a 12% increase effective January 1, 2010, a 10% increase effective December 1, 2010 and another 10% increase effective December 1, 2011. The stipulation provided for the implementation of a revenue decoupling mechanism, reserve accounting and sharing of incremental storm costs, a separate proceeding for recovery of a new billing system and no earning sharing.

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service. On May 3, 2016, all active parties to the case filed a stipulation which settled all matters at issue in the case and reflected a 10-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a ten-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge which increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation. The reserve of \$6 million for this case was reversed in May 2016.

On January 22, 2014, PURA approved base delivery rates for CNG, with an effective date of January 10, 2014, which, among other things, approved an allowed ROE of 9.18%, a decoupling mechanism, two separate ratemaking mechanisms that reconcile actual revenue requirements related to CNG's cast iron and bare steel replacement program and system expansion and an earnings sharing mechanism by which CNG and customers share on a 50/50 basis all earnings above the allowed ROE in a calendar year. In accordance with the approval by PURA of the acquisition, SCG and CNG agreed not to file a rate case for new rates effective before January 1, 2018.

BGC's rates are established by the DPU. BGC's ten-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan. In accordance with the approval by the DPU of the acquisition, BGC agreed not to file a rate case for new rates effective before June 1, 2018.

CMP's and UI's electric transmission rates are determined by a tariff regulated by the FERC and administered by ISO-NE. Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, including return of and on investment in assets. The FERC currently provides an initial base ROE of 10.57% and additional incentive adders applicable to assets based upon vintage, voltage, and other factors.

In September 2011, several New England governmental entities, including PURA, the Connecticut Attorney General and the OCC, filed a joint complaint with the FERC against ISO-NE and several New England Transmission Owners, or NETOs, (including CMP and UI) claiming that the current approved base ROE used in calculating formula rates for transmission service under the ISO-NE Open Access Transmission Tariff by the NETOs of 11.14% was not just and reasonable and seeking a reduction of the base ROE with refunds to customers for the refund period of October 1, 2011 through December 31, 2012, or the refund period. The FERC issued an order in 2014 to reset the base ROE at 10.57% and capped the incentive rate at 11.74% for applicable projects for the refund period. Two additional complaints have also been filed for subsequent periods. The complaints have been consolidated and the administrative law judge issued an initial decision on March 22, 2016. The initial decision determined that, (1) for the fifteen month refund period in the second complaint, the base ROE should be 9.59% and that the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and (2) for the fifteen month refund period in the third complaint and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The initial decision in the second and third complaints is the administrative law judge's recommendation to the FERC Commissioners. The FERC is expected to make its final decision in 2018.

In June 2015 the NETOs and complainants both filed an appeal in the U.S. Court of Appeals for the District of Columbia of the FERC's final order. On April 14, 2017, the Court of Appeals (the Court) vacated FERC's decision on Complaint I and remanded it to FERC. The Court held that FERC, as directed by statute, did not determine first that the existing ROE was unjust and unreasonable before determining a new ROE. The Court ruled that FERC should have first determined that the then existing 11.14% base ROE was unjust and unreasonable before selecting the 10.57% as the new base ROE. The Court also found that FERC did not provide reasoned judgment as to why 10.57%, the point ROE at the midpoint of the upper end of the zone of reasonableness, is a just and reasonable ROE. Instead, FERC had only explained in its order that the midpoint of 9.39% was not just and reasonable and a higher base ROE was warranted. On June 5, 2017, the NETOs made a filing with FERC seeking to reinstate transmission rates to the status quo ante (effect of the Court vacating order is to return the parties to the rates in effect prior to FERC Final decision) as of June 8, 2017, the date the Court decision became effective. In that filing, the NETOs stated that they will not begin billing at the higher rates until 60 days after FERC has a quorum of commissioners. On October 6, 2017, FERC issued an order rejecting the NETOs request to collect transmission revenue requirements at the higher ROE of 11.14%, pending FERC order on remand. In reaching this decision, FERC stated that it has broad remedial authority to make whatever ROE it eventually determines to be just and reasonable effective for the Complaint I refund period and prospectively from October 2014, the effective date of the Complaint I Order. Therefore the NETOs will not be harmed financially by not immediately returning to their pre-Complaint I ROE. We anticipate FERC to address the Court decision during 2018.

On April 29, 2016, a fourth ROE complaint (Complaint IV) was filed for a rate period subsequent to prior complaints requesting the then existing base ROE of 10.57% be reduced to 8.61% and the ROE Cap be set at 11.24%. The NETOs filed a response to the Complaint IV on June 3, 2016. On September 20, 2016, FERC accepted the Complaint IV, established a 15-month refund effective date of April 29, 2016, and set the matter for hearing and settlement judge procedures. On February 1, 2017, the complainants filed their initial testimony recommending a base ROE of 8.59%. On March 23, 2017, the NETOs filed their answering testimony supporting the continuation of the base ROE from Complaint I of 10.57%. In April 2017, the NETOs filed for a stay in the hearings pending FERC on the Court order described above. That request was denied by the Administrative Law Judge. On November 21, 2017, the parties submitted updates to their return on equity analyses and recommendations just prior to hearings with the NETOs continuing to advocate that the existing base ROE of 10.57% should remain in effect. Hearings were held in December 2017 with an expected Initial Decision from the Administrative Law Judge by March 31, 2018. A range of possible outcomes is not able to be determined at this time due to the preliminary state of this matter. We cannot predict the outcome of the fourth complaint proceeding.

On October 5, 2017, the NETOs filed a Motion for Dismissal of Pancaked Return on Equity Complaints in light of the decision by the Court in April 2017 that became effective on June 8, 2017. The NETOs assert that all four complaints should be dismissed because the complainants have not shown that the existing ROE of 11.14% is unjust and unreasonable as the Court decision requires. In addition, the NETOs assert that Complaints II, III and IV should also be dismissed because the Court decision implicitly found that FERC's acceptance of Pancaked FPA Section 206 complaints was statutorily improper as Congress intended that the 15-month refund period under Section 206 applies whenever FERC does not complete its review of a complaint within the 15-month period. In the event FERC chooses not to dismiss the complaints, the NETOs request that FERC consolidate the complaints for decision as the

evidentiary records are either closed or advanced enough for FERC to address the requirements of the Court decision and expeditiously issue a final order. We cannot predict the outcome of action by FERC.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC found that the ISO-NE Transmission, Markets, and Services Tariff is unjust, unreasonable, and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE participating transmission owners, including UI and CMP. The FERC also found that the current Regional network service, or RNS, and Local Network Service, or LNS, formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates. We cannot predict the outcome of this proceeding.

Merger Settlement Agreement – Connecticut and Massachusetts

As part of the process of seeking and obtaining regulatory approval of the acquisition in Connecticut and Massachusetts, AVANGRID and UIL reached settlement agreements with the OCC in Connecticut and with the Attorney General of the Commonwealth of Massachusetts and the Department of Energy Resources in Massachusetts, which settlement agreements included commitments of actions to be taken after the transaction closed.

As a result, the following commitments were made in Connecticut:

- A one-time, \$20 million rate credit to customers in 2016, allocated among UI, SCG and CNG customers based on the total number of retail customers.
- Additional rate credits of \$1.25 million/year for ten years (2018-2027) to CNG customers.
- Additional rate credits of \$0.75 million/year for ten years (2018-2027) to SCG customers.
- \$1.6 million in savings to SCG customers, associated with SCG making additional infrastructure capital investments over a three-year period without seeking recovery until the next SCG rate case.
- Agreement not to seek to increase UI distribution base rates effective before January 1, 2017, and agreement not to seek to increase CNG and SCG distribution base rates effective before January 1, 2018.
- Contribution of \$2 million/year for three years to the DEEP, to stimulate investment in energy efficiency and clean energy technologies.
- \$5 million in benefits to customers resulting from UI recovering only the debt rate rather than the equity return for two years, on an increased \$50 million of investment in storm resiliency programs.
- Contribution of \$1 million for disaster relief entities.
- Maintaining charitable contribution at historical contribution levels (between \$500,000 and \$800,000) for at least four years.
- Upon the resolution of all appeals of the PURA decision approving the acquisition, UI will withdraw its appeals of two PURA dockets relating to PURA's disallowance of certain reconciliation amounts. The appeals were withdrawn by UI in June 2016.

In connection with the acquisition proceeding, UI signed the partial consent order related to the investigation and remediation of the English Station site. To the extent that the investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such costs and \$30 million, to be applied to a public purpose as determined at the discretion of the Governor the Attorney General of Connecticut and the Commissioner of DEEP. However, UI is obligated to comply with the consent order even if the cost of such compliance exceeds \$30 million. The state may discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding.

The following commitments were made in Massachusetts:

- Customers of BGC will receive a total of \$4.0 million in rate credits, to be spread over the months of November through April 2016-2017 and November through April 2017-2018.
- BGC will contribute \$1 million to alternative heating programs.
- BGC will not seek to increase distribution base rates effective before June 1, 2018.

As a result of the merger settlement agreement we have recorded \$44 million as regulatory liabilities relating to the rate credits and an additional \$19.8 million as liabilities in 2015.

New England Clean Energy Connect

On February 14, 2018, the New England Clean Energy Connect, or NECEC, transmission project, proposed in a joint bid by CMP and Hydro-Québec, was selected by the Massachusetts electric utilities and the Massachusetts Department of Energy Resources in the Commonwealth of Massachusetts's 83D clean energy Request for Proposal, or RFP, to move forward as the alternative if the Northern Pass Transmission project fails to win approval from the New Hampshire Site Evaluation Committee by March 27, 2018. The proposed NECEC transmission project includes a 145-mile transmission line linking the electrical grids in Québec, Canada and New England. The project, which has an estimated cost of approximately \$950 million, would add 1,200 megawatts of transmission capacity to supply New England with power from reliable hydroelectric generation.

New England Clean Energy Request for Proposals

On May 25, 2017, UI entered into six 20-year PPAs, totaling approximately 32 MW with developers of wind and solar generation. These PPAs originated from a three-state Clean Energy RFP, and were entered into pursuant Connecticut law Public Act (PA) 13-303 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 13, 2017. UI has begun purchasing energy from Woods Hill Solar, LLC for UI's 2 MW share of the Woods Hill solar project.

On June 20, 2017, UI entered into twenty-two 20-year PPAs totaling approximately 72 MW with developers of wind and solar generation. These PPAs originated from DEEP's PA 15-107 1(b) RFP, and were entered into pursuant to PA 15-107, Section 1(b) PA 15-107 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 7, 2017. One contract was terminated on October 24, 2017, resulting in UI having twenty-one remaining contracts from this solicitation totaling approximately 70 MW.

Reforming the Energy Vision

In April 2014, the NYPSC instituted its REV proceeding, the goals of which are to improve electric system efficiency and reliability, encourage renewable energy resources, support DER, and empower customer choice. In this proceeding, the NYPSC is examining the establishment of a DSP, to manage and coordinate DER, and provide customers with market data and tools to manage their energy use. The NYPSC is also examining how its regulatory practices should be modified to incentivize utility practices to promote REV objectives. REV has been divided into two tracks, Track 1 for market design and technology, and Track 2 for regulatory reform. REV proposes regulatory changes that are intended to promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar, and wider deployment of DER, such as micro grids, on-site power supplies and storage. The NYPSC order on Track 1 affirmed that utilities would serve as the DSP and required utilities to file implementation plans before the end of 2015. Track 2 is undertaken in parallel with the Track 1, and examines changes in current regulatory, tariff, and market designs, and incentive structures to better align utility interests with achieving NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for earnings adjustment mechanisms, or EAMs, platform service revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of system efficiency, energy efficiency, interconnections, and clean air. A collaborative process to review the companies' petition is ongoing.

All electric utilities were ordered to file an initial Distributed System Implementation Plan, or DSIP, by June 30, 2016. An initial DSIP was filed by NYSEG and RG&E and included information regarding the potential deployment of Automated Metering Infrastructure, or AMI. A separate petition for the cost recovery associated with full deployment of AMI was filed by NYSEG and RG&E in December 2016. In March, 2017, the NYPSC issued three separate REV-related orders. These orders created a series of filing requirements for NYSEG and RG&E beginning in March 2017 and extending through the end of 2018. The three orders involve: 1) modifications to the electric utilities' proposed interconnection earnings adjustment mechanism framework; 2) further DSIP requirements, including filing of an updated DSIP plan by mid-2018 and implementing two energy storage projects at each company by the end of 2018; and 3) Net Energy Metering Transition including implementation of Phase One of the Value of DER. In

September 2017, the NYPSC issued another order related to the Value of DER, requiring tariff filings, changes to Standard Interconnection Requirements, and planning for the implementation of automated consolidated billing.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm

On March 11, 2017, the New York State Department of Public Service, or the Department, commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 customers. The Department investigation included a comprehensive review of NYSEG's and RG&E's preparation for and response to the windstorm, including all aspects of the companies' filed and approved emergency plan. The Department held public hearings on April 12 and 13, 2017.

On November 16, 2017, the NYPSC announced that the Department Staff had completed their investigation into the March 2017 Windstorm and the NYPSC issued an Order Instituting Proceeding and to Show Cause. The Staff's investigation found that RG&E and NYSEG violated certain parts of their emergency response plans, which makes them subject to possible financial penalties. NYSEG and RG&E responded to the order in a timely manner and have entered into settlement discussions with the Department Staff. The unprecedented weather that resulted in the March 2017 windstorm posed great challenges to the NYSEG's and RG&E's communities, employees, contractors, assisting utilities, and municipal partners who all worked tirelessly to safely restore power to all customers. NYSEG's and RG&E's priorities during any storm are the restoration of service to their respective customers and the safety of their communities, customers, employees and contractors. We cannot predict the outcome of this regulatory action.

Ginna Reliability Support Service Agreement

Ginna Nuclear Power Plant, LLC, or GNPP, which is a subsidiary of Constellation Energy Nuclear Group, LLC, or CENG, owns and operates the R.E. Ginna Nuclear Power Plant, or Ginna Facility, and together with GNPP, Ginna, a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, NYISO produced a reliability study, confirming that the Ginna Facility needs to remain in operation to avoid bulk transmission and non-bulk local distribution system reliability violations in 2015 and 2018. In July 2014, GNPP filed a petition requesting that the NYPSC initiate a proceeding to examine a proposal for the continued operation of the Ginna Facility.

In November 2014, the NYPSC ruled that GNPP had demonstrated that the Ginna Facility is required to maintain system reliability and that its actions with respect to meeting the relevant retirement notice requirements were satisfactory. The NYPSC also accepted the findings of the 2014 reliability study and stated that it established "the reliability need for continued operation of the Ginna Facility that is the essential prerequisite to negotiating a Reliability Support Service Agreement, or RSSA." As such, the NYPSC ordered RG&E and GNPP to negotiate an RSSA.

On February 13, 2015, RG&E submitted to the NYPSC an executed RSSA between RG&E and GNPP. RG&E requested that the NYPSC accept the RSSA and approve cost recovery by RG&E from its customers of all amounts payable to GNPP under the RSSA utilizing the cost recovery surcharge mechanism.

On October 21, 2015, RG&E, GNPP, New York Department of Public Service, Utility Intervention Unit and Multiple Intervenors filed a joint proposal with the NYPSC for approval of the RSSA, as modified. On February 23, 2016, the NYPSC unanimously adopted the joint proposal, which provides for a term of the RSSA from April 1, 2015, through March 31, 2017 and RG&E monthly payments to Ginna in the amount of \$15.4 million. In addition, RG&E is entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna is entitled to 30% of such revenues. The NYPSC also authorized RG&E to implement a rate surcharge effective January 1, 2016, to recover amounts paid to Ginna pursuant to the RSSA. The FERC issued an order authorizing the FERC settlement agreement in the Settlement Docket on March 1, 2016 at which point the rate surcharge went into effect. RG&E used deferred rate credit amounts (regulatory liabilities) to offset the full amount of the deferred collection amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed \$2.3 million per month, not to exceed a total use of credits in the amount of \$110 million, applicable through June 30, 2017. The available credits were insufficient to satisfy the final payment amount from RG&E to Ginna, and consistent with the agreement with the NYPSC, the RSSA surcharge continues past March 31, 2017, to recover up to \$2.3 million per month until the final payment amount has been recovered by RG&E from customers.

New York TransCo

Networks holds an approximate 20% ownership interest in New York TransCo, LLC. New York TransCo was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. In December 2014, New York TransCo filed for regulatory approval of its rates, terms, and conditions with the FERC. The filing requests a formula base ROE of 10.6%, 150 basis points ROE incentives, construction work in progress, a formula rate mechanism, and a proposed cost allocation.

Various parties, including the NYPSC, have protested the filing with the FERC, including the base ROE, the ROE incentives, and the cost allocation. New York TransCo will not make final decisions on transmission project development until the FERC decision.

On April 2, 2015, the FERC issued an order granting, inter alia, New York TransCo's owners' request for a 50 basis point adder for New York TransCo's membership in the NYISO RTO, subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected New York TransCo's owners' cost allocation method for the transmission owner transmission solutions, or TOTS, projects because it would allocate costs to Power Supply Long Island and New York Power Authority that they did not voluntarily agree to pay.

On November 5, 2015, New York TransCo's owners filed the settlement with the FERC to resolve all outstanding issues associated with the TOTS projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed TOTS projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the NYISO Open Access Transmission Tariff, or OATT, for the TOTS projects. On March 17, 2016, the FERC approved the settlement.

On August 21, 2017, New York TransCo filed a settlement with the FERC to resolve all outstanding issues associated with the alternate current transmission project, or AC Project, for which selection of the developer remains pending with NYISO. The issues contained in the settlement include those related to the AC Project that were set for hearing and issues pending on rehearing. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the AC Project, including the base ROE of 9.65%, and a 100-basis point ROE adder, an equity ratio in the capital structure of up to 53%, risk sharing for project cost overruns, and the cost allocation under the NYISO OATT for the AC Project. On November 16, 2017, the FERC approved the settlement.

Weather Impact

The demand for electric power and natural gas is affected by seasonal differences in the weather. Statewide demand for electricity in New York, Connecticut and Maine tends to increase during the summer months to meet cooling load or in winter months for heating load while statewide demand for natural gas tends to increase during the winter to meet heating load. Market prices for both electricity and natural gas reflect the demand for these products and their availability at that time. Overall operating results of Networks do not fluctuate due to commodity costs as the regulated utilities generally recover those costs coincident with their expense or defer any differences for future recovery. Networks has historically sold less power when weather conditions are milder and may also be affected by severe weather, such as ice and snow storms, hurricanes and other natural disasters which may result in additional cost or loss of revenues that may not be recoverable from customers. However, Networks' regulated utilities, other than MNG, SCG and BGC, have approved revenue decoupling mechanisms, or RDMs, as part of the NYPSC, PURA and MPUC rate plans in place for the period ended December 31, 2017. Effective January 1, 2018 new tariffs became effective for SCG, which include an approved RDM. The RDM allows the regulated utilities to defer for future recovery and shortfall from projected revenues whether due to weather, economic conditions, conservation or other factors.

New Renewable Source Generation

Under Connecticut law Public Act 11-80, or PA 11-80, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over an approximate 21-year period. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, through which UI has developed 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for CL&P, (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the program. The cost of this project, a 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, all of which are now operational, was \$41.5 million.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15 year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provides that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or RECs, from qualifying resources. The MPUC is further authorized to order Maine transmission and distribution utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, or Evergreen Power, on March 31, 2010, to purchase capacity and energy from Evergreen Power's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Pursuant to Maine law 35-A M.R.S.A §3604, the MPUC is authorized to direct Maine transmission and distribution utilities to enter into long-term contracts to purchase capacity, energy and renewable energy credits from up to 50 MW of qualifying community-based renewable energy facilities. In accordance with §3604, on October 22, 2016, CMP commenced purchases from Athens Energy LLC for a contract term of three years. CMP purchase obligations under the Athens contract are approximately \$6 million per year. Under the provisions of §3604 and MPUC implementing orders, CMP will periodically auction the purchased products from Athens for resale to wholesale market purchasers and recover any differences between power purchase costs and resale revenues through a reconcilable component of its retail distribution rates. Although the MPUC has certified several additional community-based renewable energy generation projects under §3604 and authorized similar PPAs between these sellers and CMP, no additional facilities have advanced to operational status.

Renewables

Renewable Energy Incentives

Renewables relies, in part, upon government policies that support utility-scale renewable energy and enhance the economic feasibility of development and operating wind energy projects in regions in which Renewables operates or plans to develop and operate renewable energy facilities. In support of this, on December 18, 2015, Congress passed and President Obama signed into law the Consolidated Appropriations Act, Public Law 114-113. This law extends the qualifying dates for the production tax credit available to wind energy generating facilities (Internal Revenue Code Section 45) and the investment tax credit available to commercial solar generating facilities (Internal Revenue Code Section 48). The law also extends an option for wind generation facilities to elect to receive an investment tax credit in lieu of the production tax credit. In general, both provisions allow new wind and solar facilities to qualify for the respective credits at full value over the next several years, with reductions in the value of the authorized tax credits for facilities phased in during subsequent periods. Production tax credits were reduced to 80% for facilities commenced construction in 2017, will be reduced to 60% for facilities commencing construction in 2018, and reduced to 40% for facilities commencing construction in 2019. Investment tax credits will be 30% for projects commencing construction through 2019, then reduce to 26%, 22% and 10% for projects commencing construction in 2020, 2021 and 2022, respectively. The Internal Revenue Service, or IRS, updated its guidance related to which projects will qualify for the production tax credits, including criteria for the beginning of construction for a project and the continuous program of construction or the continuous efforts to advance the project to completion. Multi-year extension of these credits provides opportunities for Renewables to develop, construct, and market new renewable generating facilities and partially repower existing renewable generating facilities in several U.S. markets.

Additionally, the federal government and many states and local jurisdictions have policies or other mechanisms, such as tax incentives or RPS that support the sale of energy from utility-scale renewable energy facilities, such as wind and solar energy facilities. As a result of budgetary constraints, political factors or otherwise, U.S., state or local governments from time to time may review their policies and other mechanisms that support renewable energy and consider actions that would make them less conducive to the development and operation of renewable energy facilities. Any reductions to, or the elimination of, governmental policies or other mechanisms that support renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in, among other items, the lack of a satisfactory market for the development of new renewable energy projects, Renewables abandoning the development of new renewable energy projects, a loss of Renewables' investments in the projects and reduced project returns, any of which could have a material adverse effect on Renewables' business, financial condition, results of operations and prospects.

Renewable Energy Demand

Since the transmission and distribution of electricity is highly concentrated in most jurisdictions, there are a limited number of possible purchasers for utility-scale quantities of electricity in a given geographic location, including transmission grid operators, state and investor-owned power companies, public utility districts, cooperatives, and large commercial and industrial customers. As a result, there is a concentrated pool of potential buyers for electricity generated by Renewables' business, which may restrict their ability to negotiate favorable terms under new PPAs, and could impact their ability to find new customers for the electricity generated by their generation facilities should this become necessary. Furthermore, if the financial condition of these utilities and/or power purchasers deteriorated or the RPS programs, climate change programs or other regulations to which they are currently subject and that compel them to source renewable energy supplies change, demand for electricity produced by Renewables' businesses could be negatively impacted.

Energy Prices

Renewables has exposure to commodity price movements through its "natural" long positions in electricity from its generation. Renewables manages the exposure to risks of commodity price movements through internal risk management policies, enforcement of established risk limits and risk management procedures.

A portion of Renewables' fuel and energy output arrangements qualify as derivative contracts. Such derivative contracts are carried at fair value, with changes in fair value recognized to earnings as the changes occur. In 2015, Renewables began designating certain qualifying derivatives contracts as hedges. These hedge designations result in deferral of changes in fair value, to the extent the hedge is effective, to accumulated other comprehensive income until the contract settles, at which point the deferred amount is recognized to earnings.

Wind Conditions

If wind conditions are unfavorable, or if Renewables' wind turbines are not available for operation, Renewables electricity generation and related revenue may be substantially below our expectations. Renewables' wind projects are sited, developed and operated to maximize wind performance. Prior to siting a wind facility, detailed studies are conducted to measure the wind resource in order to estimate future production. However, wind patterns or wind resource in the future might deviate from historical patterns. These events could also degrade equipment or components and the interconnection and transmission facilities' lives or maintenance costs. Historically, Renewables wind production is greater in the first, second and fourth quarters.

Wind Turbine Supply

Replacement and spare parts for wind turbines and key pieces of electrical equipment may be difficult or costly to acquire or may be unavailable. Although Renewables has expanded and diversified its supplier base, the loss of any of these suppliers or service providers or inability to find replacement suppliers or service providers or to purchase turbines at rates currently offered by Renewables' existing suppliers or a change in the terms of Renewables' supply or operations and maintenance agreements, such as increased prices for maintenance services or for spare parts, could have a material adverse effect on Renewables' ability to construct and maintain wind farms or the profitability of wind farm development and operation.

Gas

Gas benefits from price volatility and temporal price spreads, which impacts the level of demand for services and the rates that can be charged for natural gas storage services. On a system-wide basis, natural gas is typically injected into storage between April and October when natural gas prices are generally lower and withdrawn during the winter months of November through March when natural gas prices are typically higher. Largely due to the abundant supply of natural gas made available by hydraulic fracturing techniques, natural gas prices have dropped significantly to levels that are near historic lows. If prices and volatility remain low or declines further, then the demand for natural gas storage services, and the prices that Gas will be able to charge for those services, may decline or be depressed for a prolonged period of time. Conversely, if prices and volatility remain high or increase then the demand for natural gas storage services and the prices that Gas will be able to charge for these services may increase for a period of time. In 2015 we began designating those derivatives contracts at Gas that qualify as hedges. This designation was made prospectively, and in accordance with all the requirements of hedge accounting.

Results of Operations

Immaterial Corrections to Prior Periods

The following table sets forth our segment operating revenues, expenses and net income for each of the periods indicated. During the year ended December 31, 2017, we identified immaterial corrections to prior periods related to our deferred income tax liabilities associated with our tax equity financing arrangements in our Renewables reportable segment. For further details, refer to Note 2 in our consolidated financial statements included in this Annual Report on Form 10-K. Accordingly, we have reflected the correction of these prior period amounts in the periods in which they originated.

Results of operations discussed herein are based on the revised financial results for the years ended December 31, 2016 and 2015.

	Year Ended December 31, 2017				
	Total	Networks	Renewables	Gas	Other(1)
	(in millions)				
Operating Revenues	\$ 5,963	\$ 4,961	\$ 1,047	\$ 15	\$ (60)
Operating Expenses					
Purchased power, natural gas and fuel used	1,338	1,153	225	—	(40)
Operations and maintenance	2,211	1,841	354	44	(28)
Impairment	642	—	—	642	—
Depreciation and amortization	824	474	325	25	—
Taxes other than income taxes	563	499	51	5	8
Total Operating Expenses	5,578	3,967	955	716	(60)
Operating Income (Loss)	385	994	92	(701)	—
Other Income (Expense)					
Other income (expense)	58	48	4	5	1
Earnings (losses) from equity method investments	(40)	15	(55)	—	—
Interest expense, net of capitalization	(280)	(244)	(28)	(24)	16
Income (Loss) Before Income Tax	123	813	13	(720)	17
Income tax (benefit) expense	(259)	316	(320)	(212)	(43)
Net Income (Loss)	382	497	333	(508)	60
Less: Net income attributable to noncontrolling interests	1	1	—	—	—
Net Income (loss) Attributable to Avangrid, Inc.	\$ 381	\$ 496	\$ 333	\$ (508)	\$ 60

	Year Ended December 31, 2016				
	Total	Networks	Renewables	Gas	Other(1)
	(in millions)				
Operating Revenues	\$ 6,018	\$ 5,030	\$ 1,015	\$ 32	\$ (59)
Operating Expenses					
Purchased power, natural gas and fuel used	1,286	1,174	152	—	(40)
Operations and maintenance	2,206	1,839	351	44	(28)
Impairment	—	—	—	—	—
Depreciation and amortization	804	466	313	25	—
Taxes other than income taxes	528	465	50	4	9
Total Operating Expenses	4,824	3,944	866	73	(59)
Operating Income (Loss)	1,194	1,086	149	(41)	—
Other Income (Expense)					
Other income (expense)	76	46	30	2	(2)
Earnings (losses) from equity method investments	7	15	(8)	—	—
Interest expense, net of capitalization	(268)	(252)	(50)	(25)	59
Income (Loss) Before Income Tax	1,009	895	121	(64)	57
Income tax expense (benefit)	377	415	7	(22)	(23)
Net Income (Loss)	632	480	114	(42)	80
Less: Net income attributable to noncontrolling interests	—	—	—	—	—
Net Income (loss) Attributable to Avangrid, Inc.	\$ 632	\$ 480	\$ 114	\$ (42)	\$ 80

	Year Ended December 31, 2015				
	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating Revenues	\$ 4,367	\$ 3,386	\$ 1,067	\$ (19)	\$ (67)
Operating Expenses					
Purchased power, natural gas and fuel used	972	821	202	1	(52)
Operations and maintenance	1,808	1,389	363	38	18
Impairment	12	—	12	—	—
Depreciation and amortization	695	328	344	23	—
Taxes other than income taxes	367	311	46	4	6
Total Operating Expenses	3,854	2,849	967	66	(28)
Operating Income (Loss)	513	537	100	(85)	(39)
Other Income (Expense)					
Other income (expense)	56	44	106	3	(97)
Earnings (losses) from equity method investments	—	1	(5)	—	4
Interest expense, net of capitalization	(267)	(227)	(54)	(31)	45
Income Before Income Tax	302	355	147	(113)	(87)
Income tax expense (benefit)	29	146	8	(44)	(81)
Net Income (Loss)	273	209	139	(69)	(6)
Less: Net income attributable to noncontrolling interests	—	—	—	—	—
Net Income (loss) Attributable to Avangrid, Inc.	\$ 273	\$ 209	\$ 139	\$ (69)	\$ (6)

(1) Other amounts represent corporate and company eliminations.

The following tables set forth our segment revenues and expenses by segment for each of the periods indicated and as a percentage of the total consolidated operating revenues and operating expenses, respectively:

Year Ended December 31, 2017

	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating revenues	\$ 5,963	\$ 4,961	\$ 1,047	\$ 15	\$ (60)
Operating revenues %		83%	18%	—	(1)%
Operating expenses	\$ 5,578	\$ 3,967	\$ 955	\$ 716	\$ (60)
Operating expenses %		71%	17%	13%	(1)%

Year Ended December 31, 2016

	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating revenues	\$ 6,018	\$ 5,030	\$ 1,015	\$ 32	\$ (59)
Operating revenues %		84%	17%	—	(1)%
Operating expenses	\$ 4,824	\$ 3,944	\$ 866	\$ 73	\$ (59)
Operating expenses %		82%	18%	1%	(1)%

Year Ended December 31, 2015

	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating revenues	\$ 4,367	\$ 3,386	\$ 1,067	\$ (19)	\$ (67)
Operating revenues %		78%	24%	—	(2)%
Operating expenses	\$ 3,854	\$ 2,849	\$ 967	\$ 66	\$ (28)
Operating expenses %		75%	25%	2%	(2)%

(1) Other amounts represent corporate and company eliminations.

Comparison of Period to Period Results of Operations

Our operating revenues decreased by 1%, from \$6,018 million for the year ended December 31, 2016, to \$5,963 million for the year ended December 31, 2017.

Our purchased power, natural gas and fuel used increased by 4%, from \$1,286 million for the year ended December 31, 2016, to \$1,338 million for the year ended December 31, 2017.

Our operations and maintenance increased by less than 1%, from \$2,206 million for the year ended December 31, 2016, to \$2,211 million for the year ended December 31, 2017.

Details of the period to period comparison are described below at the segment level.

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016

Networks

Operating revenues for the year ended December 31, 2017 decreased by \$69 million, or 1%, from \$5,030 million for the year ended December 31, 2016, to \$4,961 million. Electricity and gas revenues increased by \$113 million and \$83 million, respectively, due to primarily the impact of higher average rates in the year ended December 31, 2017 compared to the same period of 2016, from rate case activities in New York and Connecticut. Electricity revenue for the same period decreased by \$11 million due to lower volumes largely driven by decrease in cooling degree days, while gas revenues increased by \$49 million in the same period due to a migration in customers moving from retail access to full service and colder weather. Additionally, wholesale electricity revenue decreased by \$33 million for the year ended December 31, 2017 compared to the same period of 2016 due to a decrease in overall units sold caused by a decrease in cooling degree days. Revenue related regulatory activities decreased by \$269 million primarily due to an adjustment of \$126 million in 2016 and an adjustment of \$14 million in 2017, to unfunded future income tax to reflect the change from a flow through to normalization method, which were recorded as an increase to revenue, with an offsetting and equal increase to income tax expense in both periods, decreases in the energy supply reconciliation of \$35 million, amortization of regulatory deferrals from previous rate case of \$23 million that ended in 2016, decreases in recoveries on the Ginna RSSA of \$75 million, property and power tax deferral of \$17 million, stranded costs of \$22 million, revenue decoupling mechanism of \$11 million, \$16 million in transmission true-ups, offset by an increase in non by-passable charges of \$42 million.

Purchased power, natural gas and fuel used for the year ended December 31, 2017 decreased by \$21 million, or 2%, from \$1,174 million for the year ended December 31, 2016, to \$1,153 million. The decrease is primarily driven by \$50 million decrease in purchases from contracts that expired in December 2016 and \$59 million decreases in overall units of electricity procured due to a reduction in cooling degree days, offset by \$78 million increase in average gas prices and overall units of gas procured combined with \$11 million increase in gas transportation related activity driven by a higher demand in the period.

Operations and maintenance during the year ended December 31, 2017 increased by \$2 million, from \$1,839 million for the year ended December 31, 2016, to \$1,841 million. The increase is primarily due to a \$36 million increase in purchases of renewable and zero-emission energy certificates related to a new program to adopt clean energy standards, increase in personnel costs of \$32 million driven largely by overtime associated with non-deferrable storm costs, increase of \$22 million in reserves for uncollectible accounts, and \$19 million in transmission and generation charges in the period, offset by a decrease of \$109 million in the Ginna RSSA driven by its completion.

Renewables

Operating revenues for the year ended December 31, 2017 increased by \$32 million, or 3% from \$1,015 million for the year ended December 31, 2016, to \$1,047 million. Revenues from wind and solar facilities increased by \$33 million due to increase in wind production with output increasing 353 GWh, or 2%, also driven by addition of a new capacity, and 1% increase in average prices. Additionally, favorable MtM changes of \$13 million on energy derivative transactions entered into for economic hedging purposes were offset by a decline in thermal revenue of \$2 million due to lower merchant prices and \$12 million in other revenues mainly due to sale of transmission rights that occurred in 2016.

Purchased power, natural gas and fuel used for the year ended December 31, 2017 increased by \$73 million, or 48%, from \$152 million for the year ended December 31, 2016, to \$225 million. Klamath power plant expense was \$15 million lower due to lower production and reduced fuel costs, MtM changes on derivatives were unfavorable \$48 million due to market price changes in the current period and transmission and energy purchases were higher by \$40 million mainly due to the addition of a new capacity during the period.

Operations and maintenance for the year ended December 31, 2017 increased by \$3 million or 1% from \$351 million for the year ended December 31, 2016, to \$354 million, primarily due to increase in salary costs of \$3 million driven by headcount increases, \$5 million additional costs from new windfarm assets, offset by \$4 million lower asset retirement related expenses, as a result of the extension of the windfarm useful life in combination with revisions to expense estimates.

Gas

Operating revenues for the year ended December 31, 2017 decreased by \$17 million, or 47%, from \$32 million for the year ended December 31, 2016, to \$15 million. The decrease in operating revenues was due to \$10 million of unfavorable results from the performance of the owned and contracted storage businesses, with both capturing lower spreads relative to previous year, \$3 million unfavorable results from transportation business driven by a loss recorded in the year ended December 31, 2017 due to the turn back of Iroquois transport capacity, \$10 million of unfavorable MtM change driven by a decrease in gas prices, offset by \$2 million favorable results from new transportation initiatives with Iberdrola Mexico and the remaining \$4 million relating to right of way revenue.

The gas business had no purchased power, natural gas and fuel used for the years ended December 31, 2017 and 2016. As a predominantly trading business, such expenses are required to be netted with revenues.

Operations and maintenance for the years ended December 31, 2017 and 2016 were \$44 million in both periods.

Depreciation, Amortization and Impairment

Depreciation, amortization and impairment expenses for the year ended December 31, 2017 increased by \$662 million or 82% from \$804 million for the year ended December 31, 2016, to \$1,466 million. The primary drivers were the loss of \$642 million from held for sale measurement in connection with the committed plan to sell the gas trading and storage businesses. Net plant additions in Networks increased depreciation expense by \$14 million, and updates to asset lives from the rate case activities decreased depreciation expense by \$9 million. Renewables added \$18 million to depreciation expense due to a new operating capacity, and had \$3 million favorable changes primarily due to assets lives increase driven by new contracts.

Other Income and (Expense) and Equity Earnings

Other income and (expense) and equity earnings for the year ended December 31, 2017 decreased by \$65 million, or 78%, from \$83 million for the year ended December 31, 2016, to \$18 million, primarily due to the impact of a \$31 million gain from the sale of the Iroquois equity investment during the year ended December 31, 2016, other than temporary impairment of \$49 million on a Renewables equity method investment, offset by \$13 million for increased allowance for funds used during construction and other regulatory deferrals in Networks.

Interest Expense, Net of Capitalization

Interest expense for the year ended December 31, 2017 increased by \$12 million or 4% from \$268 million for the year ended December 31, 2016, to \$280 million. Networks and Other added \$14 million and \$23 million of interest expense from outstanding debt during the period. Gas was \$1 million favorable as a result of intercompany notes in the period. Renewables was \$21 million favorable, as a result of lower tax equity investment obligations and intercompany notes. In addition, Networks had \$3 million of lower interest expense on regulatory deferrals in the current period.

Income Tax Expense

The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2017 was (210.6)%, which is lower than the 35% statutory federal income tax rate predominately due to a \$328 million tax benefit from measurement of deferred income tax balances as a result of the Tax Act enacted on December 22, 2017, by the U.S. federal government. Additionally, a \$14 million increase in income tax expense is due to unfunded future income tax to reflect the change from a flow through to normalization method, which was recorded as an increase to revenue, with an offsetting and equal increase to income tax expense during the year ended December 31, 2017. This increase was partially offset by other discrete tax adjustments and recognition of production tax credits associated with wind production during the same period. The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2016, was 37.6%, which is slightly higher than the 35% statutory federal income tax rate due to offsetting income tax matters. Increases were predominantly due to the impact of an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method following the approval of the Joint Proposal by the NYPSC, which was recorded in the second quarter of 2016 as an increase to income tax expense and an offsetting increase to

revenue. This was offset by the recognition of production tax credits associated with wind and state income tax amounts including unitary filing amounts for our various states of operations.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015

Networks

Operating revenues for the year ended December 31, 2016 increased by \$1.6 billion, or 49%, from \$3.4 billion for the year ended December 31, 2015, to \$5.0 billion. The addition of UIL increased revenues by \$1.6 billion, for an underlying increase of \$77 million. The milder winter weather in 2016 lowered demand for both electricity and gas, resulting in a revenue impact of \$48 million. Wholesale electricity revenues also declined by \$28 million due to a combination of lower volumes and wholesale market prices, which were down in 2016 as a result of the reduced demand due to milder weather. An increase of \$36 million was due primarily to higher retail rates for electricity during the period. Regulatory recoveries increased by \$117 million primarily due to an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method, which has been recorded as an increase to revenue, with an offsetting and equal increase to income tax expense, an increase of \$17 million relating to recoveries on the Ginna RSSA together with other decreases in the amount of \$26 million for items such as revenue decoupling mechanisms, nonbypassable wires charges and rate case impacts.

Purchased power, natural gas and fuel increased used for the year ended December 31, 2016 increased by \$353 million, or 43%, from \$821 million for the year ended December 31, 2015, to \$1,174 million. UIL contributed \$463 million in additional expense, resulting in underlying expense being \$110 million lower. Purchase volume requirements were 3% lower for electricity and 3% lower for gas for the same reasons outlined under Networks revenues, that is, the milder weather in winter 2016. In addition, market prices were down 25% for electricity and 17% for gas.

Operations and maintenance during the year ended December 31, 2016 increased by \$450 million or 32% from approximately \$1.4 billion for the year ended December 31, 2015, to approximately \$1.8 billion. UIL accounts for \$463 million of this increase, with the remaining \$13 million decrease attributable to the underlying business. The regulatory adjustment for the Ginna RSSA, which has offsets in revenue, accounts for a \$35 million increase. Offsetting this are reductions relating to \$22 million refunds received from the Spent Fuel Nuclear Trust from Maine Yankee, which will be refunded to customers, \$8 million due to lower-write-offs in the current year due to lower commodity prices in the current year, \$7 million due to reduced recovery of storm costs as compared to higher levels in prior years and of \$11 million from lower expenditures on various state mandated energy efficiency programs, lower insurance claim expenses, and renewable energy credit purchases and adjustments to regulatory deferrals based on changes to rate plans.

Renewables

Operating revenues for the year ended December 31, 2016 decreased by \$52 million, or 5% from approximately \$1.1 billion for the year ended December 31, 2015, to approximately \$1.0 billion. Revenues from wind and solar facilities increased by \$7 million due to 5% increase in wind generation on favorable wind resource and full year of operation in 2016 of a wind farm completed in 2015, offset in part by 4% lower average prices. New wind capacity added in 2016 did not contribute significantly to the increase in revenues or production for 2016. The decrease in average price results from general market conditions and mild weather in 2016 compared to 2015 and proportionately more output sold merchant due to expiring contracts. Revenues decreased by \$46 million due to unfavorable MtM changes on energy derivative transactions entered into for economic hedging purposes and thermal revenues decreased by \$13 million due to lower merchant prices.

Purchased power, natural gas and fuel used for the year ended December 31, 2016 decreased by \$50 million, or 25%, from \$202 million for the year ended December 31, 2015, to \$152 million. Klamath power plant expense was \$11 million lower due to lower production and reduced fuel costs, MtM changes on derivatives were favorable \$41 million due to market price changes in the current period and transmission and energy purchases were higher by \$2 million.

Operations and maintenance for the year ended December 31, 2016 decreased by \$12 million or 3% from \$363 million for the year ended December 31, 2015, to \$351 million. Bad debt expense decreased by \$7 million due to a specific reserve recorded in 2015 that did not occur in 2016. Asset retirement related expenses were \$5 million lower, as a result of the extension of the windfarm useful life in combination with revisions to expense estimates.

Gas

Operating revenues for the year ended December 31, 2016 increased by \$51 million, or 268%, from negative \$19 million for the year ended December 31, 2015, to \$32 million. The increase in operating revenues was due to \$19 million of improved performance in

the owned and contracted storage businesses, with both capturing higher spreads relative to previous year, \$6 million favorable transportation contract, \$15 million favorable MtM change and the remainder relating to various items including contract adjustments in the prior year.

The gas business had no purchased power, natural gas and fuel used for the year ended December 31, 2016 and insignificant amount for the year ended December 31, 2015. As a predominantly trading business, such expenses are required to be netted with revenues.

Operations and maintenance for the year ended December 31, 2016 increased by \$6 million, or 16%, from \$38 million for the year ended December 31, 2015, to \$44 million. Increases in credit guarantee expenses and third party services account for the increase in 2016.

Depreciation, Amortization and Impairment

Depreciation, amortization and impairment expenses for the year ended December 31, 2016 increased by \$97 million or 14% from \$707 million for the year ended December 31, 2015, to \$804 million. The primary movements were UIL contributing \$160 million, with the underlying business \$63 million lower. Networks depreciation expense was \$22 million lower, mainly as a result of updates to asset lives from the rate case activities. Renewables expense was \$43 million lower primarily as a result of lower project impairment expenses in 2016, as compared to that in 2015, and \$52 million lower depreciation expense due to revision of useful lives of wind farm assets offset by \$21 million due to increases from the Baffin Bay wind asset only being operational for part of the prior year, combined with additional expense from salvage values and from asset retirement obligation estimations.

Other Income and (Expense) and Equity Earnings

Other income and (expense) and equity earnings for the year ended December 31, 2016 increased by \$27 million, or 48%, from \$56 million other income for the year ended December 31, 2015, to \$83 million. UIL contributed \$22 million of income. Of the remaining \$5 million, \$31 million was as a result of the sale of the Iroquois equity investment, and \$3 million was as a result of the sale of other investment. An additional \$12 million of income results from the reversal of the Maine Natural Gas provision in the current period that was initially recorded at the end of 2015. Offsetting these amounts were a \$13 million decrease primarily from interest income on regulatory deferrals, due to updates from the rate case activities, \$5 million for reduced allowance for funds used during construction in Networks, \$6 million for reduced earnings on equity method investments and \$5 million due to a gain from tax equity financing arrangements' buyback recorded in 2015 that did not occur in 2016. Other various items caused a decrease of approximately \$11 million in the period.

Interest Expense, Net of Capitalization

Interest expense for the year ended December 31, 2016 increased by \$1 million or less than 1% from \$267 million for the year ended December 31, 2015, to \$268 million. Excluding the impact of UIL, which added \$79 million of expense, underlying expense was \$78 million favorable. Networks was \$53 million favorable, mainly as a result of lower interest expense on regulatory deferrals, and Other was favorable by \$18 million as a result of a reduction to the interest rate on outstanding debt and reduced outstanding debt.

Income Tax Expense

The effective tax rate, inclusive of federal and state income tax, for the year ended December 31, 2016 was 37.4%, which is slightly higher than the 35% statutory federal income tax rate due to offsetting income tax matters. Increases were predominantly due to the impact of an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method following the approval of the proposal by the NYPSC, which was recorded in the second quarter of 2016 as an increase to income tax expense and an offsetting increase to revenue. This was offset by the recognition of production tax credits associated with wind and state income tax amounts including unitary filing amounts for our various states of operations. Income tax expense for the year ended December 31, 2015, was \$71 million lower than it would have been at the statutory federal income tax rate of 35%, primarily due to production tax credits, filing of amended returns in the State of New York and the impact of tax equity financing arrangements. This resulted in an effective tax rate of 11.30% for 2015.

Non-GAAP Financial Measures

To supplement our consolidated financial statements presented in accordance with U.S. GAAP, we consider certain non-GAAP financial measures that are not prepared in accordance with U.S. GAAP, including adjusted gross margin, adjusted EBITDA, adjusted net income and adjusted earnings per share, or adjusted EPS. The non-GAAP financial measures we use are specific to AVANGRID and the non-GAAP financial measures of other companies may not be calculated in the same manner. We use these non-GAAP financial measures, in addition to U.S. GAAP measures, to establish operating budgets and operational goals to manage and monitor our business, evaluate our operating and financial performance and to compare such performance to prior periods and to the performance of our competitors. We believe that presenting such non-GAAP financial measures is useful because such measures can be used to analyze and compare profitability between companies and industries because it eliminates the impact of financing and certain non-cash charges. In addition, we present non-GAAP financial measures because we believe that they and other similar measures are widely used by certain investors, securities analysts and other interested parties as supplemental measures of performance.

We define adjusted EBITDA as net income attributable to AVANGRID, adding back net income attributable to noncontrolling interests, income tax expense, depreciation, amortization, impairment and interest expense, net of capitalization, and then subtracting other income and earnings from equity method investments. We define adjusted net income as net income adjusted to reflect the full 12-month period of results for UIL and to exclude restructuring charges, gain on the sale of equity method and other investment, other than temporary impairment, or OTTI, of equity method and other investments, costs related to the merger with UIL, mark-to-market adjustments to reflect the effect of mark-to-market changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity, loss from held for sale measurement, impact of the Tax Act, and adjustments for the non-core Gas storage business. We believe adjusted net income is more useful in understanding and evaluating actual and projected financial performance and contribution of AVANGRID core lines of business and to more fully compare and explain our results. Additionally, we evaluate the nature of our revenues and expenses and adjust to reflect classification by nature for evaluation of our non-GAAP financial measures as opposed to by function. The most directly comparable U.S. GAAP measure to adjusted EBITDA and adjusted net income is net income. We also define adjusted gross margin as adjusted EBITDA adding back operations and maintenance and taxes other than income taxes and then subtracting transmission wheeling. We also define adjusted earnings per share, or adjusted EPS, as adjusted net income converted to an earnings per share amount.

The use of non-GAAP financial measures is not intended to be considered in isolation or as a substitute for, or superior to, AVANGRID's U.S. GAAP financial information, and investors are cautioned that the non-GAAP financial measures are limited in their usefulness, may be unique to AVANGRID, and should be considered only as a supplement to AVANGRID's U.S. GAAP financial measures. The non-GAAP financial measures may not be comparable to other similarly titled measures of other companies and have limitations as analytical tools.

Non-GAAP financial measures are not primary measurements of our performance under U.S. GAAP and should not be considered as alternatives to operating income, net income or any other performance measures determined in accordance with U.S. GAAP.

Reconciliation of the Net Income attributable to AVANGRID to adjusted EBITDA (non-GAAP) and adjusted gross margin (non-GAAP) before reflecting the full 12-month period of results for UIL, excluding restructuring charges, gain on the sale of equity method and other investment, OTTI on equity method and other investments, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business, and before adjustments to reflect the classification of revenues and expenses by nature for the years ended December 31, 2017, 2016 and 2015, respectively, is as follows:

Years Ended December 31, (Millions)	2017	2016	2015
Net Income Attributable to Avangrid, Inc.	\$ 381	\$ 632	\$ 273
Add: Net income attributable to noncontrolling interests	1	—	—
Income tax expense	(259)	377	29
Depreciation and amortization	824	804	695
Impairment	642	—	12
Interest expense, net of capitalization	280	268	267
Less: Other income	58	76	56
Earnings from equity method investments	(40)	7	—
Adjusted EBITDA (2)	\$ 1,851	\$ 1,998	\$ 1,220
Add: Operations and maintenance (1)	2,211	2,206	1,808
Taxes other than income taxes	563	528	367
Less: Transmission wheeling (1)	278	260	149
Adjusted gross margin (2)	\$ 4,347	\$ 4,472	\$ 3,246

- (1) Transmission wheeling is a component of operations and maintenance and is considered a component of adjusted gross margin because it is directly associated with the power supply costs included in the cost of sales.
- (2) Adjusted EBITDA and adjusted gross margin are non-GAAP financial measures and are presented before reflecting the full 12-month period of results for UIL results, excluding restructuring charges, gain on the sale of equity method and other investments, OTTI impairment on equity method and other investment, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business, and before adjustments to reflect the classification of revenues and expenses by nature. For additional details of these adjustments and reconciliation of net income to adjusted EBITDA and adjusted gross margin that reflect these adjustments see the tables on pages 71-72 of this Annual Report on Form 10-K.

The following tables set forth our adjusted EBITDA and adjusted gross margin by segment for each of the periods indicated and as a percentage of operating revenues:

Year Ended December 31, 2017

	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Adjusted gross margin (2)	\$ 4,347	\$ 3,531	\$ 821	\$ 14	\$ (19)
Adjusted gross margin %		71 %	78 %	93 %	32 %
Adjusted EBITDA (2)	\$ 1,851	\$ 1,468	\$ 417	\$ (34)	\$ —
Adjusted EBITDA %		30 %	40 %	(227) %	—

Year Ended December 31, 2016

	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Adjusted gross margin (2)	\$ 4,472	\$ 3,596	\$ 863	\$ 33	\$ (20)
Adjusted gross margin %		71 %	85 %	103 %	34 %
Adjusted EBITDA (2)	\$ 1,998	\$ 1,551	\$ 462	\$ (15)	\$ —
Adjusted EBITDA %		31 %	46 %	(47) %	—

Year Ended December 31, 2015

	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Adjusted gross margin (2)	\$ 3,246	\$ 2,417	\$ 865	\$ (20)	\$ (16)
Adjusted gross margin %		71 %	81 %	105 %	24 %
Adjusted EBITDA (2)	\$ 1,220	\$ 865	\$ 456	\$ (62)	\$ (39)
Adjusted EBITDA %		26 %	43 %	326 %	59 %

- (1) Other amounts represent corporate and company eliminations.
- (2) Adjusted EBITDA and adjusted gross margin are non-GAAP financial measures and are presented before reflecting the full 12-month period of results for UIL results, excluding restructuring charges, gain on the sale of equity method and other investment, OTTI on equity method and other investments, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business, and before adjustments to reflect the classification of revenues and expenses by nature. For additional details of these adjustments and reconciliation of net income to adjusted EBITDA and adjusted gross margin that reflect these adjustments see the tables on pages 71-72 of this Annual Report on Form 10-K.

Comparison of Period to Period Results of Operations

Our adjusted gross margin decreased by \$125 million, or 3%, from \$4,472 million for the year ended December 31, 2016 to \$4,347 million for the year ended December 31, 2017.

Our adjusted EBITDA decreased by \$147 million, or 7%, from \$1,998 million for the year ended December 31, 2016 to \$1,851 million for the year ended December 31, 2017.

Details of the period to period comparison are described below at the segment level.

Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016

Networks

Adjusted gross margin for the year ended December 31, 2017 decreased by \$65 million or 2%, from \$3,596 million for the year ended December 31, 2016, to \$3,531 million. The decrease is primarily driven by a decrease in revenue related regulatory activities driven by an adjustment of unfunded future income tax in the year ended December 31, 2017, partially offset by average higher rates from rate case activities in New York and Connecticut.

Adjusted EBITDA for the year ended December 31, 2017 decreased by \$83 million or 5% from \$1,551 million for the year ended December 31, 2016, to \$1,468 million. The decrease was due to the same reasons discussed above for adjusted gross margin.

Renewables

Adjusted gross margin for the year ended December 31, 2017 decreased by \$42 million or 5% from \$863 million for the year ended December 31, 2016, to \$821 million. The decrease was primarily due to unfavorable MtM changes on energy derivatives driven by market price changes in the current period and higher transmission and energy purchases.

Adjusted EBITDA for the year ended December 31, 2017 decreased by \$45 million or 10% from \$462 million for the year ended December 31, 2016, to \$417 million. The decrease was due to the same reasons discussed above for adjusted gross margin.

Gas

Adjusted gross margin for the year ended December 31, 2017 decreased by \$19 million, or 55%, from \$33 million for the year ended December 31, 2016, to \$14 million. The decrease is primarily associated with unfavorable MtM changes in the current period as compared to the same period of 2016 and unfavorable results from the performance of the owned and contracted storage businesses.

Adjusted EBITDA for the year ended December 31, 2017 decreased by \$19 million, or 127%, from negative \$15 million for the year ended December 31, 2016, to negative \$34 million. The decrease was due to the same reasons discussed above for adjusted gross margin.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015

Networks

Adjusted gross margin for the year ended December 31, 2016 increased by \$1.2 billion from \$2.4 billion for the year ended December 31, 2015, to \$3.6 billion. The increase is associated primarily with the addition of UIL, which added \$1.0 billion of gross margin. Underlying margins increased by \$172 million. Although volume of both sales and purchased power were lower due to the mild winter in 2016, purchased power rates decreased comparatively more, due to declines in market prices in 2016, which, combined with increases in regulatory recoveries including the \$126 million unfunded future income tax adjustment and impacts of the rate case activities, increased margins in 2016, partly offset by increases in the cost of transmission wheeling year over year.

Adjusted EBITDA for the year ended December 31, 2016 increased by \$686 million or 79% from \$865 million for the year ended December 31, 2015, to \$1.6 billion. UIL added \$493 million of adjusted EBITDA in 2016, with underlying business adjusted EBITDA increasing by \$193 million for the year ended December 31, 2016, as compared to the same period of 2015. The increase was due to the same reasons discussed above for adjusted gross margin, partly offset by an increase in operations and maintenance expenses for transmission system reliability support.

Renewables

Adjusted gross margin for the year ended December 31, 2016 decreased by \$2 million or less than 1% from \$865 million for the year ended December 31, 2015, to \$863 million. The decrease was primarily due to \$5 million in unfavorable MtM changes on derivatives in 2016 compared to 2015 and a \$2 million decrease in thermal results on lower merchant prices not offset by lower fuel costs. Underlying gross margin on wind and solar increased by \$4 million due to increased production of 642 GWh or 5% with average prices 4% lower due to expiring contracts resulting in more generation being sold merchant.

Adjusted EBITDA for the year ended December 31, 2016 increased by \$6 million or 1% from \$456 million for the year ended December 31, 2015, to \$462 million. The increase was due primarily to lower operations and maintenance expenses, related to reductions in bad debts expense recorded in 2015 not recurring in 2016 and lower asset retirement obligation expenses.

Gas

Adjusted gross margin for the year ended December 31, 2016 increased by \$53 million, or 265%, from negative \$20 million for the year ended December 31, 2015, to \$33 million. The increase is associated with the increase in operating revenues due to favorable movement in spreads in the owned storage and gas transportation areas in 2016 as compared to 2015.

Adjusted EBITDA for the year ended December 31, 2016 increased by \$47 million, or 76%, from negative \$62 million for the year ended December 31, 2015, to negative \$15 million. The increase was due primarily to the same reasons discussed above for adjusted gross margin offset by operations and maintenance expense increases in 2016 resulting from higher credit support costs and external services.

The following table provides a reconciliation between Net Income attributable to AVANGRID and adjusted gross margin (non-GAAP) and adjusted EBITDA (non-GAAP) by segment after the full 12-month period of results for UIL, after excluding restructuring charges, gain on the sale of equity method and other investment, OTTI on equity method and other investments, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business, and after adjustments to reflect the classification of revenues and expenses by nature for the years ended December 31, 2017, 2016 and 2015, respectively:

	Year Ended December 31, 2017				
	Total	Networks	Renewables (in millions)	Corporate *	Gas Storage
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 381	\$ 496	\$ 333	\$ 60	\$ (508)
Adjustments:					
Mark-to-market adjustments - Renewables	15	—	15	—	—
Restructuring charges	20	20	—	—	—
Loss from held for sale measurement	642	—	—	—	642
Impact of the Tax Act	(328)	(2)	(301)	(5)	(20)
Impairment of equity method investment	49	—	49	—	—
Income tax impact of adjustments (1)	(162)	(8)	24	—	(179)
Gas Storage, net of tax	64	—	—	—	64
Adjusted Net Income	\$ 682	\$ 507	\$ 120	\$ 55	\$ —
Add: Net income attributable to noncontrolling interests	1	1	—	—	—
Income tax expense (2)	284	312	10	(38)	—
Depreciation and amortization (3)	1,021	594	427	—	—
Interest expense, net of capitalization (4)	120	107	27	(14)	—
Less: Other income and (expense)	1	1	—	—	—
Earnings (losses) from equity method investments	5	15	(10)	—	—
Adjusted EBITDA (6)	\$ 2,102	\$ 1,505	\$ 594	\$ 3	\$ —
Add: Operations and maintenance (5)	1,443	1,202	249	(8)	—
Taxes other than income taxes	535	485	45	5	—
Adjusted gross margin (6)	\$ 4,080	\$ 3,192	\$ 888	\$ —	\$ —

	Year Ended December 31, 2016				
	Total	Networks	Renewables	Corporate *	Gas Storage
	(in millions)				
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 632	\$ 480	\$ 114	\$ 80	\$ (42)
Adjustments:					
Sale of equity method and other investments	(36)	—	(3)	(33)	—
Impairment of investment	3	3	—	—	—
Mark-to-market adjustments - Renewables	(20)	—	(20)	—	—
Income tax impact of adjustments (1)	22	(1)	9	14	—
Gas Storage, net of tax	42	—	—	—	42
Adjusted Net Income	\$ 643	\$ 482	\$ 100	\$ 61	\$ —
Add: Income tax expense (2)	285	290	33	(38)	—
Depreciation and amortization (3)	985	566	415	4	—
Interest expense, net of capitalization (4)	131	132	28	(28)	—
Less: Other income and (expense)	(2)	1	(3)	—	—
Earnings (losses) from equity method investments	4	15	(11)	—	—
Adjusted EBITDA (6)	\$ 2,042	\$ 1,453	\$ 589	\$ (1)	\$ —
Add: Operations and maintenance (5)	1,319	1,089	234	(5)	—
Taxes other than income taxes	513	463	44	6	—
Adjusted gross margin (6)	\$ 3,873	\$ 3,006	\$ 867	\$ —	\$ —

	Year Ended December 31, 2015				
	Total	Networks	Renewables	Corporate *	Gas Storage
	(in millions)				
Net Income (Loss) Attributable to Avangrid, Inc.	\$ 273	\$ 208	\$ 139	\$ (6)	\$ (69)
Adjustments:					
Add: Net Income representing the full 12-month period of results for UIL	133	133	—	—	—
Merger costs	122	89	—	34	—
Mark-to-market adjustments - Renewables	(25)	—	(25)	—	—
Income tax impact of adjustments (1)	(45)	(49)	9	(5)	—
Gas Storage, net of tax	69	—	—	—	69
Adjusted Net Income	\$ 527	\$ 381	\$ 123	\$ 23	\$ —
Add: Income tax expense (2)	198	241	32	(76)	—
Depreciation and amortization (3)	1,047	586	461	—	—
Impairment	12	—	12	—	—
Interest expense, net of capitalization (4)	190	163	(37)	64	—
Less: Other income and (expense)	2	1	1	—	—
Earnings from equity method investments	15	14	(4)	4	—
Adjusted EBITDA (6)	\$ 1,957	\$ 1,356	\$ 594	\$ 7	\$ —
Add: Operations and maintenance (5)	1,339	1,122	229	(12)	—
Taxes other than income taxes	517	471	41	5	—
Adjusted gross margin (6)	\$ 3,813	\$ 2,949	\$ 864	\$ 0	\$ —

- (1) Income tax impact of adjustments: \$(5) million from MtM adjustment, \$(8) million from restructuring charges, \$(13) million from OTTI on an equity method investment, \$(179) million from loss from held for sale measurement and \$43 million from adjustment to unitary income taxes as a result of expected future sale of Gas for the year ended December 31, 2017. Income tax impact of \$14 million from sale of equity method investment, \$1 million from sale of other investment, \$(1) million on impairment of investment and \$8 million from MtM adjustment for the year ended December 31, 2016. Income tax impact of \$54 million and \$9 million relate, respectively, to merger costs and MtM adjustment for the year ended December 31, 2015.
- (2) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for production tax credit for the amount of \$53 million, \$34 million and \$33 million for the years ended December 31, 2017, 2016 and 2015, as they have been included in operating revenues in Renewables based on the by nature classification. Additionally, \$14 million and \$126 million for unfunded future income taxes have been reclassified from revenues based on the by nature classification in Networks for the years ended December 31, 2016 and 2015. After reflecting these by nature classification adjustments the calculated effective income tax rates are impacted for both periods presented under this by nature classification presentation.
- (3) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for the inclusion of vehicle depreciation of \$18 million, \$22 million and \$14 million and bad debt provision of \$69 million, \$50million and \$48 million in Networks within depreciation and amortization from operations and maintenance based on the by nature classification for the years ended December 31, 2017,

2016 and 2015, respectively. Additionally, government grants of \$5.6 million, \$6.6 million and \$6.8 million in Networks and investment tax credits amortization of \$90 million, \$91 million and \$103 million in Renewables have been presented within other operating income and not within depreciation and amortization based on the by nature classification for the years ended December 31, 2017, 2016 and 2015, respectively

- (4) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for allowance for funds used during construction, debt portion, to reflect these amounts within other income and expenses in Networks for the years ended December 31, 2017, 2016 and 2015, respectively.
- (5) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for regulatory amounts to reflect amounts in revenues based on the by nature classification of these items. In addition, the vehicle depreciation and bad debt provision have been reflected within depreciation and amortization in Networks.
- (6) Adjusted EBITDA and adjusted gross margin are non-GAAP financial measures and are presented after reflecting the full 12-month period of results for UIL, after excluding restructuring charges, gain on the sale of equity method and other investments, OTTI on equity method and other investment, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business, and after adjustments to reflect the classification of revenues and expenses by nature explained in notes (1)-(5) above.

* Includes corporate and other non-regulated entities.

The following tables provide a reconciliations between Net Income attributable to AVANGRID and Adjusted Net Income (non-GAAP), and EPS attributable to AVANGRID and adjusted EPS (non-GAAP) after reflecting the full 12- month period of results for UIL, after excluding restructuring charges, gain on the sale of equity method and other investments, OTTI on equity method and other investment, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business , for the years ended December 31, 2017, 2016 and 2015, respectively:

	Year Ended December 31,		
	2017	2016	2015
	(in millions)		
Networks	\$ 496	\$ 480	\$ 208
Renewables	333	114	139
Corporate (1)	60	80	(6)
Gas Storage	(508)	(42)	(69)
Net Income	\$ 381	\$ 632	\$ 273
Adjustments:			
Net income representing the full 12-month period of results for UIL	—	—	133
Merger Costs	—	—	122
Sale of equity method and other investments	—	(36)	—
Impairment of equity method and other investment (2)	49	3	—
Restructuring charges (3)	20	—	—
Mark-to-market adjustments - Renewables (4)	15	(20)	(25)
Loss from held for sale measurement (5)	642	—	—
Impact of the Tax Act (6)	(328)	—	—
Income tax impact of adjustments	(162)	22	(45)
Gas Storage , net of tax	64	42	69
Adjusted Net Income (7)	\$ 682	\$ 643	\$ 527

	Year Ended December 31,		
	2017	2016	2015
Networks	1.60	1.55	0.83
Renewables	1.07	0.37	0.55
Corporate (1)	0.19	0.26	(0.03)
Gas Storage	(1.64)	(0.14)	(0.28)
Earnings Per Share	1.23	2.04	1.07
Adjustments:			
Reduction for acquisition of UIL shares	—	—	(0.19)
Net income representing the full 12-month period of results for UIL	—	—	0.43
Merger costs	—	—	0.40
Sale of equity method and other investments	—	(0.12)	—
Impairment of equity method and other investment (2)	0.16	0.01	—
Restructuring charges (3)	0.07	—	—
Mark-to-market adjustments - Renewables (4)	0.05	(0.07)	(0.08)
Loss from held for sale measurement (5)	2.08	—	—
Impact of the Tax Act (6)	(1.06)	—	—
Income tax impact of adjustments	(0.52)	0.07	(0.15)
Gas Storage, net of tax	0.21	0.14	0.22
Adjusted Earnings Per Share (7)	\$ 2.20	\$ 2.08	\$ 1.70

(1) Includes corporate and other non-regulated entities as well as intersegment eliminations.

(2) Includes OTTI on equity method investment recorded in 2017.

(3) Restructuring and severance related charges relate to costs resulted from restructuring actions involving initial targeted voluntary workforce reductions and related costs in our plan to vacate a lease, predominantly within the Networks segment.

(4) Mark-to-market adjustments relate to changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity and gas.

(5) Represents loss from measurement of assets and liabilities held for sale in connection with the committed plan to sell the gas trading and storage businesses.

(6) Represents the impact from measurement of deferred income tax balances as a result of the Tax Act enacted by the U.S. federal government on December 22, 2017.

(7) Adjusted net income and adjusted earnings per share are non-GAAP financial measures and are presented after reflecting the full 12-month period of results for UIL, after excluding restructuring charges, gain on the sale of equity method and other investments, OTTI on equity method and other investment, costs related to the merger with UIL, loss from held for sale measurement, impact of the Tax Act and from mark-to-market activities in Renewables and Gas storage business.

Liquidity and Capital Resources

Our operations, capital investment and business development require significant short-term liquidity and long-term capital resources. Historically, we have used cash from operations, and borrowings under our credit facilities and commercial paper program as our primary sources of liquidity. Our long-term capital requirements have been met primarily through retention of earnings and borrowings in the investment grade debt capital markets. Continued access to these sources of liquidity and capital are critical to us. Risks may increase due to circumstances beyond our control, such as a general disruption of the financial markets and adverse economic conditions.

Liquidity Resources

At December 31, 2017, we had cash and cash equivalents of \$41 million, as compared to \$91 million at December 31, 2016. In addition to cash on hand, we and our subsidiaries have access to committed credit facilities totaling \$1.5 billion. See discussion of AVANGRID commercial paper program and AVANGRID credit facility below.

We optimize our liquidity within the United States through a series of arms'-length intercompany lending arrangements with our subsidiaries and among our regulated utilities to provide for lending of surplus cash to subsidiaries with liquidity needs, subject to the limitation that the regulated utilities may not lend to unregulated affiliates.

We manage our overall liquidity position as part of the group of companies controlled by Iberdrola, or the Iberdrola Group, and are a party to a liquidity agreement with Bank of America, N.A. along with certain members of the Iberdrola Group. The liquidity

agreement aids the Iberdrola Group in efficient cash management and reduces the need for external borrowing by the pool participants. Parties to the agreement, including us, may deposit funds with, or borrow from the financial institution, provided that the net balance of funds deposited or borrowed by all pool participants in the aggregate is not less than zero. The balance in this account at December 31, 2017 was zero. Any deposit amounts would be reflected in our consolidated balance sheet under cash and cash equivalents because our deposited surplus funds under the cash pooling agreement are highly-liquid short-term investments, available for next day withdrawal. We also have a bi-lateral demand note agreement with a Canadian affiliate of the Iberdrola Group under which we had notes payable balance outstanding of \$29 million at December 31, 2017.

AVANGRID Commercial Paper Program

On May 13, 2016, AVANGRID established a commercial paper program with a limit of \$1 billion that is backstopped by the AVANGRID credit facility (described below). As of December 31, 2017 and March 20, 2018, there was \$507 million and \$635 million of commercial paper outstanding, respectively.

AVANGRID Credit Facility

On April 5, 2016, AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC entered into a revolving credit facility with a syndicate of banks, or the AVANGRID Credit Facility, that provides for maximum borrowings of up to \$1.5 billion in the aggregate. At December 31, 2017, NYSEG and UI had borrowed, in total, \$250 million under the facility and the facility was backstopping \$507 million of outstanding commercial paper. The amounts available under the facility at December 31, 2017 and March 20, 2018, were \$743 million and \$865 million, respectively.

Under the terms of the AVANGRID Credit Facility, each joint borrower has a maximum borrowing entitlement, or sublimit, which can be periodically adjusted to address specific short-term capital funding needs, subject to the maximum limit established by the banks. AVANGRID's maximum sublimit is \$1 billion, NYSEG, RG&E, CMP and UI have maximum sublimits of \$250 million, CNG, and SCG have maximum sublimits of \$150 million and BGC has a maximum sublimit of \$25 million. Under the AVANGRID credit facility, each of the borrowers will pay an annual facility fee that is dependent on their credit rating. The facility fees will range from 10.0 to 17.5 basis points. The maturity date for the AVANGRID credit facility is April 5, 2021.

Long-Term Capital Resources

We expect to meet our long-term capital requirements through the use of our cash balances, credit facilities, cash from operations, and long-term borrowing. We have investment grade ratings from Standard and Poor's, Moody's and Fitch and we believe that we can raise capital on competitive terms in the investment grade debt capital and/or bank markets.

On May 24, 2017, RG&E issued \$300 million in aggregate principal amount of 3.10% First Mortgage Bonds, or the Bonds, due in 2027. Interest on the Bonds is payable semi-annually in arrears on June 1 and December 1 of each year, beginning December 1, 2017. The Bonds will mature on June 1, 2027. The Bonds are secured equally and ratably with RG&E's other mortgage bonds from time to time outstanding by a valid and direct first mortgage on substantially all of RG&E's property (except accounts receivable and cash), subject to excepted encumbrances, reservations, contracts and certain exceptions. Proceeds of the offering were used to reduce short-term debt, to fund capital expenditures and for general corporate purposes. Net proceeds of the offering after the price discount and issuance-related expenses were \$294 million.

On November 21, 2017, Avangrid, Inc. issued \$600 million aggregate principal amount of its 3.150% notes due 2024. Interest on the notes is payable semi-annually in arrears on June 1 and December 1 of each year, commencing on June 1, 2018, and on the maturity date for the notes. The notes will mature on December 1, 2024. The notes are our direct unsecured and unsubordinated obligations and rank equally with our other unsecured and unsubordinated indebtedness from time to time outstanding. The notes are structurally subordinated to all existing and future obligations at our subsidiaries. Proceeds of the offering were used to reduce AVANGRID's commercial paper balance incurred to fund capital expenditures associated with development of renewable energy generation facilities. Net proceeds of the offering after the price discount and issuance-related expenses were \$594 million.

At December 31, 2017, we had \$4,266 million of long-term debt (including the current portion thereof) outstanding in the Networks segment consisting of first mortgage bonds, senior unsecured notes, tax-exempt bonds and various other forms of debt. Network's regulated utilities are required by regulatory order to maintain a minimum ratio of common equity to total capital that is tied to the capital structure used in the establishment of their revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. UI, SCG, CNG and BGC are restricted from paying dividends if paying such dividend would result in their respective common equity ratio being lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent

quarter end. The regulated utilities periodically pay dividends to, or receive capital contributions from AVANGRID, in order to maintain the minimum equity ratio requirement. They each independently incur indebtedness by issuing investment grade debt securities. Networks' regulated utilities were in compliance with these regulatory orders as of December 31, 2017.

At December 31, 2017, we had \$54 million of long-term debt (including the current portion thereof) outstanding in the Renewables segment relating to a sale-leaseback arrangement on a solar generation facility. Renewables has also sourced capital through tax equity financing arrangements associated with particular wind farm projects. The arrangements allocate tax losses and production tax credits to the tax equity investor in exchange for an initial contribution. The obligations created under the tax equity financing arrangements are recorded as a liability with an aggregate balance of \$98 million, of which \$38 million is current, at December 31, 2017.

At December 31, 2017, we had \$1,059 million of long-term debt (including the current portion thereof) outstanding in the corporate and no long-term debt in the Gas segment. Long-term debt in the corporate consists mainly of \$450 million of 4.625% notes due in 2020 originally issued by UIL in 2010 and transferred to Avangrid, Inc. in December 2016 and \$600 million of 3.150% notes due 2024 issued in November 2017.

In our credit facilities, long-term borrowing and tax-equity partnerships, we and our affiliates that are parties to the agreements are subject to covenants that are standard for such agreements. Affirmative covenants impose certain obligations on the borrower and negative covenants limit certain activities by the borrower. The agreements also define certain events of default, including but not limited to non-compliance with the covenants that may automatically in some circumstances, or at the option of the lenders in other circumstances, trigger acceleration of the obligations. We and our affiliates were in compliance with all such covenants at December 31, 2017.

Capital Requirements

Funding Future Common Dividend Payments

We expect to fund any quarterly shareholder dividends primarily from the cash provided by operations of our businesses in the future. We have a revolving credit facility and a commercial paper program, as described above, to fund short-term liquidity needs and we believe that we will have access to the capital markets should additional, long-term growth capital be necessary.

Capital Expenditures

The regulated utilities' capital expenditures over the last three years have been as follows:

	2017	2016	2015
	(in millions)		
NYSEG	\$ 364	\$ 282	\$ 259
RG&E	303	268	157
CMP (non-MPRP(1))	252	207	120
CMP (MPRP)	—	—	108
MNG	3	3	3
UI	176	170	187
SCG	53	54	62
CNG	70	73	62
BGC	18	17	16
Total	\$ 1,239	\$ 1,074	\$ 974

(1) MPRP refers to the Maine Power Reliability Program.

Renewables' capital expenditures for the years set forth below were as follows:

	2017	2016	2015
	(in millions)		
Wind & solar	\$ 902	\$ 751	\$ 58
Thermal	17	8	11
Corporate(1)	10	7	8
Total capital expenditures	929	766	77

(1) Includes information technology and facilities and safety (security).

Networks increased its capital expenditures during the period from 2015 to 2017 to upgrade and expand electricity and natural gas transmission and distribution infrastructure. In 2017, NYSEG and RG&E increased their capital investments in a number of programs disclosed in Appendix P Schedule I of the Joint Proposal, including the FERC Bright Line project, Auburn transmission project, Columbia County transmission project, Rochester Area Reliability Project, or RARP, and Ginna Retirement Transmission Alternative, or GRTA. In 2017, CMP completed the Lewiston Loop project, which complements the already completed MPRP, a project which enhanced the bulk power transmission grid in Maine. UIL's capital projects remained relatively flat for the same period and the most relevant projects were the ones related to new customers, system and corrective reliability, system resiliency, infrastructure replacement and system operations.

Renewables also made capital investments during this three-year period. In 2017, there were capital expenditures of \$856 million on construction of El Cabo, Tule, Twin Buttes II, Deerfield and other wind assets, \$17 million in capital expenditures on the Klamath gas-fired cogeneration facility, or the Klamath Plant, \$11 million on improvements to operating wind assets and \$35 million in development costs.

In 2016 there were capital expenditures of \$728 million on construction of the Amazon Wind Farm US - East (formerly Desert Wind) and other wind assets, \$8 million in capital expenditures on the Klamath gas-fired cogeneration facility, or the Klamath Plant, \$10 million on improvements to operating wind assets and \$13 million in development costs.

In 2015 there were capital expenditures of \$73 million on construction of the Amazon Wind Farm US - East (formerly Desert Wind) and other wind assets, \$11 million in capital expenditures on the Klamath Plant, \$31 million on improvements to operating wind assets and \$9 million in development costs.

Capital Improvement Projects

An important part of our business strategy involves capital improvement projects. Through Networks we plan to invest a total of approximately \$7.99 billion from 2018 to 2022 to upgrade and expand electricity and natural gas transmission and distribution infrastructure. In the next 12 months, CMP plans to invest \$214 million, including the Coopers Mills Sub Station, Spectrum Project, Line Inspection, and Lakes Region Transmission Project. In addition, CMP plans to continue developing its new customer relationship management and billing system and new transmission investments in the Maine Electric Power Corporation, or MEPCO, 388 rebuild. MEPCO plans to invest \$51 million in the next 12 months. NYSEG plans to invest \$539 million in the next 12 months, including a number of programs disclosed in Appendix P Schedule I of the proposal dated June 15, 2016, the most relevant ones: NYSEG Grid Automation, NYSEG Breaker Program, NYSEG Telcom Project, NYSEG Distribution Line Project, Columbia County Transmission Project, Gas Distribution Mains and Leak Prone Main replacement. RG&E plans to invest \$340 million in the next 12 months, including a number of programs disclosed in Appendix P Schedule I of the proposal dated June 15, 2016, the most relevant ones: RARP, Underground Line 23 to 137 Circuit Project, Gas Distribution Mains and Leak Prone Main replacement. UIL plans to invest \$333 million in the next 12 months, including a number of programs disclosed in the UI-Distribution PURA Order dated December 14 2016 related to new customers, system and corrective reliability, system resiliency, infrastructure replacement (substations and distribution system), and system operations. The most relevant investment for CNG will be the Rocky Hill LNG.

Through Renewables we plan to invest a total of approximately \$4.0 billion from 2018 to 2022 and add 2,200 MWs of generation capacity. 411 MW are approved for construction in 2018 and 2019 and these projects have long-term associated PPA contracts.

We expect to fund these capital improvement projects through a combination of retained earnings, cash provided by operations, and access to the capital markets, including debt borrowings at either the subsidiary or holding company level. Additionally, we have a revolving credit facility, as described above, to fund short-term liquidity needs.

Cash Flows

Our cash flows depend on many factors, including general economic conditions, regulatory decisions, weather, commodity price movements, and operating expense and capital spending control.

The following is a summary of the cash flows by activity for the years ended December 31, 2017, 2016 and 2015:

	Year Ended December 31,		
	2017	2016	2015
	(in millions)		
Cash Flows			
Net cash provided by operating activities	\$ 1,763	\$ 1,561	\$ 1,363
Net cash used in investing activities	(2,341)	(1,527)	(1,518)
Net cash provided by (used in) from financing activities	528	(372)	102
Net decrease in cash, cash equivalents and restricted cash	<u>\$ (50)</u>	<u>\$ (338)</u>	<u>\$ (53)</u>

Operating Activities

Our primary sources of operating cash inflows are proceeds from transmission and distribution of electricity and natural gas, sales of wholesale energy and energy related products and services, and natural gas revenues from natural gas storage services. Our primary operating cash outflows are power and natural gas purchases and transmission operating and maintenance expenses, as well as personnel costs and other employee-related expenditures. As our business has expanded, our working capital requirements have grown. We expect our working capital to grow as we continue to grow our business.

In 2017, net cash provided by operating activities was \$1.8 billion. During the period, Renewables contributed \$734 million of operating cash flow associated with wholesale sales of energy, Networks contributed \$970 million of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas, and Gas provided \$100 million in cash associated with gains on marketing of wholesale gas and gas storage services. Additionally, \$60 million in cash was provided in support of the operating segments and changes in working capital used \$100 million in cash. The cash from operating activities in 2017 compared to 2016 increased by \$202 million, primarily attributable to increased operating revenues, excluding the impact of a non-cash adjustment of unfunded future income tax discussed above. The net change in operating assets and liabilities in 2017 was primarily attributable to a net increase of \$33 million in accounts receivable and payable due to impacts from sales and purchases, cash distributions from equity method investments of \$16 million, increase in taxes accrued of \$41 million, offset by decrease in inventories of \$12 million, net decrease of \$55 million in other assets/liabilities and regulatory assets/liabilities of \$47 million.

In 2016, net cash provided by operating activities was \$1.6 billion. During the period, Renewables contributed \$420 million of operating cash flow associated with wholesale sales of energy, Networks contributed \$1.0 billion of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas, and Gas used \$17 million in cash associated with losses on marketing of wholesale gas and gas storage services. Additionally, \$82 million in cash was provided in support of the operating segments and changes in working capital provided \$40 million in cash. The cash from operating activities in 2016 compared to 2015 increased by \$198 million, primarily attributable to the increased operating revenues. The \$338 million net change in operating assets and liabilities in 2016 was primarily attributable to a net increase of \$26 million in accounts receivable and payable due to impacts from sales and purchases, cash distributions from equity method investments of \$14 million, offset by net decrease of \$340 million in in other assets/liabilities, decrease in inventories of \$46 million and regulatory assets/liabilities of \$81 million.

In 2015, net cash provided by operating activities was approximately \$1.4 billion. During the period, Renewables contributed \$531 million of operating cash associated with wholesale sales of energy, Networks contributed \$867 million of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas, and Gas used cash of \$42 million associated with gains on marketing of wholesale gas and gas storage services. We used \$5 million in cash associated with operating expenses in support of our segments. In addition, changes in working capital contributed \$12 million in cash. The cash from operating activities for the year ended December 31, 2015, compared to the year ended December 31, 2014, increased by \$30 million and this is primarily driven by a slight increase in Networks revenues. The \$19 million net change in our net operating assets and liabilities during the year ended December 31, 2015, was primarily attributable to a decrease in inventory costs driven by a decrease in inventory levels of \$4 million, partially offset by environmental cost deferrals of \$32 million.

Investing Activities

Our investing activities have primarily focused on enhancing, automating, and reinforcing the asset base to support safety, reliability, and customer growth in accordance with the regulatory markets within which we operate, as well as constructing solar and wind assets and spending on gas generation assets.

In 2017, net cash used in investing activities was \$2,341 million, which was comprised of \$1,305 million associated with capital expenditures at Networks and \$1,097 million of capital expenditures at Renewables primarily associated with payments in support of the new capacity construction projects. This was offset by \$57 million of contributions in aid of construction, \$4 million of cash distributions from equity method investments and proceeds of \$12 million from the sale of property, plant and equipment.

In 2016, net cash used in investing activities was \$1.5 billion, which was comprised of \$1.1 billion associated with capital expenditures at Networks and \$561 million of capital expenditures at Renewables primarily associated with payments in support of the Amazon Wind Farm US - East (formerly Desert Wind) construction project and safe harbor payments for turbines. This was offset by \$69 million of contributions in aid of construction, proceeds of \$57 million from the sale of our equity method investment in Iroquois and other investment, \$43 million from asset sale to the New York TransCo and \$7 million from sale of property.

In 2015, the cash used in investing activities was \$1.5 billion, which was comprised of \$773 million of capital expenditures at Networks and \$304 million of capital expenditures at Renewables primarily associated with payments for construction of the Baffin Bay wind asset. Under a turbine supply agreement, with Siemens-Gamesa, payment for the supplied turbines did not take place until first quarter of 2015. The remaining cash outflow in 2015 is primarily related to cash paid for acquisition of UIL (net of cash acquired) of \$547 million.

Financing Activities

Our financing activities have primarily consisted of using our credit facilities and long-term debt issued or redeemed by our regulated Networks subsidiaries.

In 2017, financing activities provided \$528 million in cash reflecting primarily an issuance of First Mortgage Bonds at RG&E with the net proceeds of \$294 million and notes at Avangrid, Inc. with net proceeds of \$594 million, after price discount and issuance-related expenses, a net increase in non-current debt and current notes payable of \$320 million, payments on the tax equity financing arrangements of \$113 million, capital lease of \$33 million and dividends of \$535 million.

In 2016, cash used in financing activities was \$372 million reflecting primarily an increase in non-current notes payable of \$493 million less maturities and redemptions of \$355 million, \$88 million in payments on the tax equity financing arrangements, repurchase of common stock of \$5 million and dividends of \$401 million.

In 2015, cash provided by financing activities was \$102 million reflecting primarily a net increase in non-current notes payable of \$350 million less maturities of \$141 million and \$102 million in payments on the tax equity financing arrangements.

Contractual Obligations

As of December 31, 2017, our contractual obligations (excluding any tax reserves) were as follows:

	Total	2018	2019	2020	2021	2022	Thereafter
	(in millions)						
Operating leases(1)	\$ 931	\$ 36	\$ 35	\$ 36	\$ 36	\$ 31	\$ 757
Projected future pension benefit plan contributions(2)	375	49	78	81	79	88	—
Long-term debt (including current maturities)(3)	5,379	183	357	722	307	369	3,441
Interest payments(4)	2,371	222	205	186	169	141	1,448
Material purchase commitments(5)	3,503	979	563	327	258	195	1,181
Total Contractual Obligations	\$ 12,559	\$ 1,469	\$ 1,238	\$ 1,352	\$ 849	\$ 824	\$ 6,827

- (1) Represents lease contracts relating to operational facilities, office building leases, and vehicle and equipment leases. These amounts represent our expected portion of the costs to pay as amounts related to contingent payments are predominantly linked to electricity generation at the respective facilities.
- (2) The qualified pension plans' contributions are generally based on the estimated minimum pension contributions required under the Employee Retirement Income Security Act of 1974, as amended, and the Pension Protection Act of 2006, as well as contributions necessary to avoid benefit restrictions and at-risk status and agreements with state regulatory agencies. These amounts represent estimates that are based on assumptions that are subject to change. The minimum required contributions for years after 2022 are not included as projections beyond 2022 are not available.
- (3) Includes sinking fund obligations and obligations under capital leases. See debt payment discussion in "Long-term Capital Resources."
- (4) Interest payments are estimated based on final maturity dates of debt securities outstanding at December 31, 2017, and do not reflect anticipated future refinancing, early redemptions or debt issuances. Variable rate interest obligations are estimated based on rates as of December 31, 2017.
- (5) Represents forward purchase commitments under power, gas, and other arrangements and contractual obligations for material and services on order but not yet delivered at December 31, 2017.

Critical Accounting Policies and Estimates

The financial statements provided herein have been prepared in accordance with U.S. GAAP and include the accounts of AVANGRID and its consolidated subsidiaries.

In preparing the accompanying financial statements, our management has made certain estimates and assumptions that affect the reported amounts of assets, liabilities, shareholder's equity, revenues and expenses, and the disclosures thereof. The following accounting policies represent those that management believes are particularly important to the consolidated financial statements and that require the use of estimates, assumptions, and judgments to determine matters that are inherently uncertain. Our management recorded the net assets of ARHI in these consolidated financial statements at the historical accounting basis of AVANGRID. The historical accounting basis of AVANGRID includes purchase accounting adjustments related to AVANGRID's acquisition of ARHI in 2007. Prior to the 2013 reorganization of AVANGRID, Networks was not considered to be a substantive operating entity as it did not hold any direct operations and had always been a part of AVANGRID. As a result, the net assets of Networks in these consolidated financial statements are recorded at the historical accounting basis of AVANGRID, which do not include purchase accounting adjustments related to Iberdrola, S.A.'s acquisition of AVANGRID in 2008.

Accounting for Regulated Public Utilities

U.S. GAAP allows regulated entities to give accounting recognition to the actions of regulatory authorities. In order to apply such regulatory accounting treatment and record regulatory assets and liabilities, certain criteria must be met. In determining whether the criteria are met for our operations, our management makes significant judgments, which involve (i) determining whether rates for services provided to customers are subject to approval by an independent, third-party regulator, (ii) determining whether the regulated rates are designed to recover specific costs of providing the regulated service, (iii) considering relevant historical precedents and recent decisions of the regulatory authorities and (iv) considering the fact that decisions made by regulatory commissions or legislative changes at a later date could vary from earlier interpretations made by management and that the impact of such variations could be material. Our regulated subsidiaries have deferred recognition of costs (a regulatory asset) or have recognized obligations (a regulatory liability) if it is probable that such costs will be recovered or obligations relieved in the future through the ratemaking process. Management regularly reviews our regulatory assets and liabilities to determine whether adjustments to its previous conclusions are necessary based on the current regulatory environment as well as recent rate orders. If our regulated subsidiaries, or a portion of their assets or operations, were to cease meeting the criteria for application of these accounting rules, accounting standards for businesses in general would become applicable and immediate recognition of any previously deferred costs would be required in the year in which such criteria are no longer met.

Accounting for Pensions and Other Post-retirement Benefits

We provide pensions and other post-retirement benefits for a significant number of employees, former employees and retirees. We account for these benefits in accordance with the accounting rules for retirement benefits. In accounting for its pension and other post-retirement benefit plans, or the AVANGRID plans, assumptions are made regarding the valuation of benefit obligations and the performance of plan assets. Delayed recognition of differences between actual results and those assumed allows for a smoother recognition of changes in benefit obligations and plan performance over the working lives of the employees who benefit under the AVANGRID plans. The primary assumptions include the discount rate, the expected return on plan assets, health care cost trend rate, mortality assumptions and demographic assumptions. We apply consistent estimation techniques regarding our actuarial assumptions, where appropriate, across the AVANGRID plans of our operating subsidiaries. The estimation technique utilized to develop the discount rate for the AVANGRID plans is based upon the settlement of such liabilities as of December 31, 2017, utilizing a hypothetical portfolio of actual, high quality bonds, which would generate cash flows required to settle the liabilities. We believe such an estimate of the discount rate accurately reflects the settlement value for plan obligations and results in cash flows which closely match the expected payments to participants.

We reflect all unrecognized prior service costs and credits and unrecognized actuarial gains and losses for the regulated utilities of Networks as regulatory assets or liabilities as it is probable that such items will be recovered through the ratemaking process in future periods.

During 2017, the Society of Actuaries issued updated mortality tables and projection scales. AVANGRID, in conjunction with its actuaries, performed an analysis to determine the appropriateness of adopting these tables and the related mortality projections. As a result, our pension and post-retirement plan liabilities as of December 31, 2017, reflect updated mortality assumptions.

Business Combinations and Assets Acquisitions

We apply the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair value of the assets transferred, the liabilities incurred by the acquirer to former owners of acquiree and the equity interests issued by the acquirer. Acquisition related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the consideration transferred over the fair value of the identifiable net assets acquired is recorded as goodwill. We recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

In contrast to a business combination, we classify a transaction as an asset acquisition when substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets or otherwise does not meet the definition of a business.

Goodwill

Goodwill is not amortized, but is subject to an assessment for impairment at least annually or more frequently if events occur or circumstances change that will more likely than not reduce the fair value of the reporting unit below its carrying amount. A reporting unit is an operating segment or one level below an operating segment and is the level at which goodwill is tested for impairment.

In assessing goodwill for impairment, we have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary, or step zero. If it is determined, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If we bypass step zero or perform the qualitative assessment but determine that it is more likely than not that its fair value is less than its carrying amount, a quantitative two step, fair value based test is performed. Step one compares the fair value of the reporting unit to its carrying amount, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, step two is performed. Step two requires an allocation of fair value to the individual assets and liabilities using business combination accounting guidance to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than its carrying amount, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense.

Our step zero qualitative assessment involves evaluating key events and circumstances that could affect the fair value of our reporting units, as well as other factors. Events and circumstances evaluated include macroeconomic conditions, industry, regulatory and market considerations, cost factors and their effect on earnings and cash flows, overall financial performance as compared with projected results and actual results of relevant prior periods, other relevant entity specific events, and events affecting a reporting unit.

Our step one impairment testing, and step two if required, includes various assumptions, primarily the discount rate, which is based on an estimate of our marginal, weighted average cost of capital, and forecasted cash flows. We test the reasonableness of the conclusions of our step one impairment testing using a range of discount rates and a range of assumptions for long term cash flows.

Impairment of Long Lived Assets

We evaluate property, plant, and equipment and other long lived assets for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is required to be recognized if the carrying amount of the asset exceeds the undiscounted future net cash flows associated with that asset.

We determine the fair value of a long-lived asset (asset group) by applying the approaches prescribed under the fair value measurement accounting framework. Generally, the market approach and income approach are most relevant in the fair value measurement of our long-lived assets; however, due to the lack of available relevant observable market information in many circumstances, we often rely on the income approach. We develop the underlying assumptions consistent with our internal budgets and forecasts for such valuations. We use an internal discounted cash flow valuation model, or the DCF model, based on the principles of present value techniques, to estimate the fair value of our long-lived assets under the income approach. The DCF model estimates fair value by discounting AVANGRID's cash flow forecasts at an appropriate discount rate. Management applies considerable judgment in selecting several input assumptions during the development of our internal budgets and cash flow forecasts. Examples of the input assumptions that our budgets and forecasts are sensitive to include macroeconomic factors such as growth rates, industry demand, inflation, power prices and commodity prices. Whenever appropriate, management obtains these input assumptions from observable market data sources and extrapolates the market information if an input assumption is not observable for the entire forecast period. Many of these input assumptions are dependent on other economic assumptions, which are often derived from statistical economic models with inherent limitations such as estimation differences. Further, several input assumptions are based on historical trends which often do not recur. The input assumptions most significant to our budgets and cash flows are based on expectations of

macroeconomic factors which may be volatile. The use of a different set of input assumptions could produce significantly different budgets and cash flow forecasts.

A considerable amount of judgment is also applied in the estimation of the discount rate used in the DCF model. To the extent practical, inputs to the discount rate are obtained from market data sources.

Fair value of a long-lived asset (asset group) is sensitive to both input assumptions related to our budgets and cash flow forecasts and the discount rate. Further, estimates of long-term growth and terminal value are often critical to the fair value determination. As part of the impairment evaluation process, management analyzes the sensitivity of fair value to various underlying assumptions. The level of scrutiny increases as the gap between fair value and carrying amount decreases. Changes in any of these assumptions could result in management reaching a different conclusion regarding the potential impairment, which could be material. Our impairment evaluations inherently involve uncertainties from uncontrollable events that could positively or negatively impact the anticipated future economic and operating conditions.

Capitalization and Recovery of Project Development Costs

Development and construction of our various facilities are carried out in stages. Project costs are expensed during early stage development activities. Once certain development milestones are achieved and it is probable that we can obtain future economic benefits from a project, salaries and wages for persons directly involved in the project, and engineering, permits, licenses, wind measurement and insurance costs are capitalized.

Development projects in construction are reviewed periodically for any indications of impairment. Furthermore, we assess the recoverability of development costs that have been capitalized using several criteria to assess economic recoverability and probability of future economic benefit including energy prices, government regulation, and the internal rate of return to be earned on the project. If based on these factors, we conclude that we will not proceed with the related project, or that the project is no longer viable, the cost of the project is expensed in full.

Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in either the principal market for the asset or liability, or, in the absence of a principal market, in the most advantageous market for the asset or liability.

We use valuation techniques and methodologies that maximize the use of observable inputs and minimize the use of unobservable inputs. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices are not available, valuation models are applied to estimate the fair value using the available observable inputs. The valuation techniques involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

To increase consistency and enhance disclosure of the fair value of financial instruments, the fair value measurement standard includes a fair value hierarchy to prioritize the inputs used to measure fair value into three categories. An asset or liability's level within the fair value hierarchy is based on the lowest level of input significant to the fair value measurement, where Level 1 is the highest and Level 3 is the lowest.

Income Tax

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2017 tax period, which is consistent with the 2016 tax period.

For the 2015 tax year, AVANGRID filed a consolidated federal income tax return, which included the UIL taxable income or loss for the period from December 17, 2015 to December 31, 2015. UIL filed a separate consolidated federal income tax return for the period from January 1, 2015 to December 16, 2015.

AVANGRID filed a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries (excluding UIL), including ARHI, which are 80% or more owned for the 2014 tax period. UIL filed separate consolidated federal income tax returns including the income or loss of its subsidiaries for all tax years including the filed 2014 return.

AVANGRID (excluding ARHI and UIL), and ARHI each filed separate consolidated federal income tax returns that included the taxable income or loss of all their respective subsidiaries, which are 80% or more owned, for all tax periods prior to 2013.

We use the liability method of accounting for income taxes. Deferred tax assets and liabilities reflect the expected future tax consequences based on enacted tax law of temporary differences between the tax basis of assets and liabilities and their financial reporting amounts. In accordance with U.S. GAAP for regulated industries, our regulated subsidiaries have established a regulatory asset for the net revenue requirements to be recovered from customers for the related future tax expense associated with certain of these temporary differences. The investment tax credits are deferred when used and amortized over the estimated lives of the related assets.

Deferred tax assets and liabilities are measured at the expected tax rate for the period in which the asset or liability will be realized or settled, based on legislation enacted as of the balance sheet date. Changes in deferred income tax assets and liabilities that are associated with components of other comprehensive income, or OCI, are charged or credited directly to OCI. Significant judgment is required in determining income tax provisions and evaluating tax positions. Our tax positions are evaluated under a more-likely-than-not recognition threshold before they are recognized for financial reporting purposes. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that all or a portion of a tax benefit will not be realized.

The excess of state franchise tax computed as the higher of a tax based on income or a tax based on capital is recorded in “Taxes other than income taxes” and “Taxes accrued” in the accompanying consolidated financial statements.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties. Interest and penalties related to unrecognized tax benefits are recorded within “Interest expense, net of capitalization” and “Other income and (expense)” of the consolidated statements of income.

Uncertain tax positions have been classified as noncurrent unless expected to be paid within one year. Our policy is to recognize interest and penalties on uncertain tax positions as a component of interest expense in the consolidated statements of income.

Federal production tax credits applicable to our renewable facilities, that are not part of a tax equity financing arrangement, are shown in the financial statements as a reduction in Income tax expense and as a reduction in deferred income tax liabilities.

Our income tax expense, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect management’s best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required in determining the consolidated income tax components of the financial statements.

On December 22, 2017, the President of the United States signed into law legislation referred to as the “Tax Cuts and Jobs Act”, or the Tax Act. The Tax Act includes significant changes to the Internal Revenue Code of 1986 (as amended, the Code), including amendments which significantly change the taxation of business entities, and includes specific provisions related to regulated public utilities. The most significant change that impacted the Company was the permanent reduction in the corporate federal income tax rate from 35% to 21%, which required us to measure existing net deferred tax liabilities using the lower rate in the period of enactment, resulting in an income tax benefit. The specific provisions in the Tax Act related to regulated public utilities generally allow for the continued deductibility of interest expense, the elimination of full expensing for tax purposes of certain property acquired after September 27, 2017, and continues certain rate normalization requirements for accelerated depreciation benefits.

The staff of the US Securities and Exchange Commission, or the SEC, has recognized the complexity of reflecting the impacts of the Tax Act, and on December 22, 2017, issued guidance in Staff Accounting Bulletin 118, or SAB 118, which clarifies accounting for income taxes under Accounting Standards Codification (ASC), Topic 740, Income Taxes (ASC 740), if information is not yet available or complete and provides for up to a one year period in which to complete the required analyses and accounting, or the measurement period.

The Company has completed or has made a reasonable estimate for the measurement and accounting of certain effects of the Tax Act which have been reflected in the December 31, 2017 financial statements. The Company has reported provisional amounts for the income tax effects related to the remeasurement of our deferred tax assets and liabilities. The ultimate impact may differ (materially) from the provisional amounts, among other things, as a result of additional analysis, changes in interpretations and assumptions, the release of additional guidance by the Internal Revenue Service, Treasury Department, and other standard-setting bodies. There were no specific impacts that could not be reasonably estimated.

Off-Balance Sheet Arrangements

As of December 31, 2017, we had approximately \$2.4 billion of standby letters of credit, surety bonds, guarantees and indemnifications outstanding. These instruments provide financial assurance to the business and trading partners of AVANGRID and its subsidiaries in their normal course of business. The instruments only represent liabilities if AVANGRID or its subsidiaries fail to deliver on contractual obligations. We therefore believe it is unlikely that any material liabilities associated with these instruments will be incurred and, accordingly, as of December 31, 2017, neither we nor our subsidiaries have any liabilities recorded for these instruments.

New Accounting Standards

Revenue from contracts with customers - In May 2014 the FASB issued an amendment related to the recognition of revenue from contracts with customers and required disclosures.

Classifying and measuring financial instruments - In January 2016 the FASB issued final guidance on the classification and measurement of financial instruments.

Leases - In February 2016 the FASB issued new guidance that affects all companies and organizations that lease assets, and requires them to record on their balance sheet assets and liabilities for the rights and obligations created by those leases.

Measurement of credit losses on financial instruments - In June 2016 the FASB issued an accounting standards update that requires more timely recording of credit losses on loans and other financial instruments.

Certain classifications in the statement of cash flows - In August 2016 the FASB issued amendments to address existing diversity in practice concerning eight cash flows issues.

Clarifying the definition of a business - In January 2017 the FASB issued amendments to clarify the definition of a business.

Simplifying the test for goodwill impairment - In January 2017 the FASB issued amendments to eliminate Step 2 of the goodwill impairment test.

Clarifying the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets - In February 2017 the FASB issued amendments concerning asset derecognition and partial sales of nonfinancial assets.

Improving the presentation of net periodic benefit costs - In March 2017 the FASB issued amendments to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost in the financial statements.

Targeted improvements to accounting for hedging activities - In August 2017 the FASB issued targeted amendments with the objective to better align hedge accounting with an entity's risk management activities in the financial statements, and to simplify the application of hedge accounting.

Reclassification of certain tax effects from accumulated other comprehensive income - In February 2018 the FASB issued amendments to address a narrow-scope financial reporting issue that arose as a consequence of the Tax Act enacted by the U.S. federal government on December 22, 2017.

For further discussion of new the accounting pronouncements that affect AVANGRID refer to Note 3 of our consolidated financial statements for the three years ended December 31, 2017, which are incorporated herein by reference.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to risks associated with adverse changes in commodity prices, interest rates and equity prices. Financial instruments and positions affecting our financial statements described below are held primarily for purposes other than trading. Market risk is measured as the potential loss in fair value resulting from hypothetical reasonably possible changes in commodity prices, interest rates or equity prices over the next year. Management has established risk management policies to monitor and manage such market risks, as well as credit risks.

Commodity Price Risk

Renewables and Gas face a number of energy market risk exposures, including fixed price, basis (both location and time), and heat rate risk.

Long-term supply contracts reduce our exposure to market fluctuations. We have electricity commodity purchases and sales contracts for energy (physical contracts) that have been designated and qualify for the normal purchase normal sale exemption in accordance with the accounting requirements concerning derivative instruments and hedging activities.

Renewables merchant wind facilities are subject to fixed price power risk, which is hedged with fixed price power trades. Its combined cycle power plant is subject to heat rate risk, which is hedged with fixed price power and fixed price gas and basis positions. Contracted natural gas storage exposures are affected by gas price differentials across time. We manage this exposure with fixed price, basis, and index gas derivatives. In addition, contracted transport positions are subject to gas price risk across location (i.e., the price differentials between the receipt and delivery points associated with the leased pipelines). We hedge this exposure with basis swaps. Those measures mitigate our commodity price exposure, but do not completely eliminate it. Some long term hedges do not qualify for hedge accounting. This introduces some Mark to Market volatility into yearly profit and losses accounts.

Renewables and Gas use a Monte Carlo simulation value-at-risk, or VaR, technique to measure and control the level of risk it undertakes. VaR is a statistical technique used to measure and quantify the level of risk within a portfolio over a given timeframe and within a specified level of confidence. VaR is primarily composed of three variables: the measured amount of potential loss, the probability of not exceeding the amount of potential loss, and the portfolio holding period.

Renewables and Gas use a 99% probability level over a five-day holding period, indicating that it can be 99% confident that losses over five days would not exceed that value. The average VaR for 2017 was \$15.0 million compared to a 2016 average of \$17.7 million.

As noted above, VaR is a statistical technique and is not intended to be a guarantee of the maximum loss ARHI may incur.

Networks also experiences commodity price risk, due to volatility in the wholesale energy markets. Networks manages that risk through a combination of regulatory mechanisms, such as the pass-through of the market price of electricity and natural gas to customers, and through comprehensive risk management processes. Those measures mitigate our commodity price exposure, but do not completely eliminate it. Networks also uses electricity contracts as deemed appropriate, both physical and financial, to manage fluctuations in electricity commodity prices in order to provide price stability to customers. It also uses natural gas futures and forwards to manage fluctuations in natural gas commodity prices in order to provide price stability to customers. It includes the cost or benefit of those contracts in the amount expensed for electricity or natural gas purchased when the related electricity is sold.

Because all gains or losses on Networks' commodity contracts will ultimately be passed on to retail customers, no sensitivity analysis is performed for Networks. Further information regarding the derivative financial instruments and sensitivity analysis is provided in Notes 11 and 12 of our consolidated financial statements for the three years ended December 31, 2017, which are incorporated herein by reference.

Interest Rate Risk

Total debt outstanding, including tax equity of \$98 million, notes payable to affiliates of \$29 million, drawn credit facility of \$250 million and commercial paper of \$507 million, was \$6.3 billion at December 31, 2017, of which \$848 million had a floating interest rate; a change of 25 basis points in this interest rate would result in an interest expense fluctuation of approximately \$2.1 million annually. The estimated fair value of our long-term debt excluding the debt associated with tax equity at December 31, 2017 was \$5.8 billion, in comparison to a book value of \$5.4 billion.

There are no interest rate derivative contracts outstanding at December 31, 2017 and 2016.

Pension and Post-Retirement Plans

We provide pensions and other post-retirement benefits for a significant number of employees, former employees and retirees. In applying relevant accounting policies, we have made critical estimates related to actuarial assumptions, including assumptions of expected returns on plan assets, discount rates, health care cost trends and future compensation. The cost of pension and other post-retirement benefits in future periods will depend on actual returns on plan assets, assumptions for future periods, contributions and benefit experience. In 2017, we contributed \$32 million to our pension plans. Our contribution to the pension plans in 2018 is expected to be approximately \$49 million.

The discount rate used in accounting for pension and other benefit obligations in 2017 ranged from 3.63% to 4.24%. The expected rate of return on plan assets for qualified pension benefits in 2017 ranged from 5.50% to 7.50%. The following tables reflect the estimated sensitivity associated with a change in certain significant actuarial assumptions (each assumption change is presented mutually exclusive of other assumption changes):

	Change in Assumption	Impact on 2017 Pension Expense Increase (Decrease)	
		Pension Benefits	Post Retirement
		(in millions)	
Increase in discount rate	50 basis points	\$ (17)	\$ (2)
Decrease in discount rate	50 basis points	17	2
Increase in return on plan asset	50 basis points	(13)	(1)
Decrease in return on plan asset	50 basis points	13	1

Credit Risk

This risk is defined as the risk that a third party will not fulfill its contractual obligations and, therefore, generate losses for AVANGRID. Networks is exposed to nonpayment of customer bills. Standard debt recovery procedures are in place, in accordance with best practices and in compliance with applicable state regulations and embedded tariff mechanisms to manage uncollectable expense. Our credit department, based on guidelines approved by our board, establishes and manages its counterparty credit limits. We have developed a matrix of unsecured credit thresholds that are dependent on a counterparty's or the counterparty guarantor's applicable credit rating. Credit risk is mitigated by contracting with multiple counterparties and limiting exposure to individual counterparties or counterparty families to clearly defined limits based upon the risk of counterparty default. At the counterparty level, we employ specific eligibility criteria in determining appropriate limits for each prospective counterparty and supplement this with netting and collateral agreements, including margining, guarantees, letters of credit, and cash deposits, where appropriate.

Renewables and Gas are also exposed to credit risk through their energy management and gas storage operations. We manage counterparty credit risk for our subsidiaries with energy management and gas storage operations through established policies, including counterparty credit limits, and in some cases credit enhancements, such as cash prepayments, letters of credit, cash and other collateral and guarantees. As a consequence of the sale of the Gas trading business, AVANGRID will be exposed to contingent credit risks, due to the temporary use of outgoing guarantees by the buyer during a transition period, until all outgoing guarantees are replaced and obligations released. This risk will be covered by a buyer's parent guarantee and a letter of credit. We expect this amount to be reduced quickly and this risk to be immaterial once the transition period is completed.

Some relevant considerations when assessing the credit risk exposure of the energy management and gas storage operations are as follows:

- Operations are primarily concentrated in the energy industry.
- Trade receivables and other financial instruments are predominately with energy, utility and financial services related companies, as well as municipalities, cooperatives and other trading companies in the U.S., although there is a growing segment of long term power sales (PPAs) signed with Commercial and Industrial customers of high credit quality.
- Overall credit risk is managed through established credit policies by a Credit Risk Management group that is independent of the energy management and gas storage functions.
- Prospective and existing customers are reviewed for creditworthiness based upon established standards, with customers not meeting minimum standards providing various credit enhancements or secured payment terms, such as guarantees, letters of credit or the posting of margin cash collateral.
- Master netting agreements are used, where appropriate, to offset cash and non-cash gains and losses arising from derivative instruments with the same counterparty.

Based on our policies and risk exposures related to credit risk from its management and gas storage operations in ARHI, we do not anticipate a material adverse effect on our financial statements as a result of counterparty nonperformance. As of December 31, 2017, approximately 92% of our energy management and gas storage counterparty credit risk exposure is associated with companies that have investment grade credit ratings.

The following table displays the credit quality of our energy management and gas storage counterparties as of December 31, 2017:

	Credit Exposure Before Cash Collateral	Cash Collateral	Net Credit Exposure
	(in millions)		
A- and Greater	\$ 2,263	\$ —	\$ 2,263
BBB+ and BBB	547	—	547
BBB-	6	—	6
Total Investment Grade(1)	2,816	—	2,816
Non-investment grade(2) (3) (4) (5)	232	11	221
Total	\$ 3,048	\$ 11	\$ 3,037

- (1) This category includes counterparties with minimum credit ratings of Baa3 assigned by Moody's and BBB- assigned by Standard & Poor's, if rated by both agencies. The five largest counterparty exposures, combined, for this category represented approximately 35.1% of the total gross credit exposure.
- (2) This category includes counterparties with credit ratings that are below investment grade. The five largest counterparty exposures, combined, for this category represented approximately 5.1% of the total gross credit exposure.
- (3) This category includes counterparties that have not been rated by Moody's or Standard & Poor's, but are considered investment grade based on our evaluation of the counterparty's creditworthiness. The five largest counterparty exposures, combined, for this category represented approximately 0.8% of the total gross credit exposure.
- (4) This category includes counterparties that have not been rated by Moody's or Standard & Poor's, and are considered non-investment grade based on our evaluation of the counterparty's creditworthiness. The five largest counterparty exposures, combined, for this category represented approximately 0.4% of the total gross credit exposure.
- (5) This category includes exposure under two separate PPA agreements, the counterparty of which was downgraded to non-investment grade by Moody's and Standard & Poor's following their announcement to complete a strategic review of its competitive operations and alternatives for the certain generation assets. The targeted implementation of changes in connection with such strategic review could result in, among other things, material asset impairments or a potential bankruptcy filing. The current combined estimated exposure under the two PPAs represents approximately 5% of the total gross credit exposure.

Treasury Management (including Liquidity Risk)

We manage our overall liquidity position as part of the group of companies controlled by the Iberdrola Group, and are a party to a liquidity agreement with a financial institution, along with certain members of the Iberdrola Group. We optimize our liquidity within the United States through a series of arms'-length intercompany lending arrangements with our subsidiaries and among the regulated utilities to provide for lending of surplus cash to subsidiaries with liquidity needs, subject to the limitation that the regulated utilities may not lend to unregulated affiliates. These arrangements minimize overall short-term funding costs and maximize returns on the temporary cash investments of the subsidiaries. We also have a bi-lateral demand note agreement with a Canadian affiliate of the Iberdrola Group. We have the capacity to borrow from third parties through a \$1 billion commercial paper program and the \$1.5 billion AVANGRID Credit Facility which backstops the commercial paper program. For more information, see the section entitled "—Liquidity and Capital Resources—Liquidity Resources" of this Annual Report on Form 10-K.

Networks

Networks' regulated utilities fund their operations independently, except to the extent that they borrow on a short-term basis from unregulated affiliates and from each other when circumstances warrant in order to minimize short-term funding costs and maximize returns on temporary cash investments. The regulated utilities are prohibited by regulatory order from lending to unregulated affiliates. Networks' regulated utilities each independently access the investment grade debt capital markets for long-term funding and each are borrowers under the AVANGRID Credit Facility described in "—Liquidity and Capital Resources—Liquidity Resources" of this Annual Report on Form 10-K.

Networks' regulated utilities are subjected by regulatory order to certain credit quality maintenance measures, including minimum equity ratios, that are linked to the level of equity assumed in the establishment of revenue requirements. The companies maintain their equity ratios at or above the minimum through dividend declarations or, when necessary, capital contributions from AVANGRID.

Renewables

Prior to becoming a subsidiary of AVANGRID in November 2013, Renewables was principally funded by equity contributions from Iberdrola, S.A. The last such equity contribution of \$800 million was made in February 2013. Renewables has also raised a small percentage of its capital through tax equity partnerships, project loans and sale-leaseback arrangements. The balance of the outstanding tax equity financing arrangement at December 31, 2017, was \$98 million and the balance of leases was \$54 million.

Presently, Renewables is a party to a cash pooling arrangement with Avangrid, Inc. All Renewables revenues are concentrated in and all Renewables disbursements are made from Avangrid, Inc. Net cash surpluses or deficits at Renewables are recorded as intercompany receivables or payables and these balances are periodically reduced to zero through dividends or capital contributions. In July 2017, Renewables recorded a net dividend of \$418 million to Avangrid, Inc. to zero out account balances that had principally accumulated prior to June 2017. Additionally, Avangrid, Inc. made a net non-cash capital contribution of \$921 million in Renewables in 2017, which was used by Renewables to settle outstanding intercompany debt payables of Gas segment accumulated prior to August 2017.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders
Avangrid, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of Avangrid, Inc. and subsidiaries (the Company) as of December 31, 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year ended December 31, 2017, and the related notes and financial statement schedule I (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017, and the results of its operations and its cash flows for the year ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 26, 2018 expressed an adverse opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2017.

New York, New York
March 26, 2018

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders
Avangrid, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Avangrid, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, because of the effect of the material weakness, described below, on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheet of the Company as of December 31, 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year ended December 31, 2017, and the related notes and financial statement schedule I (collectively, the consolidated financial statements), and our report dated March 26, 2018 expressed an unqualified opinion on those consolidated financial statements.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. A material weakness related to the measurement and disclosure of income taxes has been identified and included in management's assessment. The material weakness was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2017 consolidated financial statements, and this report does not affect our report on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

New York, New York
March 26, 2018

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Avangrid, Inc.

We have audited the accompanying consolidated balance sheet of Avangrid, Inc. and subsidiaries (the “Company”) as of December 31, 2016, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the two years in the period ended December 31, 2016. Our audits also included the financial statement schedule listed in the Index at Item 15(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Avangrid, Inc. and subsidiaries at December 31, 2016, and the consolidated results of their operations and their cash flows for each of the two years in the period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ Ernst & Young LLP

New York, New York
March 10, 2017

except for Note 2, as to which the date is
March 26, 2018

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Income

Years Ended December 31,	2017	2016	2015
(Millions, except for number of shares and per share data)			
Operating Revenues	\$ 5,963	\$ 6,018	\$ 4,367
Operating Expenses			
Purchased power, natural gas and fuel used	1,338	1,286	972
Operations and maintenance	2,211	2,206	1,808
Impairment	642	—	12
Depreciation and amortization	824	804	695
Taxes other than income taxes	563	528	367
Total Operating Expenses	5,578	4,824	3,854
Operating Income	385	1,194	513
Other Income and (Expense)			
Other income	58	76	56
Earnings from equity method investments	(40)	7	—
Interest expense, net of capitalization	(280)	(268)	(267)
Income Before Income Tax	123	1,009	302
Income tax (benefit) expense	(259)	377	29
Net Income	382	632	273
Less: Net income attributable to noncontrolling interests	1	—	—
Net Income Attributable to Avangrid, Inc.	\$ 381	\$ 632	\$ 273
Earnings Per Common Share, Basic:	\$ 1.23	\$ 2.04	\$ 1.07
Earnings Per Common Share, Diluted:	\$ 1.23	\$ 2.04	\$ 1.07
Weighted-average Number of Common Shares Outstanding:			
Basic	309,502,861	309,512,553	254,588,212
Diluted	309,661,883	309,817,322	254,605,111
Cash Dividends Declared Per Common Share	\$ 1.728	\$ 1.728	\$ —

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income

Years Ended December 31,	2017	2016	2015
(Millions)			
Net Income	\$ 382	\$ 632	\$ 273
Other Comprehensive Income			
Amounts arising during the year:			
Gain on defined benefit plans, net of income taxes of \$4.3 and \$2.2, respectively	—	7	4
Amortization of pension cost for nonqualified plans, net of income taxes of \$0.2, \$0.4 and \$1.7 respectively	1	1	3
Unrealized gain (loss) during the year on derivatives qualifying as cash flow hedges, net of income taxes of \$15.2, \$(15.8) and \$20.9, respectively	25	(26)	33
Reclassification to net income of losses (gains) on cash flow hedges, net of income taxes of \$9.3, \$(11.0) and \$4.9, respectively	14	(16)	7
Other Comprehensive Income (Loss)	40	(34)	47
Comprehensive Income	422	598	320
Less: Net income attributable to noncontrolling interests	1	—	—
Comprehensive Income Attributable to Avangrid, Inc.	\$ 421	\$ 598	\$ 320

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Balance Sheets

As of December 31, (Millions)	2017	2016
Assets		
Current Assets		
Cash and cash equivalents	\$ 41	\$ 91
Accounts receivable and unbilled revenues, net	1,040	1,119
Accounts receivable from affiliates	10	25
Derivative assets	18	99
Fuel and gas in storage	99	246
Materials and supplies	115	132
Prepayments and other current assets	273	255
Assets held for sale	357	—
Regulatory assets	307	285
Total Current Assets	2,260	2,252
Total Property, Plant and Equipment (\$1,303 and \$1,144 related to VIEs, respectively)	22,669	21,548
Equity method investments	352	387
Other investments	63	55
Regulatory assets	2,738	3,091
Other Assets		
Goodwill	3,127	3,124
Intangible assets	328	538
Derivative assets	63	73
Other	71	241
Total Other Assets	3,589	3,976
Total Assets	\$ 31,671	\$ 31,309

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Balance Sheets

As of December 31,	2017	2016
(Millions, except share information)		
Liabilities		
Current Liabilities		
Current portion of debt	\$ 183	\$ 349
Tax equity financing arrangements - VIEs	38	96
Notes payable	757	151
Notes payable to affiliate	29	10
Interest accrued	57	60
Accounts payable and accrued liabilities	1,071	1,096
Accounts payable to affiliates	89	218
Dividends payable	134	134
Taxes accrued	89	52
Derivative liabilities	22	75
Liabilities held for sale	137	—
Other current liabilities	330	279
Regulatory liabilities	178	192
Total Current Liabilities	3,114	2,712
Regulatory liabilities	3,239	1,753
Deferred income taxes regulatory	13	565
Other Non-current Liabilities		
Deferred income taxes	1,452	2,890
Deferred income	1,446	1,483
Pension and other postretirement	1,049	1,106
Tax equity financing arrangements - VIEs	60	103
Derivative liabilities	92	78
Asset retirement obligations	196	161
Environmental remediation costs	358	398
Other	360	342
Total Other Non-current Liabilities	5,013	6,561
Non-current Debt	5,196	4,510
Total Non-current Liabilities	13,461	13,389
Total Liabilities	16,575	16,101
Commitments and Contingencies		
Equity		
Stockholders' Equity:		
Common stock, \$.01 par value, 500,000,000 shares authorized, 309,670,932 and 309,600,439 shares issued; 309,005,272 and 308,993,149 shares outstanding, respectively	3	3
Additional paid-in capital	13,653	13,653
Treasury Stock	(8)	(5)
Retained earnings	1,475	1,630
Accumulated other comprehensive loss	(46)	(86)
Total Stockholders' Equity	15,077	15,195
Noncontrolling interests	19	13
Total Equity	15,096	15,208
Total Liabilities and Equity	\$ 31,671	\$ 31,309

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Cash Flows

Years Ended December 31,	2017	2016	2015
(Millions)			
Cash Flow from Operating Activities			
Net income	\$ 382	\$ 632	\$ 273
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation and amortization	824	804	695
Impairment	642	—	12
Accretion expenses	10	10	14
Regulatory assets/liabilities amortization	47	49	101
Regulatory assets/liabilities carrying cost	15	13	41
Pension cost	112	110	115
Stock-based compensation	1	1	6
Earnings from equity method investments	40	(7)	—
Amortization of debt (premium) cost	(5)	(28)	3
Gain on disposal of property and equity method investment	(2)	(33)	—
Unrealized losses (gains) on marked to market derivative contracts	17	(4)	10
Deferred taxes	(251)	375	82
Other non-cash items	(69)	(23)	(5)
Changes in operating assets and liabilities:			
Accounts receivable and unbilled revenues	(48)	(158)	160
Inventories	12	46	4
Other assets	(3)	107	(39)
Cash distribution from equity method investments	16	14	—
Accounts payable and accrued liabilities	81	184	(10)
Other liabilities	(52)	(447)	(194)
Taxes accrued	41	(3)	21
Regulatory assets/liabilities	(47)	(81)	74
Net Cash Provided by Operating Activities	1,763	1,561	1,363
Cash Flow from Investing Activities			
Capital expenditures	(2,416)	(1,707)	(1,082)
Contributions in aid of construction	57	69	38
Government grants	—	—	17
Acquisition of business, net of \$48 million cash acquired	—	—	(547)
Proceeds from sale of equity method and other investment	—	57	3
Proceeds from sale of property, plant and equipment	12	50	—
Receipts from (payments to) affiliates	—	6	(6)
Cash distribution from equity method investments	4	6	12
Other investments and equity method investments, net	2	(8)	47
Net Cash Used in Investing Activities	(2,341)	(1,527)	(1,518)
Cash Flow from Financing Activities			
Non-current note issuances	888	493	350
Repayments of non-current debt	(305)	(355)	(141)
Proceeds (repayments) of other short-term debt, net	625	(2)	10
Repayments of capital leases	(33)	(12)	(12)
Payments on tax equity financing arrangements	(113)	(88)	(102)
Dividends to noncontrolling interests	—	—	(3)
Repurchase of common stock	(3)	(5)	—
Issuance of common stock	(1)	(2)	—
Transaction with noncontrolling interest	5	—	—
Dividends paid	(535)	(401)	—
Net Cash Provided by (Used in) Financing Activities	528	(372)	102
Net Decrease in Cash, Cash Equivalents and Restricted Cash	(50)	(338)	(53)
Cash, Cash Equivalents and Restricted Cash, Beginning of Year	96	434	487
Cash, Cash Equivalents and Restricted Cash, End of Year	\$ 46	\$ 96	\$ 434
Supplemental Cash Flow Information			
Cash paid for interest, net of amounts capitalized	\$ 202	\$ 229	\$ 132
Cash paid for income taxes	13	9	7

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Changes in Equity

(Millions, except for number of shares)	Avangrid, Inc. Stockholders						Total Stockholders' Equity	Non-controlling Interests	Total Equity
	Number of shares (*)	Common Stock	Additional paid-in capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)			
Balances, December 31, 2014 (as revised)	252,235,232	\$ 3	11,375	\$ —	1,260	(99)	\$ 12,539	\$ 16	\$ 12,555
Net income	—	—	—	—	273	—	273	—	273
Other comprehensive income, net of tax of \$29.7	—	—	—	—	—	47	47	—	47
Comprehensive income									320
Issuance of common stock	57,255,850	—	2,278	—	—	—	2,278	—	2,278
Common stock held in trust	(626,473)	—	—	—	—	—	—	—	0
Dividends to noncontrolling interests	—	—	—	—	—	—	—	(3)	(3)
Balances, December 31, 2015	308,864,609	3	13,653	—	1,533	(52)	15,137	13	15,150
Net income	—	—	—	—	632	—	632	—	632
Other comprehensive income, net of tax of \$(22.1)	—	—	—	—	—	(34)	(34)	—	(34)
Comprehensive income									598
Dividends declared	—	—	—	—	(535)	—	(535)	—	(535)
Release of common stock held in trust	135,014	—	—	—	—	—	—	—	—
Issuance of common stock	109,357	—	(2)	—	—	—	(2)	—	(2)
Repurchase of common stock	(115,831)	—	—	(5)	—	—	(5)	—	(5)
Stock-based compensation	—	—	2	—	—	—	2	—	2
Balances, December 31, 2016	308,993,149	3	13,653	(5)	1,630	(86)	15,195	13	15,208
Net income	—	—	—	—	381	—	381	1	382
Other comprehensive income, net of tax of \$24.7	—	—	—	—	—	40	40	—	40
Comprehensive income									422
Dividends declared	—	—	—	—	(535)	—	(535)	—	(535)
Release of common stock held in trust	5,649	—	—	—	—	—	—	—	—
Issuance of common stock	70,493	—	(1)	—	—	—	(1)	—	(1)
Repurchase of common stock	(64,019)	—	—	(3)	—	—	(3)	—	(3)
Stock-based compensation	—	—	1	—	—	—	1	—	1
Transaction with noncontrolling interests	—	—	—	—	(1)	—	(1)	5	4
Balances, December 31, 2017	309,005,272	\$ 3	\$ 13,653	\$ (8)	\$ 1,475	\$ (46)	\$ 15,077	\$ 19	\$ 15,096

(*) Par value of share amounts is \$.01

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Notes to Consolidated Financial Statements

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Note 1. Background and Nature of Operations

Avangrid, Inc., formerly Iberdrola USA, Inc. (AVANGRID, we or the Company), is an energy services holding company engaged in the regulated energy distribution business through its principal subsidiary, Avangrid Networks, Inc. (Networks) and in the renewable energy generation and gas storage and trading businesses through its principal subsidiary, Avangrid Renewables Holding, Inc. (ARHI). ARHI in turn holds subsidiaries including Avangrid Renewables, LLC (Renewables) and Enstor Gas, LLC (Gas). Iberdrola, S.A. (Iberdrola), a corporation organized under the laws of the Kingdom of Spain, owns 81.5% of the outstanding common stock of AVANGRID. The remaining outstanding shares are publicly traded on the New York Stock Exchange and owned by various shareholders. AVANGRID was organized in 1997 as NGE Resources, Inc. under the laws of New York as the holding company for its principal operating utility companies.

In December 2017, management committed to a plan to sell the gas storage and trading businesses because they represent non-core businesses that are not aligned with our strategic objectives. As a result, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. The gas trading and storage businesses are being marketed for sale, and it is the Company's intention to complete the sales of these assets and liabilities within twelve months following their initial classification as held for sale. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC (CCI). On February 16, 2018, the Company entered into a definitive agreement to sell Enstor Gas, LLC, which operates the AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC. The agreement includes, among other things, a transition services agreement which obligates ARHI to provide certain transition services for up to one year after the closing date and includes a guarantee the Company will release certain obligations to Amphora Gas Storage USA, LLC. The transaction, which is subject to the satisfaction of customary closing conditions, is expected to be completed during the second quarter of 2018. Additional details on held for sale classification are provided in Note 25 to our consolidated financial statements.

Acquisition of UIL

On December 16, 2015 (acquisition date), UIL Holdings Corporation, a Connecticut corporation (UIL), became a wholly-owned subsidiary of AVANGRID as a result of the merger of Green Merger Sub, Inc., a Connecticut corporation and a wholly-owned subsidiary of AVANGRID (Merger Sub), with UIL, with Merger Sub surviving as a wholly-owned subsidiary of AVANGRID (the acquisition). The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among AVANGRID, Merger Sub, and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation." In connection with the acquisition, we issued 309,490,839 shares of common stock of AVANGRID, out of which 252,234,989 shares were issued to Iberdrola through a stock dividend, accounted for as a stock split, with no change to par value, at par value of \$0.01 per share, and 57,255,850 shares (including those held in trust as treasury stock) were issued to UIL shareowners in addition to payment of \$10.50 in cash per each share of the common stock of UIL issued and outstanding at the acquisition date. Following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID and Iberdrola owned the remaining shares.

The regulated utility businesses of UIL consist of the electric distribution and transmission operations of UI and the natural gas transportation, distribution and sales operations of The Southern Connecticut Gas Company (SCG), Connecticut Natural Gas Corporation (CNG) and The Berkshire Gas Company (BGC).

UI is also a party to a joint venture with NRG Yield Operating LLC, a subsidiary of NRG Yield, Inc. (NYLD, and collectively with NRG Yield Operating LLC, NRG affiliates), which is an affiliate of NRG Energy, Inc. (NRG), pursuant to which UI holds 50% of the membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC (collectively with GCE Holding LLC, GenConn) operates peaking generation plants in Devon, Connecticut (GenConn Devon) and Middletown, Connecticut (GenConn Middletown). In February 2018, NRG announced that it has agreed to sell its ownership stake in NYLD. This sale is expected to close during the second half of 2018 and is not expected to have an impact on GenConn.

Note 2. Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with U.S. GAAP and are presented on a consolidated basis, and therefore include the accounts of AVANGRID and its consolidated subsidiaries, Networks and ARHI.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Consolidated accounts of UIL have been included in the consolidated financial statements of AVANGRID since December 16, 2015, the date of acquisition of UIL. All intercompany transactions and accounts have been eliminated in all periods presented. All share and per share information included in the consolidated financial statements has been retroactively adjusted to reflect the impact of the stock dividend.

Immaterial Corrections to Prior Periods

During the year ended December 31, 2017, we identified immaterial corrections to prior periods related to our deferred income tax liabilities associated with our tax equity financing arrangements in our Renewables reportable segment. We evaluated the effects of these corrections on our previously-issued consolidated financial statements, individually and in the aggregate, in accordance with the guidance in Accounting Standards Codification (ASC) Topic 250, Accounting Changes and Error Corrections, ASC Topic 250-10-S99-1, Assessing Materiality, and ASC Topic 250-10-S99-2, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements, and concluded that no prior period is materially misstated. Accordingly, we have revised our consolidated financial statements for the prior periods presented herein.

As a result of the correction to our deferred tax liabilities, the revisions resulted in a decrease in income tax expense of \$2.4 million and \$5.0 million and an increase in other income of \$0.2 million and \$0.4 million for the years ended December 31, 2016 and 2015, respectively. The cumulative effect of the changes to retained earnings at the beginning of 2015, the earliest date presented in these consolidated financial statements for the year ended December 31, 2017, was an increase of \$77.2 million. The revision also resulted in a decrease in deferred taxes of \$2.4 million and \$5.0 million and a decrease in amortization of debt (premium) cost of \$0.2 million and \$0.4 million in the consolidated statements of cash flow for the years ended December 31, 2016 and 2015, respectively, with no net impact on our net cash provided by operating activities for the years ended December 31, 2016 and 2015. The information provided in Note 14 - Income Taxes, Note 21 - Other Financial Statement Items and the segment information related to our Renewables reportable segment provided in Note 22 for the years ended December 31, 2016 and 2015 has also been revised to reflect these corrections.

A summary of the effect of the correction on the consolidated balance sheet as of December 31, 2016 is as follows:

As of December 31, 2016	As Reported	Correction	As Revised
(Millions)			
Deferred income taxes	\$ 2,976	\$ (86)	\$ 2,890
Total Other Non-current Liabilities	6,647	(86)	6,561
Total Non-current Liabilities	13,475	(86)	13,389
Total Liabilities	16,187	(86)	16,101
Retained earnings	1,544	86	1,630
Total Stockholders' Equity	15,109	86	15,195
Total Equity	15,122	86	15,208
Total Liabilities and Equity	\$ 31,309	\$ —	\$ 31,309

A summary of the effect of the correction on the consolidated statements of income for the years ended December 31, 2016 and 2015 is as follows:

Year Ended December 31, 2016	As Reported	Correction	As Revised
(Millions, except per share data)			
Other income	\$ 76	\$ —	\$ 76
Income Before Income Tax	1,009	—	1,009
Income tax expense	379	(2)	377
Net Income	630	2	632
Net Income Per Common Share, Basic and Diluted:	\$ 2.04	\$ —	\$ 2.04

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Year Ended December 31, 2015 (Millions, except per share data)	As Reported	Correction	As Revised
Other income	\$ 55	\$ 1	\$ 56
Income Before Income Tax	301	1	302
Income tax expense	34	(5)	29
Net Income	267	6	273
Net Income Per Common Share, Basic and Diluted:	\$ 1.05	\$ 0.02	\$ 1.07

Note 3. Summary of Significant Accounting Policies, New Accounting Pronouncements, and Use of Estimates

Significant Accounting Policies

We consider the following policies to be the most critical in understanding the judgments that are involved in preparing our consolidated financial statements:

(a) Principles of consolidation

We consolidate the entities in which we have a controlling financial interest, after the elimination of intercompany transactions. Investments in common stock where we have the ability to exercise significant influence, but not control, are accounted for using the equity method of accounting.

(b) Revenue recognition

Revenue from the sale of energy by our regulated utilities is recognized in the period during which the sale occurs. The calculation of revenue earned but not yet billed is based on the number of days not billed in the month, the estimated amount of energy delivered during those days and the estimated average price per customer class for that month. Differences between actual and estimated unbilled revenue are usually immaterial.

Revenues on sales of wholesale energy and energy related products and natural gas are recognized either when the service is provided or the product is delivered.

We also provide natural gas storage services to customers. The natural gas remains the property of these customers at all times. Customers pay a two part rate that includes (i) a fixed fee reserving the right to store natural gas in our facilities and, (ii) a per unit rate for volumes actually injected into or withdrawn from storage. The fixed fee component of the overall rate is recognized as revenue in the period the service is provided. The per-unit charge is recognized as revenue when the volumes are injected into or withdrawn from our storage facilities.

(c) Regulatory accounting

We account for our regulated utilities operations in accordance with the authoritative guidance applicable to entities with regulated operations that meet the following criteria: (i) rates are established or approved by a third-party regulator; (ii) rates are designed to recover the entity's cost of providing regulated services or products, and; (iii) there is a reasonable expectation that rates are set at levels that will recover the entity's costs and be collected from customers. Regulatory assets represent incurred costs that have been deferred because of their probable future recovery from customers through regulated rates. Regulatory liabilities represent: (i) the excess recovery of costs or accrued credits that have been deferred because it is probable such amounts will be returned to customers through future regulated rates; or (ii) billings in advance of expenditures for approved regulatory programs.

Regulatory assets and liabilities are amortized and the related expense or revenue is recognized in the consolidated statements of income consistent with the recovery or refund included in customer rates. We believe that it is probable that our currently recorded regulatory assets and liabilities will be recovered or settled in future rates.

(d) Business combinations and assets acquisitions

We apply the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair value of the assets transferred, the liabilities incurred by the acquirer to former owners of acquiree and the equity interests issued by the acquirer. Acquisition related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the

consideration transferred over the fair value of the identifiable net assets acquired is recorded as goodwill. We recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

In contrast to a business combination, we classify a transaction as an asset acquisition when substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets or otherwise does not meet the definition of a business.

(e) Equity method investments

We account for joint ventures that do not meet consolidation criteria using the equity method. We reflect earnings (losses) recognized under the equity method in the consolidated statements of income as “Earnings (losses) from equity method investments.” We recognize dividends received from joint ventures as a reduction in the carrying amount of the investment and not as dividend income. We assess and record an impairment of our equity method investments in earnings for a decline in value that is determined to be other than temporary (OTTI).

(f) Goodwill and other intangible assets

Goodwill represents future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred, the fair value of any noncontrolling interest and the acquisition date fair value of any previously held equity interest in the acquiree over the fair value of the net identifiable assets acquired and liabilities assumed.

Goodwill is not amortized, but is subject to an assessment for impairment at least annually or more frequently if events occur or circumstances change that will more likely than not reduce the fair value of the reporting unit to which goodwill is assigned below its carrying amount. A reporting unit is an operating segment or one level below an operating segment and is the level at which goodwill is tested for impairment. In assessing goodwill for impairment we have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary (step zero). If it is determined, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If we bypass step zero or perform the qualitative assessment, but determine that it is more likely than not that its fair value is less than its carrying amount, a quantitative two step fair value based test is performed. Step one compares the fair value of the reporting unit to its carrying amount, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, step two is performed. Step two requires an allocation of fair value to the individual assets and liabilities using business combination accounting guidance to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than its carrying amount, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense.

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and impairment losses. The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized on a straight-line basis over the useful economic life, which ranges from four to forty years, and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization expense on intangible assets with finite lives is recognized in the consolidated statements of income as the expense category that is consistent with the function of the intangible assets.

(g) Property, plant and equipment

Property, plant and equipment are accounted for at historical cost. In cases where we are required to dismantle installations or to recondition the site on which they are located, the estimated cost of removal or reconditioning is recorded as an asset retirement obligation (ARO) and an equal amount is added to the carrying amount of the asset.

Development and construction of our various facilities are carried out in stages. Project costs are expensed during early stage development activities. Once certain development milestones are achieved and it is probable that we can obtain future economic benefits from a project, salaries and wages for persons directly involved in the project, and engineering, permits, licenses, wind measurement and insurance costs are capitalized. Development projects in construction are reviewed periodically for any indications of impairment.

Assets are transferred from “Construction work in progress” to “Property, plant and equipment” when they are available for service.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Wind turbine and related equipment costs, other project construction costs, and interest costs related to the project are capitalized during the construction period through substantial completion. AROs are recorded at the date projects achieve commercial operation.

The cost of plant, and equipment in use is depreciated on a straight-line basis, less any estimated residual value. The main asset categories are depreciated over the following estimated useful lives:

Major class	Asset Category	Estimated Useful Life (years)
Plant	Combined cycle plants	35-75
	Hydroelectric power stations	35-90
	Wind power stations	20-40
	Transport facilities	33-70
	Distribution facilities	15-82
Equipment	Conventional meters and measuring devices	15-41
	Computer software	4-10
Other	Buildings	30-82
	Operations offices	5-75

Networks determines depreciation expense using the straight-line method, based on the average service lives of groups of depreciable property, which include estimated cost of removal, in service at each operating company. Consistent with FERC accounting requirements, Networks charges the original cost of utility plant retired or otherwise disposed of to accumulated depreciation.

We charge repairs and minor replacements to operating expenses, and capitalize renewals and betterments, including certain indirect costs.

Allowance for funds used during construction (AFUDC) is a noncash item which represents the allowed cost of capital, including a return on equity (ROE), used to finance construction projects. The portion of AFUDC attributable to borrowed funds is recorded as a reduction of interest expense and the remainder is recorded as other income.

(h) Impairment of long lived assets

We evaluate property, plant, and equipment and other long lived assets for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is required to be recognized if the carrying amount of the asset exceeds the undiscounted future net cash flows associated with that asset.

The impairment loss to be recognized is the amount by which the carrying amount of the long lived asset exceeds the asset's fair value. Depending on the asset, fair value may be determined by use of a discounted cash flow model.

(i) Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in either the principal market for the asset or liability, or, in the absence of a principal market, in the most advantageous market for the asset or liability.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest. A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset according to its highest and best use, or by selling it to another market participant that would use the asset according to its highest and best use.

We use valuation techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs. All assets and liabilities for which fair value is measured or disclosed in the consolidated financial statements are categorized within the fair value hierarchy based on the transparency of input to the valuation of an asset or liability as of the measurement date.

The three input levels of the fair value hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability either directly or indirectly, for substantially the full term of the contract.
- Level 3 - one or more inputs to the valuation methodology are unobservable or cannot be corroborated with market data.

Categorization within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. Certain investments are not categorized within the fair value hierarchy. These investments are measured based on the fair value of the underlying investments but may not be readily redeemable at that fair value.

(j) Available for sale securities

Securities that do not qualify as either securities held-to-maturity or trading securities, and which have a readily available fair value, are classified as securities available-for-sale and reported at fair value, with unrealized gains and losses excluded from earnings and reported, net of taxes, in other comprehensive income or loss.

(k) Derivatives and hedge accounting

Derivatives are recognized on the balance sheets at their fair value, except for certain electricity commodity purchases and sales contracts for both capacity and energy (physical contracts) that qualify for, and are elected under, the normal purchases and normal sales exception. To be a derivative under the accounting standards for derivatives and hedging, an agreement would need to have a notional and an underlying, require little or no initial net investment and could be net settled. Changes in the fair value of a derivative contract are recognized in earnings unless specific hedge accounting criteria are met.

Derivatives that qualify and are designated for hedge accounting are classified as cash flow hedges. For cash flow hedges, the portion of the derivative gain or loss that is effective in offsetting the change in the hedged cash flows of the underlying exposure is deferred in Other Comprehensive Income (OCI) and later reclassified into earnings when the underlying transaction occurs. For all designated and qualifying hedges, we maintain formal documentation of the hedge and effectiveness testing in accordance with the accounting standards for derivatives and hedging. If we determine that the derivative is no longer highly effective as a hedge, hedge accounting will be discontinued prospectively. For cash flow hedges of forecasted transactions, we estimate the future cash flows of the forecasted transactions and evaluate the probability of the occurrence and timing of such transactions. If we determine it is probable that the forecasted transaction will not occur, hedge gains and losses previously recorded in OCI are immediately recognized in earnings.

Changes in conditions or the occurrence of unforeseen events could require discontinuance of the hedge accounting or could affect the timing of the reclassification of gains or losses on cash flow hedges from OCI into earnings. Gains and losses from the ineffective portion of any hedge are recognized in earnings immediately. Changes in the fair value of electric and natural gas hedge contracts are recorded to derivative assets or liabilities with an offset to regulatory assets or regulatory liabilities for our regulated operations.

We offset fair value amounts recognized for derivative instruments and fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral arising from derivative instruments executed with the same counterparty under a master netting arrangement.

(l) Cash and cash equivalents

Cash and cash equivalents comprises cash, bank accounts, and other highly-liquid short-term investments. We consider all highly liquid investments with a maturity date of three months or less when acquired to be cash equivalents and those investments are included in "Cash and cash equivalents." Restricted cash represents cash legally set aside for a specified purpose or as part of an agreement with a third party. Restricted cash is included in "Other non-current assets" on the consolidated balance sheets. Book overdrafts representing outstanding checks in excess of funds on deposit are classified as "Accounts payable and accrued liabilities" on the consolidated balance sheets. Changes in book overdrafts are reported in the operating activities section of the consolidated statements of cash flows.

(m) Accounts receivable and unbilled revenue, net

We record accounts receivable at amounts billed to customers. Certain accounts receivable and payable related to our wholesale activities associated with generation and delivery of electric energy and associated environmental attributes, origination and marketing, natural gas storage, hub services, and energy management, are subject to master netting agreements with counterparties, whereby we have the legal right to offset the balances, which are settled on a net basis. Receivables and payables subject to such agreements are presented in our consolidated balance sheets on a net basis.

Accounts receivable include amounts due under Deferred Payment Arrangements (DPA). A DPA allows the account balance to be paid in installments over an extended period of time without interest, which generally exceeds one year, by negotiating mutually acceptable payment terms. The utility companies generally must continue to serve a customer who cannot pay an account balance in full if the customer (i) pays a reasonable portion of the balance; (ii) agrees to pay the balance in installments; and (iii) agrees to pay future bills within thirty days until the DPA is paid in full. Failure to make payments on a DPA results in the full amount of a receivable under a DPA being due. These accounts are part of the regular operating cycle and are classified as short term.

The allowance for bad debts account is established by using both historical average loss percentages to project future losses, and a specific allowance is established for known credit issues. Amounts are written off when we believe that a receivable will not be recovered.

(n) Variable interest entities

We evaluate whether an entity is a variable interest entity (VIE) whenever reconsideration events as defined by the accounting guidance occur (See Note 18). An entity is considered to be a VIE when its total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support, or its equity investors, as a group, lack the characteristics of having a controlling financial interest. A reporting company is required to consolidate a VIE as its primary beneficiary when it has both the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, and the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE.

We have undertaken several structured institutional partnership investment transactions that bring in external investors in certain of our wind farms in exchange for cash and notes receivable. Following an analysis of the economic substance of these transactions, we classify the consideration received at the inception of the arrangement as a liability in the consolidated balance sheets. Subsequently, this liability is amortized based on the cash and tax benefits provided to the tax equity investors.

(o) Debentures, bonds and bank borrowings

Bonds, debentures and bank borrowings are recorded as a liability equal to the proceeds of the borrowings. The difference between the proceeds and the face amount of the issued liability is treated as discount or premium and is amortized as interest expense or income over the life of the instrument. Incremental costs associated with issuance of the debt instruments are deferred and amortized over the same period as debt discount or premium. Bonds, debentures and bank borrowings are presented net of unamortized discount, premium and debt issuance costs on the consolidated balance sheets.

(p) Inventory

Inventory comprises fuel and gas in storage and materials and supplies. Through our gas trading operations, we own natural gas that is stored in both self-owned and third-party owned underground storage facilities. This gas is recorded as inventory. Injections of inventory into storage are priced at the market purchase cost at the time of injection, and withdrawals of working gas from storage are priced at the weighted-average cost in storage. We continuously monitor the weighted-average cost of gas value to ensure it remains at the lower of cost and net realizable value. Inventories to support gas operations are reported on the balance sheet within "Fuel and gas in storage."

We also have materials and supplies inventories that are used for construction of new facilities and repairs of existing facilities. These inventories are carried and withdrawn at the lower of cost and net realizable value and reported on the balance sheets within "Materials and supplies."

Inventory items are combined for the statement of cash flow presentation purposes.

(q) Government grants

Our unregulated subsidiaries record government grants related to depreciable assets within deferred income and subsequently amortize them to earnings consistent with the useful life of the related asset. Our regulated subsidiaries record government grants as a reduction to utility plant to be recovered through rate base, in accordance with the prescribed FERC accounting.

In accounting for government grants related to operating and maintenance costs, amounts receivable are recognized as an offset to expenses in the consolidated statements of income in the period in which the expenses are incurred.

(r) Deferred income

Apart from government grants, we occasionally receive revenues from transactions in advance of the resulting obligations arising from the transaction. It is our policy to defer such revenues on the consolidated balance sheets and amortize them to earnings consistent with the obligations.

(s) Asset retirement obligations

The fair value of the liability for an ARO and a conditional ARO is recorded in the period in which it is incurred, capitalizing the cost by increasing the carrying amount of the related long lived asset. The ARO is associated with our long lived assets and primarily consists of obligations related to removal or retirement of asbestos, polychlorinated biphenyl-contaminated equipment, gas pipeline, cast iron gas mains, and electricity generation facilities. The liability is adjusted periodically to reflect revisions to either the timing or amount of the original estimated undiscounted cash flows over time. The liability is accreted to its present value each period and the capitalized cost is depreciated over the useful life of the related asset. Upon settlement, the obligation will be either settled at its recorded amount or a gain or a loss will be incurred. Our regulated utilities defer any timing differences between rate recovery and depreciation expense and accretion as either a regulatory asset or a regulatory liability.

The term conditional ARO refers to an entity's legal obligation to perform an asset retirement activity in which the timing or method of settlement are conditional on a future event that may or may not be within the entity's control. If an entity has sufficient information to reasonably estimate the fair value of the liability for a conditional ARO, it must recognize that liability at the time the liability is incurred.

Our regulated utilities meet the requirements concerning accounting for regulated operations and we recognize a regulatory liability for the difference between removal costs collected in rates and actual costs incurred. These are classified as accrued removal obligations.

(t) Environmental remediation liability

In recording our liabilities for environmental remediation costs the amount of liability for a site is the best estimate, when determinable; otherwise it is based on the minimum liability or the lower end of the range when there is a range of estimated losses. Our environmental liabilities are recorded on an undiscounted basis. Our environmental liability accruals are expected to be paid through the year 2054.

(u) Post-employment and other employee benefits

We sponsor defined benefit pension plans that cover the majority of our employees. We also provide health care and life insurance benefits through various postretirement plans for eligible retirees.

We evaluate our actuarial assumptions on an annual basis and consider changes based on market conditions and other factors. All of our qualified defined benefit plans are funded in amounts calculated by independent actuaries, based on actuarial assumptions proposed by management.

We account for defined benefit pension or other postretirement plans, recognizing an asset or liability for the overfunded or underfunded plan status. For a pension plan, the asset or liability is the difference between the fair value of the plan's assets and the projected benefit obligation. For any other postretirement benefit plan, the asset or liability is the difference between the fair value of the plan's assets and the accumulated postretirement benefit obligation. Our utility operations reflect all unrecognized prior service costs and credits and unrecognized actuarial gains and losses as regulatory assets rather than in other comprehensive income, as

management believes it is probable that such items will be recoverable through the ratemaking process. We use a December 31st measurement date for our benefits plans.

We amortize prior service costs for both the pension and other postretirement benefits plans on a straight-line basis over the average remaining service period of participants expected to receive benefits. For NYSEG, RG&E and UIL, we amortize unrecognized actuarial gains and losses over ten years from the time they are incurred as required by the NYPSC, PURA and DPU. For our other companies we use the standard amortization methodology under which amounts in excess of ten percent of the greater of the projected benefit obligation or market related value are amortized over the plan participants' average remaining service to retirement. Our policy is to calculate the expected return on plan assets using the market related value of assets. That value is determined by recognizing the difference between actual returns and expected returns over a five year period.

(v) Income tax

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2017 tax period, which is consistent with the 2016 tax period.

For the 2015 tax year, AVANGRID filed a consolidated federal income tax return, which included the UIL taxable income or loss for the period from December 17, 2015 to December 31, 2015. UIL filed a separate consolidated federal income tax return for the period from January 1, 2015 to December 16, 2015.

AVANGRID filed a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries (excluding UIL), including ARHI, which are 80% or more owned for the 2014 tax period. UIL filed separate consolidated federal income tax returns including the income or loss of its subsidiaries for all tax years including the filed 2014 return.

AVANGRID (excluding ARHI and UIL), and ARHI each filed separate consolidated federal income tax returns that included the taxable income or loss of all their respective subsidiaries, which are 80% or more owned, for all tax periods prior to 2013.

We use the asset and liability method of accounting for income taxes. Deferred tax assets and liabilities reflect the expected future tax consequences, based on enacted tax laws, of temporary differences between the tax basis of assets and liabilities and their financial reporting amounts. In accordance with generally accepted accounting principles for regulated industries, certain of our regulated subsidiaries have established a regulatory asset for the net revenue requirements to be recovered from customers for the related future tax expense associated with certain of these temporary differences. The investment tax credits are deferred when used and amortized over the estimated lives of the related assets.

Deferred tax assets and liabilities are measured at the expected tax rate for the period in which the asset or liability will be realized or settled, based on legislation enacted as of the balance sheet date. Changes in deferred income tax assets and liabilities that are associated with components of OCI are charged or credited directly to OCI. Significant judgment is required in determining income tax provisions and evaluating tax positions. Our tax positions are evaluated under a more-likely-than-not recognition threshold before they are recognized for financial reporting purposes. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that all or a portion of a tax benefit will not be realized. Deferred tax assets and liabilities are classified as non-current in the consolidated balance sheets.

The excess of state franchise tax computed as the higher of a tax based on income or a tax based on capital is recorded in "Taxes other than income taxes" and "Taxes accrued" in the accompanying consolidated financial statements.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties. Interest and penalties related to unrecognized tax benefits are recorded within "Interest expense, net of capitalization" and "Other income and (expense)" of the consolidated statements of income.

Uncertain tax positions have been classified as non-current unless expected to be paid within one year. Our policy is to recognize interest and penalties on uncertain tax positions as a component of interest expense in the consolidated statements of income.

Federal production tax credits applicable to our renewable energy facilities, that are not part of a tax equity financing arrangement, are recognized as a reduction in income tax expense with a corresponding reduction in deferred income tax liabilities.

Our income tax expense, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect management's best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required in determining the consolidated income tax components of the financial statements.

On December 22, 2017, the President of the United States signed into law legislation referred to as the "Tax Cuts and Jobs Act" (the Tax Act). The Tax Act includes significant changes to the Internal Revenue Code of 1986 (as amended, the Code), including amendments which significantly change the taxation of business entities, and includes specific provisions related to regulated public utilities. The most significant change that impacted the Company was the permanent reduction in the corporate federal income tax rate from 35% to 21%, which required us to measure existing net deferred tax liabilities using the lower rate in the period of enactment, resulting in an income tax benefit. The specific provisions in the Tax Act related to regulated public utilities generally allow for the continued deductibility of interest expense, the elimination of full expensing for tax purposes of certain property acquired after September 27, 2017, and continues certain rate normalization requirements for accelerated depreciation benefits.

The staff of the US Securities and Exchange Commission (SEC) has recognized the complexity of reflecting the impacts of the Tax Act, and on December 22, 2017, issued guidance in Staff Accounting Bulletin 118 (SAB 118) which clarifies accounting for income taxes under ASC 740 if information is not yet available or complete and provides for up to a one year period in which to complete the required analyses and accounting (the measurement period).

The Company has completed or has made a reasonable estimate for the measurement and accounting of certain effects of the Tax Act which have been reflected in the December 31, 2017 financial statements. The Company has reported provisional amounts for the income tax effects related to the remeasurement of our deferred tax assets and liabilities. The ultimate impact may differ (materially) from the provisional amounts, among other things, as a result of additional analysis, changes in interpretations and assumptions, the release of additional guidance by the Internal Revenue Service, Treasury Department, and other standard-setting bodies. There were no specific impacts that could not be reasonably estimated.

(w) Stock-based compensation

Stock-based compensation represents costs related to stock-based awards granted to employees. We account for stock-based payment transactions based on the estimated fair value of awards reflecting forfeitures when they occur. The recognition period for these costs begin at either the applicable service inception date or grant date and continues throughout the requisite service period, or until the employee becomes retirement eligible, if earlier.

(x) Assets held for sale

We record assets held for sale at the lower of the carrying value or fair value less costs to sell. The following criteria are used to determine if an entity or a group of components of an entity is held for sale: (i) management has the authority and commits to a plan to sell the entity; (ii) the entity is available for immediate sale in its present condition; (iii) there is an active program to locate a buyer and the plan to sell the entity has been initiated; (iv) the sale of the entity is probable within one year; (v) the entity is being actively marketed at a reasonable price relative to its current fair value; and (vi) it is unlikely that the plan to sell will be withdrawn or that significant changes to the plan will be made.

In determining the fair value of the assets less costs to sell, we consider factors including recent market analysis studies, recent offers, and fair value models. If the estimated fair value less costs to sell of an entity is less than its current carrying value, the entity is written down to its estimated fair value less costs to sell. Due to uncertainties in the estimation process, actual results could differ from the estimates used in our historical analysis. We estimate the fair values of assets held for sale based on current market and industry conditions, which include assumptions made by management, which may differ from actual results and may result in additional impairments if market conditions deteriorate.

Once assets are classified as held for sale, we do not record depreciation or amortization for our property, plant, and equipment and intangible assets.

New Accounting Standards and Interpretations

(a) Revenue from contracts with customers

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Codification (ASC), Topic 606, Revenue from Contracts with Customers (ASC 606) replacing the existing accounting standard and industry specific guidance for

revenue recognition with a five-step model for recognizing and measuring revenue from contracts with customers. ASC 606 was further amended through various updates the FASB issued thereafter. The core principle is for an entity to recognize revenue to represent the transfer of goods or services to customers in amounts that reflect the consideration to which the entity expects to be entitled in exchange for those goods or services. The new standard also requires enhanced disclosures regarding the nature, amount, timing, and uncertainty of revenue and the related cash flows arising from contracts with customers. The amended effective date for public entities is for annual reporting periods beginning after December 15, 2017, and interim periods therein, with early adoption permitted as of the original effective date of annual reporting periods beginning after December 15, 2016. Entities may apply the standard retrospectively to each prior reporting period presented (full retrospective method) or retrospectively with a cumulative effect adjustment to retained earnings for initial application of the guidance at the date of initial adoption (modified retrospective method). Effective January 1, 2018, we have adopted ASC 606 and applied the modified retrospective method. Revenues from our Networks segment are derived primarily from tariff-based sales of electric and natural gas service to customers in New York, Connecticut, Maine, and Massachusetts with no defined contractual term. For such revenues, we will recognize revenues in an amount derived from the commodities delivered to customers. Revenues from our Renewables segment are derived primarily from the sale of energy, transmission, capacity and other related charges from renewable energy sources. For such revenues, we will recognize revenues in an amount derived from the commodities delivered and from services as they are made available. Based on our assessment of existing contracts and revenue streams, we do not expect ASC 606 to have a material impact on the amount and timing of our revenue recognition from the superseded revenue standard and therefore, we did not record a material cumulative adjustment to retained earnings. We have identified other changes primarily related to the presentation and disclosure of revenues. We will classify production tax credits as income tax expense (benefit) rather than as operating revenues. We plan to disaggregate revenues from contracts with customers in our note disclosure by segment and by the source of the commodity sold. We will also disaggregate revenues not accounted for in scope of the new standard, as required, including alternative revenue programs.

(b) Classifying and measuring financial instruments

In January 2016 the FASB issued final guidance on the classification and measurement of financial instruments. The new guidance requires that all equity investments in unconsolidated entities (other than those accounted for using the equity method of accounting) to be measured at fair value through earnings. There will no longer be an available-for-sale classification (changes in fair value reported in other comprehensive income) for equity securities with readily determinable fair values. For equity investments without readily determinable fair values, the cost method is also eliminated. However, entities (other than those following “specialized” accounting models, such as investment companies and broker-dealers) are able to elect to record equity investments without readily determinable fair values at cost, less impairment, and plus or minus subsequent adjustments for observable price changes. Changes in the basis of these equity investments will be reported in current earnings. That election only applies to equity investments that do not qualify for the NAV practical expedient. When the fair value option has been elected for financial liabilities, changes in fair value due to instrument-specific credit risk will be recognized separately in other comprehensive income. The accumulated gains and losses due to those changes will be reclassified from accumulated other comprehensive income to earnings if the financial liability is settled before maturity. Public entities are required to use the exit price notion when measuring the fair value of financial instruments measured at amortized cost for disclosure purposes. In addition, the new guidance requires financial assets and financial liabilities to be presented separately in the notes to the financial statements, grouped by measurement category (e.g., fair value, amortized cost, lower of cost or market) and form of financial asset (e.g., loans, securities).

The classification and measurement guidance is effective for public entities in fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. An entity will record a cumulative-effect adjustment to beginning retained earnings as of the beginning of the first reporting period in which the guidance is adopted, with two exceptions. The amendments related to equity investments without readily determinable fair values (including disclosure requirements) will be effective prospectively. The requirement to use the exit price notion to measure the fair value of financial instruments for disclosure purposes will also be applied prospectively. We expect our adoption of the guidance will not materially affect our consolidated results of operations, financial position, or cash flows.

(c) Leases

In February 2016 the FASB issued new guidance that affects all companies and organizations that lease assets, and requires them to record on their balance sheet assets and liabilities for the rights and obligations created by those leases. A lease is an arrangement that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Concerning lease expense recognition, after extensive consultation, the FASB has ultimately concluded that the economics of leases can vary for a lessee, and those economics should be reflected in the financial statements. As a result, the amendments retain a distinction between finance leases and operating leases, while requiring both types of leases to be recognized on the balance sheet. The classification criteria for distinguishing between finance leases and operating leases are substantially similar to the criteria for distinguishing between capital

leases and operating leases in current GAAP. By retaining a distinction between finance leases and operating leases, the effect of leases on the statement of comprehensive income and the statement of cash flows is largely unchanged from previous GAAP. Lessor accounting will remain substantially the same as current GAAP, but with some targeted improvements to align lessor accounting with the lessee accounting model and with the revised revenue recognition guidance issued in 2014. The FASB issued an update in January 2018 to clarify the application of the new leases guidance to land easements and provide relief concerning adoption efforts for existing land easements that are not accounted for as leases under current GAAP. The updated guidance is effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early application is permitted. We are currently reviewing our contracts and are in the process of determining the proper application of the standard to these contracts in order to determine the impact that the adoption will have on our consolidated financial statements. We expect our adoption of the new guidance will materially affect our financial position through the recording of operating leases on the balance sheet as right-of-use assets, along with the corresponding liabilities.

(d) Measurement of credit losses on financial instruments

The FASB issued an accounting standards update in June 2016 that requires more timely recording of credit losses on loans and other financial instruments. The amendments affect entities that hold financial assets and net investment in leases that are not accounted for at fair value through net income (loans, debt securities, trade receivables, net investments in leases, off-balance-sheet credit exposures, etc.). They require an entity to present a financial asset (or group of financial assets) that is measured at amortized cost basis at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset(s) to present the net carrying value at the amount expected to be collected on the financial asset. The income statement reflects the measurement of credit losses for newly recognized financial assets, as well as the expected increases or decreases of expected credit losses that have taken place during the period. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods appropriate in its circumstances. The amendments are effective for public entities that are SEC filers for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted. Entities are to apply the amendments on a modified retrospective basis for most instruments. We expect our adoption will not materially affect our consolidated results of operations, financial position, and cash flows.

(e) Certain classifications in the statement of cash flows

The FASB issued amendments in August 2016 to address existing diversity in practice concerning eight cash flows issues. The guidance addresses classification as operating, investing or financing activities in the statement of cash flows for these issues: 1) Debt prepayment or debt extinguishment costs (financing), 2) Settlement of zero-coupon bonds (interest is operating, principal is financing), 3) Contingent consideration payments made after a business combination (investing or financing based on timing, or operating, as specified), 4) Proceeds from the settlement of insurance claims (based on the nature of the loss), 5) Proceeds from the settlement of corporate-owned life insurance policies (COLI) (investing; with cash payments for COLI premiums as investing, operating or a combination of investing/operating), 6) Distributions received from equity method investees (based on an entity's accounting policy election: either cumulative earnings or nature of distribution), 7) Beneficial interests in securitization transactions (noncash or investing as specified), 8) Separately identifiable cash flows and application of the predominance principle (cash receipts/payments with aspects of more than one classification by applying specific GAAP guidance; or if there is no guidance, based on the nature of the related activity or the activity that is the predominant source or use of the cash flows). The amendments are effective for public entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years, with early adoption permitted. The amendments are to be applied retrospectively to each prior period presented, unless impracticable for some issues and then the application would be prospective for those affected issues. We expect our adoption will not materially affect cash flows and disclosures.

(f) Clarifying the definition of a business

The FASB issued amendments in January 2017 to clarify the definition of a business. The revised definition of a business sets out a new framework for a company to apply in classifying transactions as acquisitions (or disposals) of assets versus businesses. According to the revised definition, an integrated set of activities and assets is a business if it has, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. The definition of outputs is narrowed and aligned with how outputs are described in ASC 606. The amendments create a two-step method for assessing whether a transaction is an acquisition (disposal) of assets or a business. A set of activities would not be a business when substantially all of the fair value of the gross assets acquired (disposed) is concentrated in a single identifiable asset or group of similar identifiable assets. Fewer transactions are expected to involve acquiring or selling a business as a result of the amendments.

The amendments are effective for public entities for annual and interim periods in fiscal years beginning after December 15, 2017, with early adoption permitted. We early adopted the amendments in the third quarter of 2017 and, as required, are applying the amendments prospectively as of the beginning of the period of adoption. Other than with respect to the transaction described in Note 7 of these consolidated financial statements, our adoption of the amendments did not affect our consolidated results of operations, financial position, cash flows, and disclosures.

(g) Simplifying the test for goodwill impairment

In January 2017 the FASB issued amendments to simplify the test for goodwill impairment, which are required for public entities and certain other entities that have goodwill reported in their financial statements. The amendments simplify the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. In computing the implied fair value of goodwill under Step 2, an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities (including unrecognized assets and liabilities) following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Under the new guidance, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; but the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Also, an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. Certain requirements are eliminated for any reporting unit with a zero or negative carrying amount, therefore the same impairment assessment applies to all reporting units. An entity is required to disclose the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount of net assets. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. The amendments modify the concept of impairment from the condition that exists when the carrying amount of goodwill exceeds its implied fair value to the condition that exists when the carrying amount of a reporting unit exceeds its fair value. The amendments are effective for public entities for annual and interim periods in fiscal years beginning after December 15, 2019, with the amendments applied on a prospective basis. Early adoption is allowed. We expect our adoption of the amendments will not materially affect our results of operations, financial position, cash flows, and disclosures.

(h) Clarifying the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets

The FASB issued amendments in February 2017 concerning asset derecognition and partial sales of nonfinancial assets. The amendments clarify the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets, and also define in-substance nonfinancial assets. Those amendments apply to a company that: sells nonfinancial assets (land, buildings, materials and supplies, intangible assets) to noncustomers; sells nonfinancial assets and financial assets (cash, receivables) when the value is concentrated in the nonfinancial assets; or sells partial ownership interests in nonfinancial assets. The amendments do not apply to sales to customers or to sales of businesses. The new guidance in ASC 610-20 on accounting for derecognition of a nonfinancial asset and an in-substance nonfinancial asset applies only when the asset (or asset group) does not meet the definition of a business and is not a not-for-profit activity.

The amendments are effective for public entities for annual and interim periods in fiscal years beginning after December 15, 2017, with early adoption permitted. An entity must apply the amendments at the same time that it applies the new ASC 606 revenue recognition standard and may elect to apply the amendments retrospectively following either a full retrospective approach or a modified retrospective approach, but does not have to apply the same transition method as for ASC 606. Effective January 1, 2018, we have adopted ASC 610-20 and applied the modified retrospective method, which affected the accounting for our tax equity investments. Based on our assessment, we have recorded a cumulative adjustment that decreased retained earnings and additional paid in capital by an amount less than \$100 million rather than retrospectively adjusting prior periods. The cumulative adjustment relates to the requirement that we reclassify our tax equity investments to noncontrolling interests. As a result, our tax equity investments will be recorded based on the Hypothetical Liquidation at Book Value (HLBV) model and changes in the HLBV at each reporting period will be recorded within net income attributable to noncontrolling interests, which will not result in a material difference to net income attributable to the Company for our current tax equity investments.

(i) Improving the presentation of net periodic benefit costs

In March 2017, the FASB issued amendments to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost in the financial statements. The amendments require an entity to present service cost separately from the other components of net benefit cost, and to report the service cost component in the income statement line item(s) where it reports the corresponding compensation cost. An entity is to present all other components of net benefit cost outside of operating cost. The amendments also allow only the service cost component to be eligible for capitalization when applicable (for example, as a cost of a self-constructed asset). The amendments are effective for public entities for annual and interim periods in fiscal years beginning after December 15, 2017, with early adoption permitted. We do not plan to early adopt. An entity is required to apply the amendments retrospectively for

the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit in assets. A practical expedient allows an entity to retrospectively apply the amendments on adoption to net benefit costs for comparative periods by using the amounts disclosed in the notes to financial statements for pension and postretirement benefit plans for those periods. We expect our adoption of the amendments will not materially affect our consolidated results of operations, financial position, cash flows, and disclosures.

(j) Targeted improvements to accounting for hedging activities

In August 2017, the FASB issued targeted amendments with the objective to better align hedge accounting with an entity's risk management activities in the financial statements, and to simplify the application of hedge accounting. The amendments address concerns of financial statement preparers over difficulties with applying hedge accounting and limitations for hedging both nonfinancial and financial risks and concerns of financial statement users over how hedging activities are reported in financial statements. Changes to the hedge accounting guidance to address those concerns will: 1) expand hedge accounting for nonfinancial and financial risk components and amend measurement methodologies to more closely align hedge accounting with an entity's risk management activities; 2) eliminate the separate measurement and reporting of hedge ineffectiveness, to reduce the complexity of preparing and understanding hedge results; 3) enhance disclosures and change the presentation of hedge results to align the effects of the hedging instrument and the hedged item in order to enhance transparency, comparability, and understandability of hedge results; and 4) simplify the way assessments of hedge effectiveness may be performed to reduce the cost and complexity of applying hedge accounting. The amendments are effective for public entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted in any interim period after issuance of the amendments. We do not expect to early adopt. For cash flow and net investment hedges existing at the date of adoption, a company must apply a cumulative-effect adjustment related to the separate measurement of ineffectiveness to accumulated other comprehensive income (AOCI) with a corresponding adjustment to the opening balance of retained earnings as of the beginning of the fiscal year of adoption. The amended presentation and disclosure guidance is required only prospectively. An entity may make certain elections upon adoption to allow for existing hedging relationships to transition to newly allowable alternatives. We expect our adoption of the guidance will not materially affect our consolidated results of operations, financial position, or cash flows, but we expect the amendments will ease the administrative burden of hedge documentation requirements and assessing hedge effectiveness.

(k) Reclassification of certain tax effects from accumulated other comprehensive income

In February 2018, the FASB issued amendments to address a narrow-scope financial reporting issue that arose as a consequence of the Tax Cuts and Jobs Act of 2017 (the Tax Act) enacted on December 22, 2017, by the U.S. federal government. Under current guidance, the adjustment of deferred taxes for the effect of a change in tax laws or rates is required to be included in income from continuing operations, thus the associated tax effects of items within AOCI (referred to as stranded tax effects) do not reflect the appropriate tax rate. The amendments allow a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act. As a result, the amendments eliminate the stranded tax effects resulting from the Tax Act and will improve the usefulness of information reported to financial statement users. The amendments only relate to the reclassification of the income tax effects of the Tax Act, and do not affect the underlying guidance that requires the effect of a change in tax laws or rates to be included in income from continuing operations. The amendments are effective for all entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted including, for public entities, adoption in any interim period for which financial statements have not been issued. An entity has the option to apply the amendments either in the period of adoption or retrospectively to each period (or periods) in which it recognizes the effect of the change in the U.S. federal corporate income tax rate in the Tax Act. An entity is required to disclose its accounting policy election, including its policy for reclassifying material stranded tax effects in AOCI to earnings (specific identification or portfolio method). We have not early adopted the amendments as of December 31, 2017. We expect our adoption of the amendments will not materially affect our consolidated results of operations, financial position, cash flows, and disclosures.

Use of Estimates and Assumptions

The preparation of our consolidated financial statements in conformity with U.S. GAAP requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting periods. Significant estimates and assumptions are used for, but not limited to: (1) allowance for doubtful accounts and unbilled revenues; (2) asset impairments, including goodwill; (3) investments in equity instruments; (4) depreciable lives of assets; (5) income tax valuation allowances; (6) uncertain tax positions; (7) reserves for professional, workers' compensation, and comprehensive general insurance liability risks; (8) contingency and litigation reserves; (9) fair value measurements; (10) earnings sharing mechanisms; (11) environmental remediation liabilities; and (12) AROs. Future events and their effects cannot be predicted with certainty; accordingly, our accounting estimates require the exercise of judgment. The accounting estimates used in the preparation of our consolidated

financial statements will change as new events occur, as more experience is acquired, as additional information is obtained and as our operating environment changes. We evaluate and update our assumptions and estimates on an ongoing basis and may employ outside specialists to assist in our evaluations, as necessary. Actual results could differ from those estimates

Union collective bargaining agreements

We have approximately 48% of the employees covered by a collective bargaining agreement. Agreements which will expire within the coming year apply to approximately 8% of our employees.

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Note 4. Industry Regulation

Electricity and Natural Gas Distribution – Maine, New York, Connecticut and Massachusetts

The Maine distribution rate stipulation, the Federal Energy Regulatory Commission (FERC) Transmission Return on Equity (ROE) case, the New York and Connecticut rate plans, Reforming Energy Vision (REV), the New York Transmission Company (New York TransCo) filings, the Storm proceedings in NY and ME and the Tax Act are some of the most important specific regulatory processes that currently affect Networks.

The revenues of Networks companies are essentially regulated, being based on tariffs established in accordance with administrative procedures set by the various regulatory bodies. The tariffs applied to regulated activities in the U.S. are approved by the regulatory commissions of the different states and are based on the cost of providing service. The revenues of each regulated utility are set to be sufficient to cover all its operating costs, including energy costs, finance costs, and the costs of equity, the last of which reflect our capital ratio and a reasonable ROE.

Energy costs that are set on the New York and New England wholesale markets are passed on to consumers. The difference between energy costs that are budgeted and those that are actually incurred by the utilities is offset by applying compensation procedures that result in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional, such as the effects of extreme weather conditions, environmental factors, regulatory and accounting changes, and treatment of vulnerable customers, that are offset in the tariff process. Any New York revenues that allow a utility to exceed target returns, usually the result of better than expected cost efficiency, are generally shared between the utility and its customers, resulting in future tariff reductions.

Each of the four Networks' New York and Maine supply companies must comply with regulatory procedures that differ in form but in all cases conform to the basic framework outlined above. Generally, tariff reviews cover various years and provide for a reasonable ROE, protection, and automatic adjustments for exceptional costs incurred and efficiency incentives. The distribution rates and allowed ROEs for Networks' regulated utilities in Connecticut and Massachusetts are subject to regulation by the Connecticut Public Utilities Regulatory Authority (PURA) and the Massachusetts Department of Public Utilities (DPU), respectively.

CMP Distribution Rate Stipulation and New Renewable Source Generation

On May 1, 2013, CMP submitted its required distribution rate request with the Maine Public Utilities Commission (MPUC). On July 3, 2014, after a fourteen month review process, CMP filed a rate stipulation agreement on the majority of the financial matters with the MPUC. The stipulation agreement was approved by the MPUC on August 25, 2014. The stipulation agreement also noted that certain rate design matters would be litigated, which the MPUC ruled on October 14, 2014.

The rate stipulation agreement provided for an annual CMP distribution tariff increase of 10.7% or \$24.3 million. The rate increase was based on a 9.45% ROE and 50% equity capital. CMP was authorized to implement a Rate Decoupling Mechanism (RDM) which protects CMP from variations in sales due to energy efficiency and weather. CMP also adjusted its storm costs recovery mechanism whereby it is allowed to collect in rates a storm allowance and to defer actual storm costs when such storm event costs exceed \$3.5 million. CMP and customers share storm costs that exceed a certain balance on a fifty-fifty basis, with CMP's exposure limited to \$3.0 million annually.

CMP has made a separate regulatory filing for a new customer billing system replacement. In accordance with the stipulation agreement, a new billing system is needed and CMP made its filing on February 27, 2015 to request a separate rate recovery mechanism. On October 20, 2015, the MPUC issued an order approving a stipulation agreement authorizing CMP to proceed with the customer billing system investment. The approved stipulation allows CMP to recover the system costs effective July 1, 2017.

The rate stipulation does not have a predetermined rate term. CMP has the option to file for new distribution rates at its own discretion. The rate stipulation does not contain service quality targets or penalties. The rate stipulation also does not contain any earning sharing requirements.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or Renewable Energy Certificates, or RECs, from qualifying resources. The MPUC is further authorized to order Maine Transmission and Distribution Utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, on March 31, 2010, to purchase capacity and energy from Evergreen's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

NYSEG and RG&E Rate Plans

On September 16, 2010, the New York Public Service Commission (NYPSC) approved a new rate plan for electric and natural gas service provided by NYSEG and RG&E effective from August 26, 2010 through December 31, 2013. The rate plans contain continuation provisions beyond 2013 if NYSEG and RG&E do not request new rates to go into effect and the current base rates will stay in place. The rates stayed effective until May 1, 2016, at which time a newly approved rate plan became effective.

The 2010 revenue requirements were based on a 10% allowed ROE applied to an equity ratio of 48%. If annual earnings exceed the allowed return, a tiered Earnings Sharing Mechanism (ESM) will capture a portion of the excess for the ratepayers' benefit. The ESM is subject to specified downward adjustments if NYSEG and RG&E fail to meet certain reliability and customer service measures. Key components of the rate plan include electric reliability performance mechanisms, natural gas safety performance measures, customer service quality metrics and targets, and electric distribution vegetation management programs that establish threshold performance targets. There will be downward revenue adjustments if NYSEG and RG&E fail to meet the targets.

The 2010 rate plans established revenue decoupling mechanism (RDM), intended to remove company disincentives to promote increased energy efficiency. Under RDM, electric revenues are based on revenue per customer class rather than billed revenue, while natural gas revenues are based on revenue per customer. Any shortfalls or excesses between billed revenues and allowed revenues will be accrued for future recovery or refund.

In August 2010, NYSEG began amortizing \$15.2 million per year of its \$303.9 million theoretical excess depreciation reserve. On September 1, 2012, RG&E began amortizing \$5.3 million per year of its \$105 million theoretical excess depreciation reserve. Both amortization amounts reflect a twenty year amortization period. Theoretical excess depreciation is the difference between actual accumulated depreciation taken to date and a theoretical reserve. The actual accumulated depreciation is the result of depreciation rates allowed in prior rate orders based on estimates of useful lives and net salvage values as determined in those cases. The theoretical reserve is the amount that would have accumulated if the depreciation rates in the new rate plan had been in place for the entire useful lives of the affected assets. Differences between the actual reserve and the theoretical reserve are normal aspects of utility ratemaking. The usual treatment is to flow any excess or deficiency back as an adjustment to depreciation expense over the remaining life of the property. However, in accordance with the new rate plan, NYSEG and RG&E moderate electric rates by recording the theoretical reserve amortization as a debit to accumulated depreciation and a credit to other revenues, and normalize a portion of the amortization from a tax perspective.

On May 20, 2015, NYSEG and RG&E filed electric and gas rate cases with the NYPSC. The companies requested rate increases for NYSEG electric, NYSEG gas and RG&E gas. RG&E electric proposed a rate decrease.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

On February 19, 2016, NYSEG, RG&E and other signatory parties filed a Joint Proposal with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016. The Joint Proposal, which was approved by the NYPSC on June 15, 2016, balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The Joint Proposal reflects many customer benefits including: acceleration of the companies' natural gas leak prone main replacement programs and increased funding for electric vegetation management to provide continued safe and reliable service. The delivery rate increase in the Joint Proposal can be summarized as follows:

Utility	May 1, 2016		May 1, 2017		May 1, 2018	
	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %
NYSEG Electric	\$ 29.6	4.10%	\$ 29.9	4.10%	\$ 30.3	4.10%
NYSEG Gas	13.1	7.30%	13.9	7.30%	14.8	7.30%
RG&E Electric	3.0	0.70%	21.6	5.00%	25.9	5.70%
RG&E Gas	8.8	5.20%	7.7	4.40%	9.5	5.20%

The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%; however, the equity ratio is set at the actual up to 50% for earnings sharing calculation purposes. The customer share of any earnings above allowed levels increases as the ROE increases, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% ROE, respectively, in the first rate year covering the period May 1, 2016 – April 30, 2017. The earnings sharing levels increase in rate year two (May 1, 2017 – April 30, 2018) to 9.65%, 10.15% and 10.65% ROE, respectively. The earnings sharing levels further increase in rate year three (May 1, 2018 – April 30, 2019) to 9.75%, 10.25% and 10.75% ROE, respectively. The rate plans also include the implementation of a rate adjustment mechanism designed to return or collect certain defined reconciled revenues and costs, new depreciation rates, and continuation of the existing RDM for each business. The Joint Proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million is being amortized over ten years and the remaining \$139 million is being amortized over five years. The proposal also continues reserve accounting for qualifying Major Storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided they meet certain thresholds.

The Joint Proposal maintains NYSEG's and RG&E's current electric reliability performance measures (and associated potential negative revenue adjustments for failing to meet established performance levels) which include the system average interruption frequency index (SAIFI) and the customer average interruption duration index (CAIDI). The Joint Proposal also modifies certain gas safety performance measures at the companies, including those relating to the replacement of leak prone main, leak backlog management, emergency response, and damage prevention. The proposal establishes threshold performance levels for designated aspects of customer service quality and continues and expands NYSEG's and RG&E's bill reduction and arrears forgiveness Low Income Programs with increased funding levels included in the proposal. The Joint Proposal provides for the implementation of NYSEG's Energy Smart Community (ESC) Project in the Ithaca region which will serve as a test-bed for implementation and deployment of Reforming the Energy Vision (REV) initiatives. The ESC Project will be supported by NYSEG's planned Distribution Automation upgrades and Advanced Metering Infrastructure (AMI) implementation for customers on circuits in the Ithaca region. The companies will also pursue Non-Wires Alternative projects as described in the proposal. Other REV-related incremental costs and fees will be included in the Rate Adjustment Mechanism (RAM) to the extent cost recovery is not provided for elsewhere. Under the proposal, each company will implement the RAM, which will be applicable to all customers, to return or collect RAM Eligible Deferrals and Costs, including: (1) property taxes; (2) Major Storm deferral balances; (3) gas leak prone pipe replacement; (4) REV costs and fees which are not covered by other recovery mechanisms; and (5) NYSEG Electric Pole Attachment revenues.

The Joint Proposal provides for partial or full reconciliation of certain expenses including, but not limited to: pensions, other postretirement benefits; property taxes; variable rate debt and new fixed rate debt; gas research and development; environmental remediation costs; Major Storms; nuclear electric insurance limited credits; economic development; and Low Income Programs. The Joint Proposal also includes a downward-only Net Plant reconciliation. In addition, the Joint Proposal includes downward-only reconciliations for the costs of: electric distribution and gas vegetation management; pipeline integrity; and incremental maintenance. The Joint Proposal provides that NYSEG and RG&E continue their electric RDMs on a total revenue per class basis and their gas RDMs on a revenue per customer basis.

UI, CNG, SCG and BGC Rate Plans

Under Connecticut law, UI's retail electricity customers are able to choose their electricity supplier while UI remains their electric distribution company. UI purchases power for those of its customers under standard service rates who do not choose a retail electric supplier and have a maximum demand of less than 500 kilowatts and its customers under supplier of last resort service for those who are not eligible for standard service and who do not choose to purchase electric generation service from a retail electric supplier. The cost of the power is a "pass-through" to those customers through the Generation Service Charge, or GSC, charge on their bills.

UI has wholesale power supply agreements in place for its entire standard service load for the first half of 2018, 70% of its standard service load for the second half of 2018 and 20% of its standard service load for the first half of 2019. Supplier of last resort service is procured on a quarterly basis, however, from time to time there are no bidders in the procurement process for supplier of last resort service and in such cases UI manages the load directly.

In December 2016, the PURA approved new distribution rate schedules for UI for three years, which became effective January 1, 2017, and which, among other things, provides for annual tariff increases and an ROE of 9.10% based on a 50% equity ratio, continued UI's existing ESM pursuant to which UI and its customers share on a 50/50 basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism, and approved the continuation of the requested storm reserve. Any dollars due to customers from the ESM continue to be first applied against any storm regulatory asset balance (if one exists at that time) or refunded to customers through a bill credit if such storm regulatory asset balance does not exist.

The allowed ROEs established by PURA for CNG and SCG for 2017, were 9.18% and 9.36%, respectively. SCG and CNG each have purchased gas adjustment clauses that enable them to pass their reasonably incurred cost of gas purchases through to customers. These clauses allow utilities to recover costs associated with changes in the market price of purchased natural gas, substantially eliminating exposure to natural gas price risk.

On January 22, 2014, PURA approved new base delivery rates for CNG, with an effective date of January 10, 2014, which, among other things, approved an allowed ROE of 9.18%, a decoupling mechanism, and two separate ratemaking mechanisms that reconcile actual revenue requirements related to CNG's cast iron and bare steel replacement program and system expansion. Additionally, the final decision requires the establishment of an ESM by which CNG and customers share on a 50/50 basis all earnings above the allowed ROE in a calendar year. In accordance with the approval by PURA of the acquisition, SCG and CNG agreed not to initiate a rate case for new rates effective before at least January 1, 2018.

On June 30, 2017, SCG filed an application with PURA for new tariffs to become effective January 1, 2018. SCG requested a three-year rate plan for calendar years 2018, 2019 and 2020 and a proposed ROE of 9.95%. SCG also requested to implement a RDM and Distribution Integrity Management Program (DIMP) mechanism similar to the mechanisms authorized for CNG. On October 16, 2017, SCG, Prosecutorial Staff from PURA, and the Connecticut Office of Consumer Counsel (OCC) filed an amended settlement agreement with PURA for approval, which included, among other items, the implementation of an RDM, ESM and the DIMP as proposed by SCG, the amortization of certain regulatory liabilities (most notably accumulated hardship deferral balances and certain accumulated deferred income taxes) and tariff increases based on an ROE of 9.25% and approximately 52% equity level. The parties also agreed on a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019, and 2020, respectively. PURA approved the amended rate case settlement agreement on December 13, 2017, and new tariffs became effective on January 1, 2018.

BGC's rates are established by the DPU. BGC's 10-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan. In accordance with the approval by the DPU of the acquisition, BGC agreed not to initiate a rate case for new rates effective before at least June 1, 2018.

Transmission - FERC ROE Proceeding

See Note 12, Commitments and Contingent Liabilities, for a further discussion.

CMP's and UI's transmission rates are determined by a tariff regulated by the FERC and administered by ISO New England, Inc. (ISO-NE). Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, and for a return of and on investment in assets.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC instituted proceedings because it found that ISO-NE Transmission, Markets, and Services Tariff is unjust, unreasonable, and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE Participating Transmission Owners, including UI, Maine Electric Power Corporation (MEPCO) and CMP. The FERC also found that the current Regional Network Service, or RNS and Local Network Service, or LNS, formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates. A settlement judge has been appointed and a settlement conference has convened. We are unable to predict the outcome of this proceeding at this time.

REV

In April 2014, the NYPSC commenced a proceeding entitled REV, which is a wide ranging initiative to reform New York State's energy industry and regulatory practices. REV has been divided into two tracks, Track 1 for Market Design and Technology, and Track 2 for Regulatory Reform. REV and its related proceedings have and will continue to propose regulatory changes that are intended to promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar and wider deployment of distributed energy resources, such as micro grids, on-site power supplies and storage.

REV is also intended to promote greater use of advanced energy management products to enhance demand elasticity and efficiencies. Track 1 of this initiative involves a collaborative process to examine the role of distribution utilities in enabling market based deployment of distributed energy resources to promote load management and greater system efficiency, including peak load reductions. NYSEG and RG&E are participating in the initiative with other New York utilities and are providing their unique perspective. The NYPSC issued a 2015 order in Track 1, which acknowledges the utilities' role as a Distribution System Platform (DSP) provider, and required the utilities to file an initial Distribution System Implementation Plan (DSIP) by June 30, 2016. The companies filed the DSIP, which also included information regarding the potential deployment of Automated Metering Infrastructure (AMI) across its entire service territory. The companies, in December 2016, filed a petition to the NYPSC requesting approval for cost recovery associated with the full deployment of AMI, and a collaborative associated with this petition began in the first quarter of 2017, was suspended in the second quarter of 2017 and resumed in the first quarter of 2018.

Other various proceedings have also been initiated by the NYPSC which are REV related, and each proceeding has its own schedule. These proceedings include the Clean Energy Standard, Value of DER and Net Energy Metering, Demand Response Tariffs, and Community Choice Aggregation. As part of the Clean Energy Standard proceeding, all electric utilities were ordered to begin payments to New York State Energy Research and Development Authority (NYSERDA) for Renewable Energy Credits and Zero Emissions Credits beginning in 2017.

Track 2 of the REV initiative is also underway, and through a NYPSC Staff Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York state and NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for Earnings Adjustment Mechanisms (EAMs), Platform Service Revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of System Efficiency, Energy Efficiency, Interconnections, and Clean Air. A collaborative process to review the companies' petition is on going.

In March, 2017, the NYPSC issued three separate REV-related orders. These orders created a series of filing requirements for NYSEG and RG&E beginning in March 2017 and extending through the end of 2018. The three orders involve: 1) modifications to the electric utilities' proposed interconnection earnings adjustment mechanism framework; 2) further DSIP requirements, including filing of an updated DSIP plan by mid-2018 and implementing two energy storage projects at each company by the end of 2018; and 3) Net Energy Metering Transition including implementation of Phase One of the Value of DER. In September 2017, the NYPSC issued another order related to the Value of DER, requiring tariff filings, changes to Standard Interconnection Requirements, and planning for the implementation of automated consolidated billing.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm

On March 11, 2017, the New York State Department of Public Service (the Department) commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 customers. The Department investigation included a comprehensive review of NYSEG's and RG&E's preparation for and response to the windstorm,

including all aspects of the companies' filed and approved emergency plan. The Department held public hearings on April 12 and 13, 2017.

On November 16, 2017, the NYPSC announced that the Department Staff had completed their investigation into the March 2017 Windstorm and the NYPSC issued an Order Instituting Proceeding and to Show Cause. The Staff's investigation found that RG&E and NYSEG violated certain parts of their emergency response plans, which makes them subject to possible financial penalties. NYSEG and RG&E responded to the order in a timely manner and have entered into settlement discussions with the Department Staff. The unprecedented weather that resulted in the March 2017 windstorm posed great challenges to the NYSEG's and RG&E's communities, employees, contractors, assisting utilities, and municipal partners who all worked tirelessly to safely restore power to all customers. NYSEG's and RG&E's priorities during any storm are the restoration of service to their respective customers and the safety of their communities, customers, employees and contractors. We cannot predict the outcome of this regulatory action.

MPUC Investigation into the Response by Public Utilities to the October 2017 Storm

On December 19, 2017, the Commission issued a Notice of Investigation regarding utility response to the October 2017 Storm. The wind storm of October 2017 was unprecedented in the number of customers impacted and the magnitude of the damage across the entire Central Maine Power service territory. During the event, thousands of trees were broken or uprooted and many caused damage to the electrical delivery system. The vast majority of tree related damage was from trees that were located outside of the maintenance clearance zone. Damage occurred on nearly every CMP distribution circuit, resulting in more than 1,400 broken poles. CMP currently estimates that the total incremental costs are approximately \$70.2 million, of which approximately \$32.4 million are capital costs associated with the replacement of damaged infrastructure, including poles, cross arms, transformers and related equipment. Additionally, approximately \$744,000 of the incremental amount is operations and maintenance expense for repairs to CMP transmission facilities. Accordingly, the net incremental operations and maintenance expense for restoration of the distribution system are approximately \$37 million. With regard to the recovery of incremental storm restoration costs in CMP distribution rates, CMP expects that recovery will be addressed in the Company's 2018 Annual Compliance Filing proceeding pursuant to the applicable provisions of the stipulation approved by the Commission in Docket No. 2013-00168.

Tax Cuts and Jobs Act

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the Tax Act) was signed into law. The Tax Act contains significant changes to the federal tax structure, including among other things, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017. The NYPSC, MPUC, PURA and DPU have instituted separate proceedings in New York, Maine, Connecticut and Massachusetts to review and address the implications associated with the Tax Act on the utilities providing service in those states. We expect the regulators in each jurisdiction, including the FERC, to issue requirements in 2018 regarding how all tax benefits associated with the Tax Act will be returned to customers.

Ginna Reliability Support Service Agreement

Ginna Nuclear Power Plant, LLC (GNPP), which is a subsidiary of Constellation Energy Nuclear Group, LLC (CENG), owns and operates the R.E. Ginna Nuclear Power Plant (Ginna Facility and together with GNPP, Ginna), a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, the New York Independent System Operator (NYISO) produced a Reliability Study, confirming that the Ginna Facility needs to remain in operation to avoid bulk transmission and non-bulk local distribution system reliability violations in 2015 and 2018. In July, 2014, GNPP filed a petition requesting that the NYPSC initiate a proceeding to examine a proposal for the continued operation of the Ginna Facility.

In November 2014, the NYPSC ruled that GNPP had demonstrated that the Ginna Facility is required to maintain system reliability and that its actions with respect to meeting the relevant retirement notice requirements were satisfactory. The NYPSC also accepted the findings of the 2014 Reliability Study and stated that it established "the reliability need for continued operation of the Ginna Facility that is the essential prerequisite to negotiating a Reliability Support Services Agreement (RSSA)." As such, the NYPSC ordered RG&E and GNPP to negotiate an RSSA.

On February 13, 2015, RG&E submitted to the NYPSC an executed RSSA between RG&E and GNPP. RG&E requested that the NYPSC accept the RSSA and approve cost recovery by RG&E from its customers of all amounts payable to GNPP under the RSSA utilizing the cost recovery surcharge mechanism.

On October 21, 2015, RG&E, GNPP, New York Department of Public Service, Utility Intervention Unit and Multiple Intervenors filed a Joint Proposal with the NYPSC for approval of the RSSA, as modified. On February 23, 2016, the NYPSC unanimously

adopted the joint proposal, which provides for a term of the RSSA from April 1, 2015 through March 31, 2017 and RG&E monthly payments to Ginna in the amount of \$15.4 million. In addition, RG&E is entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna is entitled to 30% of such revenues. The NYPSC also authorized RG&E to implement a rate surcharge effective January 1, 2016, to recover amounts paid to Ginna pursuant to the RSSA. The FERC issued an order authorizing the FERC Settlement agreement in the Settlement Docket on March 1, 2016, at which point the rate surcharge went into effect. RG&E used deferred rate credit amounts (regulatory liabilities) to offset the full amount of the Deferred Collection Amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed \$2.3 million per month, not to exceed a total use of credits in the amount of \$110 million, applicable through June 30, 2017. The available credits were insufficient to satisfy the final payment amount from RG&E to Ginna, and consistent with the agreement with the NYPSC, the RSSA surcharge continues past March 31, 2017, to recover up to \$2.3 million per month until the final payment has been recovered by RG&E from customers.

New York TransCo

Networks holds an approximate 20% ownership interest in the New York TransCo, LLC (New York TransCo). New York TransCo was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. In December 2014, New York TransCo filed for regulatory approval of its rates, terms, and conditions with the FERC. The filing requests a formula base ROE of 10.6%, one-hundred fifty basis points ROE incentives, construction work in progress, a formula rate mechanism, and a proposed cost allocation. Various parties, including the NYPSC, have protested the filing with the FERC, including the base ROE, the ROE incentives, and the cost allocation. New York TransCo will not make final decisions on transmission project development until a FERC decision.

On April 2, 2015, the FERC issued an order granting, inter alia, New York TransCo's owners' request for a 50 basis point adder for New York TransCo's membership in the NYISO regional transmission organization (RTO), subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected New York TransCo's owners' cost allocation method for the Transmission Owner Transmission Solutions (TOTS) Projects because it would allocate costs to Power Supply Long Island (LIPA) and New York Power Authority (NYPA) that they did not voluntarily agree to pay.

On November 5, 2015, the New York TransCo's owners, filed the Settlement with the FERC to resolve all outstanding issues associated with the TOTS Projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed TOTS Projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the New York Independent System Operator, Inc. (NYISO) Open Access Transmission Tariff (OATT) for the TOTS Projects. On March 17, 2016, the FERC approved the Settlement.

On August 21, 2017, New York TransCo filed a settlement with the FERC to resolve all outstanding issues associated with the alternate current transmission project (AC Project) for which selection of the developer remains pending with NYISO. The issues contained in the settlement include those related to the AC Project that were set for hearing and issues pending on rehearing. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the AC Project, including the base ROE of 9.65%, and a 100-basis point ROE adder, an equity ratio in the capital structure of up to 53%, risk sharing for project cost overruns, and the cost allocation under the NYISO Open Access Transmission Tariff (OATT) for the AC Project. On November 16, 2017, the FERC approved the settlement.

Minimum Equity Requirements for Regulated Subsidiaries

Our regulated utility subsidiaries of Maine and New York (NYSEG, RG&E, CMP and MNG) are each subject to a minimum equity ratio requirement that is tied to the capital structure assumed in establishing revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. The minimum equity ratio requirement has the effect of limiting the amount of dividends that may be paid and may, under certain circumstances, require that the parent contribute equity capital. The regulated utility subsidiaries are prohibited by regulation from lending to unregulated affiliates. The regulated utility subsidiaries have also agreed to minimum equity ratio requirements in certain borrowing agreements. These requirements are lower than the regulatory requirements.

Pursuant to agreements with the relevant utility commission, UI, SCG, CNG and BGC are restricted from paying dividends if paying such dividend would result in a common equity ratio lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. In addition, UI, SCG, CNG and BGC are prohibited from paying dividends to their parent if the utility's credit rating as rated by any of the three major credit rating agencies, falls below investment grade, or if the utility's credit rating, as determined by two of the three major credit rating agencies, falls to the lowest investment grade and there is a negative watch or review downgrade notice.

We had restricted net assets of approximately \$4,550 million associated with the minimum equity requirements as of December 31, 2017.

Movement of capital from our wholly owned unregulated subsidiaries is unrestricted.

New Renewable Source Generation

Under Connecticut law Public Act (PA 11-80), Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I Renewable Energy Certificates, or RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over an approximate 21-year period. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, through which UI has developed 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for Connecticut Light and Power Company, or CL&P (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the program, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the program. The cost of this program, a 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, all of which are now operational, was approximately \$41.5 million.

On May 25, 2017, UI entered into six 20-year power purchase agreements (PPAs) totaling approximately 32 MW with developers of wind and solar generation. These PPAs originated from a three-state Clean Energy RFP, and were entered into pursuant Connecticut law Public Act (PA) 13-303 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 13, 2017. UI has begun purchasing energy from Woods Hill Solar, LLC for UI's 2 MW share of the Woods Hill solar project.

On June 20, 2017, UI entered into twenty-two 20-year PPAs totaling approximately 72 MW with developers of wind and solar generation. These PPAs originated from the Connecticut Department of Energy and Environmental Protection's (DEEP) PA 15-107 1(b) RFP, and were entered into pursuant to PA 15-107, Section 1(b) PA 15-107 which provides that the net costs of the PPAs are recoverable through electric rates. The PPAs were approved by PURA on September 7, 2017. One contract was terminated on October 24, 2017, resulting in UI having twenty-one remaining contracts from this solicitation totaling approximately 70 MW.

Equity Investment in Peaking Generation

UI is party to a 50-50 joint venture with NRG affiliates in GenConn, which operates two peaking generation plants in Connecticut. The two peaking generation plants, GenConn Devon and GenConn Middletown, are both participating in the ISO-New England markets. PURA has approved revenue requirements for the period from January 1, 2018 through December 31, 2018 of \$28.8 million and \$35.8 million for GenConn Devon and GenConn Middletown, respectively. PURA has ruled previously that GenConn project capital costs incurred were prudently incurred. Such costs are included in the 2017 approved revenue requirements.

Note 5. Regulatory Assets and Liabilities

Pursuant to the requirements concerning accounting for regulated operations, our utilities capitalize, as regulatory assets, incurred and accrued costs that are probable of recovery in future electric and natural gas rates. We base our assessment of whether recovery is probable on the existence of regulatory orders that allow for recovery of certain costs over a specific period, or allow for reconciliation or deferral of certain costs. When costs are not treated in a specific order, we use regulatory precedent to determine if recovery is

probable. Our operating utilities also record, as regulatory liabilities, obligations to refund previously collected revenue or to spend revenue collected from customers on future costs. The primary items that are not included in the rate base or accruing carrying costs are the regulatory assets for qualified pension and other postretirement benefits, which reflect unrecognized actuarial gains and losses, debt premium, environmental remediation costs, which is primarily the offset of accrued liabilities for future spending, unfunded future income taxes, which are the offset to the unfunded future deferred income tax liability recorded, asset retirement obligations, hedge losses and contracts for differences. The total net amount of these items is approximately \$1,887 million.

The regulatory assets and regulatory liabilities shown in the tables below result from various regulatory orders that allow for the deferral and/or reconciliation of specific costs. Regulatory assets and regulatory liabilities are classified as current when recovery or refund in the coming year is allowed or required through a specific order or when the rates related to a specific regulatory asset or regulatory liability are subject to automatic annual adjustment.

On June 15, 2016, the NYPSC approved the Joint Proposal in connection with a three-year rate plan for electric and gas service at NYSEG and RG&E effective May 1, 2016. Following the approval of the Joint Proposal most of these items related to NYSEG are amortized over a five-year period, except the portion of storm costs to be recovered over ten years, and plant related tax items which are amortized over the life of associated plant. Annual amortization expense for NYSEG is approximately \$16.5 million per rate year. RG&E items that are being amortized are plant related tax items, which are amortized over the life of associated plant, and unfunded deferred taxes being amortized over a period of fifty years. A majority of the other items related to RG&E, which net to a regulatory liability, remains deferred and will not be amortized until future proceedings. Following the approval of the Joint Proposal by the NYPSC, unfunded future income taxes were adjusted for the amount of \$126 million to reflect the change from a flow through to normalization method, which has been recorded as an increase to income tax expense and an offsetting increase to revenue, during the year ended December 31, 2016. These amounts will be collected over a period of fifty years.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Current and non-current regulatory assets as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Current		
Pension and other post-retirement benefits cost deferrals	\$ 24	\$ 22
Pension and other post-retirement benefits	7	7
Storm costs	46	40
Temporary supplemental assessment surcharge	—	4
Reliability support services	27	27
Revenue decoupling mechanism	21	15
Transmission revenue reconciliation mechanism	8	12
Electric supply reconciliation	—	13
Hedges losses	3	10
Contracts for differences	9	14
Hardship programs	14	16
Deferred property tax	10	10
Plant decommissioning	6	6
Deferred purchased gas	31	14
Deferred transmission expense	37	13
Environmental remediation costs	13	14
Other	51	48
Total Current Regulatory Assets	307	285
Non-current		
Pension and other post-retirement benefits cost deferrals	110	134
Pension and other post-retirement benefits	1,162	1,320
Storm costs	254	187
Deferred meter replacement costs	29	32
Unamortized losses on reacquired debt	17	20
Environmental remediation costs	283	287
Unfunded future income taxes	376	542
Asset retirement obligations	18	18
Deferred property tax	14	33
Federal tax depreciation normalization adjustment	155	161
Merger capital expense target customer credit	2	11
Debt premium	131	151
Reliability support services	10	29
Plant decommissioning	9	14
Contracts for differences	84	61
Hardship programs	13	18
Other	71	73
Total Non-current Regulatory Assets	\$ 2,738	\$ 3,091

“Pension and other post-retirement benefits” represent the actuarial losses on the pension and other post-retirement plans that will be reflected in customer rates when they are amortized and recognized in future pension expenses. “Pension and other post-retirement benefits cost deferrals” include the difference between actual expense for pension and other post-retirement benefits and the amount provided for in rates for certain of our regulated utilities. The recovery of these amounts will be determined in future proceedings.

“Storm costs” for CMP, NYSEG, and RG&E are allowed in rates based on an estimate of the routine costs of service restoration. The companies are also allowed to defer unusually high levels of service restoration costs resulting from major storms when they meet certain criteria for severity and duration. Storm costs in the amount of \$123 million at NYSEG are being recovered over ten-year period and the remaining portion is being amortized over five years following the approval of the Joint Proposal by the NYPSC. UI is allowed to defer costs associated with any storm totaling \$1 million or greater for future recovery. UI’s storm regulatory asset balance was \$0 as of December 31, 2017.

“Deferred meter replacement costs” represent the deferral of the book value of retired meters which were replaced by advanced metering infrastructure meters. This amount is being amortized over the initial depreciation period of related retired meters.

“Unamortized losses on reacquired debt” represent deferred losses on debt reacquisitions that will be recovered over the remaining original amortization period of the reacquired debt.

“Environmental remediation costs” includes spending that has occurred and is eligible for future recovery in customer rates. Environmental costs are currently recovered through a reserve mechanism whereby projected spending is included in rates with any variance recorded as a regulatory asset or a regulatory liability. The amortization period will be established in future proceedings and will depend upon the timing of spending for the remediation costs. It also includes the anticipated future rate recovery of costs that are recorded as environmental liabilities since these will be recovered when incurred. Because no funds have yet been expended for the regulatory asset related to future spending, it does not accrue carrying costs and is not included within rate base.

“Unfunded future income taxes” represent unrecovered federal and state income taxes primarily resulting from regulatory flow through accounting treatment and are the offset to the unfunded future deferred income tax liability recorded. The income tax benefits or charges for certain plant related timing differences, such as removal costs, are immediately flowed through to, or collected from, customers. This amount is being amortized as the amounts related to temporary differences that give rise to the deferrals are recovered in rates. Following the approval of the Joint Proposal by the NYPSC, these amounts will be collected over a period of fifty years and the NYPSC Staff has initiated an audit, as required, of the unfunded future income taxes and other tax assets to verify the balances.

“Asset retirement obligations” (ARO) represents the differences in timing of the recognition of costs associated with our AROs and the collection of such amounts through rates. This amount is being amortized at the related depreciation and accretion amounts of the underlying liability.

“Deferred property taxes” represents the customer portion of the difference between actual expense for property taxes and the amount provided for in rates. The amount for NYSEG and RG&E is being amortized over a five year period following the approval of the Joint Proposal by the NYPSC.

“Federal tax depreciation normalization adjustment” represents the revenue requirement impact of the difference in the deferred income tax expense required to be recorded under the IRS normalization rules and the amount of deferred income tax expense that was included in cost of service for rates years covering 2011 forward. The recovery period in NY is from 27 to 39 years and for CMP this will be determined in future Maine Public Utility Commission (MPUC) rate proceedings.

“Debt premium” represents the regulatory asset recorded to offset the fair value adjustment to the regulatory component of the non-current debt of UIL at the acquisition date. This amount is being amortized to interest expense over the remaining term of the related outstanding debt instruments.

“Hardship Programs” represent hardship customer accounts deferred for future recovery to the extent they exceed the amount in rates.

“Deferred Purchased Gas” represents the difference between actual gas costs and gas costs collected in rates.

“Contracts for Differences” represent the deferral of unrealized gains and losses on contracts for differences derivative contracts. The balance fluctuates based upon quarterly market analysis performed on the related derivatives. The amounts, which do not earn a return, are fully offset by a corresponding derivative asset/liability.

“Deferred Transmission Expense” represents deferred transmission income or expense and fluctuates based upon actual revenues and revenue requirements.

“Other” includes post term amortization and various items subject to reconciliation including rate change levelization, loss on re-acquired debt and power tax deferral.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Current and non-current regulatory liabilities as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Current		
Reliability support services (Cayuga)	\$ —	\$ 3
Non by-passable charges	5	22
Energy efficiency portfolio standard	37	45
Gas supply charge and deferred natural gas cost	4	6
Transmission revenue reconciliation mechanism	14	5
Pension and other post-retirement benefits	1	3
Pension and other post-retirement benefits cost deferrals	14	14
Carrying costs on deferred income tax bonus depreciation	21	15
Carrying costs on deferred income tax - Mixed Services 263(a)	5	5
Yankee DOE refund	4	24
Merger-related rate credits	1	3
Revenue decoupling mechanism	4	9
Stranded costs	17	—
Other	51	38
Total Current Regulatory Liabilities	178	192
Non-current		
Accrued removal obligations	1,132	1,117
Tax Act - remeasurement	1,515	—
Asset sale gain account	10	9
Carrying costs on deferred income tax bonus depreciation	72	95
Economic development	32	35
Merger capital expense target customer credit account	6	15
Pension and other post-retirement benefits	74	76
Positive benefit adjustment	39	42
New York state tax rate change	6	9
Post term amortization	—	3
Theoretical reserve flow thru impact	19	24
Deferred property tax	19	19
Net plant reconciliation	10	10
Variable rate debt	33	28
Carrying costs on deferred income tax - Mixed Services 263(a)	20	25
Rate refund – FERC ROE proceeding	27	22
Transmission congestion contracts	19	18
Merger-related rate credits	20	21
Accumulated deferred investment tax credits	13	15
Asset retirement obligation	13	13
Earning sharing provisions	22	12
Middletown/Norwalk local transmission network service collections	19	19
Excess generation service charge	2	—
Low income programs	42	46
Non-firm margin sharing credits	8	7
Deferred income taxes regulatory	13	565
Other	67	73
Total Non-current Regulatory Liabilities	\$ 3,252	\$ 2,318

“Reliability support services (Cayuga)” represents the difference between actual expenses for reliability support services and the amount provided for in rates. This will be refunded to customers within the next year.

“Non by-passable charges” represent the non by-passable charge paid by all customers. An asset or liability is recognized resulting from differences between actual revenues and the underlying cost being recovered. This liability will be refunded to customers within the next year.

“Energy efficiency portfolio standard” represents the difference between revenue billed to customers through an energy efficiency charge and the costs of our energy efficiency programs as approved by the state authorities. This may be refunded to customers within the next year.

“Accrued removal obligations” represent the differences between asset removal costs recorded and amounts collected in rates for those costs. The amortization period is dependent upon the asset removal costs of underlying assets and the life of the utility plant.

“Asset sale gain account” represents the gain on NYSEG’s 2001 sale of its interest in Nine Mile Point 2 nuclear generating station located in Oswego, New York. The net proceeds from the Nine Mile Point 2 nuclear generating station were placed in this account and will be used to benefit customers. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Carrying costs on deferred income tax bonus depreciation” represent the carrying costs benefit of increased accumulated deferred income taxes created by the change in tax law allowing bonus depreciation. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Economic development” represents the economic development program which enables NYSEG and RG&E to foster economic development through attraction, expansion, and retention of businesses within its service territory. If the level of actual expenditures for economic development allocated to NYSEG and RG&E varies in any rate year from the level provided for in rates, the difference is refunded to ratepayers. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Merger capital expense target customer credit” account was created as a result of NYSEG and RG&E not meeting certain capital expenditure requirements established in the order approving the purchase of AVANGRID (formerly Energy East Corporation) by Iberdrola. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Pension and other postretirement benefits” represent the actuarial gains on other postretirement plans that will be reflected in customer rates when they are amortized and recognized in future expenses. Because no funds have yet been received for this a regulatory liability is not reflected within rate base. They also represent the difference between actual expense for pension and other postretirement benefits and the amount provided for in rates. Recovery of these amounts will be determined in future proceedings.

“Positive benefit adjustment” resulted from Iberdrola’s 2008 acquisition of AVANGRID (formerly Energy East Corporation). This is being used to moderate increases in rates. The amortization period is five years following the approval of the Joint Proposal by the NYPSC and included in the Ginna RSSA settlement.

“New York state tax rate change” represents excess funded accumulated deferred income tax balance caused by the 2014 New York state tax rate change from 7.1% to 6.5%. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Post term amortization” represents the revenue requirement associated with certain expired joint proposal amortization items. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Theoretical reserve flow thru impact” represents the differences from the rate allowance for applicable federal and state flow through impacts related to the excess depreciation reserve amortization. It also represents the carrying cost on the differences. The amortization period is five years following the approval of the Joint Proposal by the NYPSC.

“Tax Act - remeasurement” represents the impact from remeasurement of deferred income tax balances as a result of the Tax Act enacted by the U.S. federal government on December 22, 2017. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rates from 35% to 21% under the provisions of the Tax Act will result in amounts previously collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The NYPSC, MPUC, PURA and DPU have instituted separate proceedings in New York, Maine, Connecticut and Massachusetts to review and address the implications associated with the Tax Act on the utilities providing service in those states. We expect the regulators in each jurisdiction, including the FERC, to issue requirements in 2018 regarding how all tax benefits associated with the Tax Act will be returned to customers.

“Merger-related rate credits” resulted from the acquisition of UIL. This is being used to moderate increases in rates. In the years ended December 31, 2017 and 2016, respectively, \$2 million and \$20 million of rate credits were applied against customer bills.

“Excess generation service charge” represents deferred generation-related and non by-passable federally mandated congestion costs or revenues for future recovery from or return to customers. The amount fluctuates based upon timing differences between revenues collected from rates and actual costs incurred.

“Low Income Programs” represent various hardship and payment plan programs approved for recovery.

“Other” includes cost of removal being amortized through rates and various items subject to reconciliation including variable rate debt, Medicare subsidy benefits and stray voltage collections.

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Note 6. Goodwill and Intangible assets

Goodwill by reportable segment as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Networks	\$ 2,747	\$ 2,744
Renewables	380	380
Total	\$ 3,127	\$ 3,124

As of December 31, 2017 and 2016, there were no changes in gross amounts and accumulated losses of goodwill for the Networks and Renewables reportable segments, except for various immaterial adjustments in 2017 related to the gross amount of goodwill for the Networks reportable segment.

Goodwill Impairment Assessment

For impairment testing purposes our reporting units are the same as operating segments, except for Networks, which contained three reporting units, Maine, New York and UIL. The goodwill for the Maine reporting unit resulted from the purchase of CMP by Energy East Corporation in 2000 and amounted to \$325 million. Separately, the goodwill for the New York reporting unit resulted primarily from the purchase of RG&E by Energy East in 2002 and amounted to \$654 million. The goodwill for the UIL reporting unit was generated from the acquisition of UIL on December 16, 2015 and amounted to \$1,765 million.

Our annual impairment testing takes place as of October 1. Our step zero qualitative assessment involves evaluating key events and circumstances that could affect the fair value of our reporting units, as well as other factors. Events and circumstances evaluated include macroeconomic conditions, industry, regulatory and market considerations, cost factors and their effect on earnings and cash flows, overall financial performance as compared with projected results and actual results of relevant prior periods, other relevant entity specific events, and events affecting a reporting unit.

Our step one impairment testing includes various assumptions, primarily the discount rate, which is based on an estimate of our marginal, weighted average cost of capital, and forecasted cash flows. We test the reasonableness of the conclusions of our step one impairment testing using a range of discount rates and a range of assumptions for long term cash flows.

We had no impairment of goodwill in 2017 and 2016 as a result of our impairment testing.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Intangible assets

Intangible assets include those assets acquired in business acquisitions and intangible assets acquired and developed from external third parties and from affiliated companies. Following is a summary of intangible assets:

As of December 31, 2017	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
(Millions)			
Wind development	\$ 583	\$ (264)	\$ 319
Other	21	(12)	9
Total Intangible Assets	\$ 604	\$ (276)	\$ 328

As of December 31, 2016	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
(Millions)			
Gas Storage rights	\$ 319	\$ (120)	\$ 199
Wind development	587	(254)	333
Other	17	(11)	6
Total Intangible Assets	\$ 923	\$ (385)	\$ 538

Wind development costs, with the exception of future 'pipeline' development costs, are amortized on a straight-line basis in accordance with the life of the related assets. Amortization expense for the years ended December 31, 2017, 2016 and 2015 amounted to \$22 million, \$25 million and \$54 million, respectively. We believe our future cash flows will support the recoverability of our intangible assets.

We expect amortization expense for the five years subsequent to December 31, 2017, to be as follows:

Year ending December 31,	
(Millions)	
2018	\$ 16
2019	19
2020	18
2021	21
2022	22

As a result of writing off fully amortized intangible assets relating to Gas Storage rights, \$4.1 million and \$6.5 million were removed from both cost and accumulated amortization during the years ended December 31, 2016 and 2015, respectively.

As of December 31, 2017, we reclassified \$193 million from intangible assets related to gas storage rights to assets held for sale in the consolidated balance sheet (see Note 25 - Assets Held for Sale). There was no amount classified as assets held for sale as of December 31, 2016.

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Note 7. Property, Plant and Equipment

Property, plant and equipment as of December 31, 2017, consisted of:

As of December 31, 2017 (Millions)	Regulated	Nonregulated	Total
Electric generation, distribution, transmission and other	\$ 13,108	\$ 11,517	\$ 24,625
Natural gas transportation, distribution and other	3,728	13	3,741
Other common operating property	—	375	375
Total Property, Plant and Equipment in Service (a)	16,836	11,905	28,741
Total accumulated depreciation (b)	(4,172)	(3,325)	(7,497)
Total Net Property, Plant and Equipment in Service	12,664	8,580	21,244
Construction work in progress	987	438	1,425
Total Property, Plant and Equipment	\$ 13,651	\$ 9,018	\$ 22,669

(a) Includes capitalized leases of \$204 million primarily related to electric generation, distribution, transmission and other.

(b) Includes accumulated amortization of capitalized leases of \$68 million.

Property, plant and equipment as of December 31, 2016, consisted of:

As of December 31, 2016 (Millions)	Regulated	Nonregulated	Total
Electric generation, distribution, transmission and other	\$ 12,259	\$ 10,375	\$ 22,634
Natural gas transportation, distribution and other	3,433	661	4,094
Other common operating property	—	335	335
Total Property, Plant and Equipment in Service (a)	15,692	11,371	27,063
Total accumulated depreciation (b)	(3,839)	(3,147)	(6,986)
Total Net Property, Plant and Equipment in Service	11,853	8,224	20,077
Construction work in progress	966	505	1,471
Total Property, Plant and Equipment	\$ 12,819	\$ 8,729	\$ 21,548

(a) Includes capitalized leases of \$208 million primarily related to electric generation, distribution, transmission and other.

(b) Includes accumulated amortization of capitalized leases of \$60 million.

As of December 31, 2017, we reclassified \$489 million from non-regulated property, plant and equipment to assets held for sale in the consolidated balance sheet (see Note 25 - Assets Held for Sale). There was no amount classified as assets held for sale as of December 31, 2016. In addition, certain amounts in the regulated and non-regulated property, plant and equipment of the table above have been reclassified to conform to the 2017 presentation.

Capitalized interest costs were \$28 million, \$20 million, and \$13 million for the years ended December 31, 2017, 2016 and 2015, respectively. Accrued liabilities for property, plant and equipment additions were \$209 million, \$338 million and \$148 million as of December 31, 2017, 2016 and 2015, respectively.

We impaired or wrote off amounts of \$5 million, \$0 and \$12 million for the years ended December 31, 2017, 2016 and 2015, respectively, resulting from reassessment of the economic feasibility of our various Renewables development projects in construction.

Depreciation expense for the years ended December 31, 2017, 2016 and 2015, amounted to \$802 million, \$779 million and \$641 million, respectively.

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In September 2017, we acquired all of the membership interest in Solar Star Oregon II, that is constructing a 56MW solar project in Prineville, Oregon called Gala (Gala transaction), which had a PPA in place. The total purchase price for the Gala transaction is \$121 million, \$105 million of which was paid at the date of acquisition, with the remaining to be paid upon a substantial completion of construction of the Gala solar farm. According to the revised guidance on assessing whether a transaction is an acquisition of assets or a business we performed a screening test to determine whether substantially all of the fair value of the gross assets acquired is

concentrated in a single asset (in-place lease intangibles and related leased assets) or group of similar assets in the Gala transaction. The Gala solar farm meets the screening test, being a single asset, and constitutes substantially all of the value of the consideration paid to the seller and therefore the Gala transaction is considered an asset acquisition. Additionally, at the acquisition date the Gala project, being at its development stage, would require a workforce that is capable to develop or convert inputs into outputs. As scheduling and balancing services, which will be performed by our workforce, are the primary functions required to convert the solar output into revenues under the PPA, the Gala transaction is not an acquisition of a business. Based on the fair value of assets acquired the purchase price in the Gala transaction was mainly allocated to the Gala solar farm in construction of approximately \$122 million. The liability recognized for contingent consideration payable is \$13 million, which was based on an amount that was probable and estimable, as of the acquisition date, September 20, 2017.

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Note 8. Asset retirement obligations

AROs are intended to meet the costs for dismantling and restoration work that we have committed to carry out at our operational facilities.

The reconciliation of ARO carrying amounts for the years ended December 31, 2017 and 2016 consisted of:

(Millions)	
As of December 31, 2015	\$ 184
Liabilities settled during the year	(7)
Liabilities incurred during the year	3
Accretion expense	10
Revisions in estimated cash flows	(29)
As of December 31, 2016	\$ 161
Liabilities settled during the year	(1)
Liabilities incurred during the year	13
Accretion expense	10
Revisions in estimated cash flows	13
As of December 31, 2017	\$ 196

Several of the wind generation facilities have restricted cash for purposes of settling AROs. Restricted cash related to AROs was \$2.0 million as of both December 31, 2017 and 2016. These amounts have been included as other non-current assets in the consolidated balance sheets. Accretion expenses are included in "Operations and maintenance" in the consolidated statements of income.

We have AROs for which a liability has not been recognized because the fair value cannot be reasonably estimated due to indeterminate settlement dates, including for the removal of hydroelectric dams due to structural inadequacy or for decommissioning; the removal of property upon termination of an easement, right-of-way or franchise; and costs for abandonment of certain types of gas mains.

In 2017, the addition of new wind and solar facilities, revision of the estimated useful lives of wind and solar facilities, and the subsequent measure of the amount of the original ARO estimate of undiscounted cash flows resulted in higher discounted AROs. We estimate that the revisions will result in approximately \$2 million annual increase in expense going forward.

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AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Note 9. Debt

Long-term debt as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)		2017		2016	
	Maturity Dates	Balances	Interest Rates	Balances	Interest Rates
First mortgage bonds - fixed (a)	2018-2045	\$ 2,054	3.07%-10.60%	\$ 1,752	3.07%-10.60%
Unsecured pollution control notes - fixed	2020	200	2.00%-2.375%	200	2.00%-2.375%
Unsecured pollution control notes – variable	2032	62	1.94%	62	1.32%
Other various non-current debt - fixed	2018-2045	3,027	2.89%-10.48%	2,772	2.89%-10.48%
Obligations under capital leases	2018-2030	74	4%-4.44%	104	4%-4.44%
Unamortized debt issuance costs and discount		(38)		(31)	
Total Debt		5,379		4,859	
Less: debt due within one year, included in current liabilities		183		349	
Total Non-current Debt		\$ 5,196		\$ 4,510	

(a) The first mortgage bonds have pledged collateral of substantially all the respective utility's in service properties of approximately \$6,365 million.

On May 24, 2017, RG&E issued \$300 million in aggregate principal amount of 3.10% First Mortgage Bonds maturing in 2027. Proceeds of the offering were used to reduce short-term debt, to fund capital expenditures and for general corporate purposes. Net proceeds of the offering after the price discount and issuance-related expenses were \$294 million.

On November 21, 2017, Avangrid, Inc. issued \$600 million aggregate principal amount of its 3.150% notes maturing in 2024. Proceeds of the offering were used to reduce short-term debt incurred to fund capital expenditures associated with development of renewable energy generation facilities. Net proceeds of the offering after the price discount and issuance-related expenses were \$594 million.

Non-current debt, including sinking fund obligations and capital lease payments, due over the next five years consists of:

(Millions)	2018	2019	2020	2021	2022	Total
\$	183	\$ 357	\$ 722	\$ 307	\$ 369	\$ 1,938

We make certain standard covenants to lenders in our third-party debt agreements, including, in certain agreements, covenants regarding the ratio of indebtedness to total capitalization. A breach of any covenant in the existing credit facilities or the agreements governing our other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration. Other events of default may be remedied by the borrower within a specified period or waived by the lenders and, if not remedied or waived, give the lenders the right to accelerate. Neither we nor any of our subsidiaries were in breach of covenants or of any obligation that could trigger the early redemption of our debt as of December 31, 2017 and 2016.

Fair Value of Debt

The estimated fair value of debt amounted to \$5,799 million and \$5,204 million as of December 31, 2017 and 2016, respectively. The estimated fair value was determined, in most cases, by discounting the future cash flows at market interest rates. The interest rate curve used to make these calculations takes into account the risks associated with the electricity industry and the credit ratings of the borrowers in each case. The fair value hierarchy pertaining to the fair value of debt is considered as Level 2, except for unsecured pollution control notes-variable with a fair value of \$61 million as of both December 31, 2017 and 2016, which are considered Level 3. The fair value of these unsecured pollution control notes-variable are determined using unobservable interest rates as the market for these notes is inactive.

Short-term Debt

Outstanding Notes Payable

AVANGRID had \$786 million and \$161 million of notes payable as of December 31, 2017 and 2016, respectively. As of December 31, 2017, the balance consisted of \$507 million of commercial paper, \$250 million of drawn credit facility and \$29 million in notes payable to an affiliate. As of December 31, 2016, the balance consisted of \$150 million of commercial paper, \$10 million in notes payable to an affiliate and \$1 million in other notes payable. AVANGRID's commercial paper program was established on May 13, 2016, has a limit of \$1 billion and is backstopped by the AVANGRID credit facility described below.

AVANGRID Credit Facility

On April 5, 2016, AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC entered into a revolving credit facility with a syndicate of banks, or the AVANGRID credit facility, that provides for maximum borrowings of up to \$1.5 billion in the aggregate.

Under the terms of the AVANGRID credit facility, each joint borrower has a maximum borrowing entitlement, or sublimit, which can be periodically adjusted to address specific short-term capital funding needs, subject to the maximum limit established by the banks. AVANGRID's maximum sublimit is \$1 billion, NYSEG, RG&E, CMP and UI have maximum sublimits of \$250 million, CNG, and SCG have maximum sublimits of \$150 million and BGC has a maximum sublimit of \$25 million. Under the AVANGRID credit facility, each of the borrowers will pay an annual facility fee that is dependent on their credit rating. The facility fees will range from 10.0 to 17.5 basis points. The maturity date for the AVANGRID credit facility is April 5, 2021.

As of December 31, 2017 and 2016, there was \$250 million and \$0 drawn under the AVANGRID credit facility, and the capacity to borrow under the facility is reduced by the amount of outstanding commercial paper, leaving available credit of, respectively, \$743 million and \$1,350 million.

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Note 10. Fair Value of Financial Instruments and Fair Value Measurements

We determine the fair value of our derivative assets and liabilities and available for sale non-current investments associated with Networks' activities utilizing market approach valuation techniques:

- We measure the fair value of our noncurrent investments using quoted market prices in active markets for identical assets and include the measurements in Level 1. The available for sale investments which are Rabbi Trusts for deferred compensation plans primarily consist of money market funds and are included in Level 1 fair value measurement.
- NYSEG and RG&E enter into electric energy derivative contracts to hedge the forecasted purchases required to serve their electric load obligations. They hedge their electric load obligations using derivative contracts that are settled based upon Locational Based Marginal Pricing published by the New York Independent System Operator (NYISO). NYSEG and RG&E hedge approximately 70% of their electric load obligations using contracts for a NYISO location where an active market exists. The forward market prices used to value the companies' open electric energy derivative contracts are based on quoted prices in active markets for identical assets or liabilities with no adjustment required and therefore we include the fair value in Level 1.
- NYSEG and RG&E enter into natural gas derivative contracts to hedge their forecasted purchases required to serve their natural gas load obligations. The forward market prices used to value open natural gas derivative contracts are exchange-based prices for the identical derivative contracts traded actively on the New York Mercantile Exchange (NYMEX). Because we use prices quoted in an active market we include the fair value measurements in Level 1.
- NYSEG, RG&E and CMP enter into fuel derivative contracts to hedge their unleaded and diesel fuel requirements for their fleet vehicles. Exchange-based forward market prices are used but because an unobservable basis adjustment is added to the forward prices we include the fair value measurement for these contracts in Level 3.
- Contracts for differences (CfDs) entered into by UI are marked-to-market based on a probability-based expected cash flow analysis that is discounted at risk-free interest rates and an adjustment for non-performance risk using credit default swap rates. We include the fair value measurement for these contracts in Level 3 (See Note 11 for further discussion on CfDs).

We determine the fair value of our derivative assets and liabilities associated with Renewables and Gas activities utilizing market approach valuation techniques. Exchange-traded transactions, such as NYMEX futures contracts, that are based on quoted market prices in active markets for identical product with no adjustment are included in the Level 1 fair value. Contracts with delivery periods of two years or less which are traded in active markets and are valued with or derived from observable market data for identical or similar products such as over-the-counter NYMEX, foreign exchange swaps, and fixed price physical and basis and index trades are included in Level 2 fair value. Contracts with delivery periods exceeding two years or that have unobservable inputs or inputs that

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

cannot be corroborated with market data for identical or similar products are included in Level 3 fair value. The unobservable inputs include historical volatilities and correlations for tolling arrangements and extrapolated values for certain power swaps. The valuation for this category is based on our judgments about the assumptions market participants would use in pricing the asset or liability since limited market data exists.

The carrying amounts for cash and cash equivalents, restricted cash, accounts receivable, accounts payable, notes payable and interest accrued approximate their estimated fair values and are considered as Level 1.

Restricted cash was \$5 million as of both December 31, 2017 and 2016, which is included in "Other Assets" on the balance sheet.

The financial instruments measured at fair value as of December 31, 2017 and 2016 consisted of:

<u>As of December 31, 2017</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Netting</u>	<u>Total</u>
(Millions)					
Securities portfolio (available for sale)	\$ 41	\$ —	\$ —	\$ —	\$ 41
Derivative assets					
Derivative financial instruments - power	14	30	74	(49)	69
Derivative financial instruments - gas	89	18	64	(146)	25
Contracts for differences	—	—	12	—	12
Total	103	48	150	(195)	106
Derivative liabilities					
Derivative financial instruments - power	(14)	(17)	(15)	37	(9)
Derivative financial instruments - gas	(80)	(20)	(25)	110	(15)
Contracts for differences	—	—	(104)	—	(104)
Total	\$ (94)	\$ (37)	\$ (144)	\$ 147	\$ (128)
 <u>As of December 31, 2016</u>	 <u>Level 1</u>	 <u>Level 2</u>	 <u>Level 3</u>	 <u>Netting</u>	 <u>Total</u>
(Millions)					
Securities portfolio (available for sale)	\$ 40	\$ —	\$ —	\$ —	\$ 40
Derivative assets					
Derivative financial instruments - power	11	48	58	(42)	75
Derivative financial instruments - gas	180	32	104	(239)	77
Contracts for differences	—	—	20	—	20
Total	191	80	182	(281)	172
Derivative liabilities					
Derivative financial instruments - power	(24)	(27)	(3)	39	(15)
Derivative financial instruments - gas	(213)	(34)	(53)	257	(43)
Contracts for differences	—	—	(95)	—	(95)
Total	\$ (237)	\$ (61)	\$ (151)	\$ 296	\$ (153)

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Included in the derivative financial instruments – gas are derivative assets and liabilities of Gas segment classified as held for sale as of December 31, 2017. See Note 25 – Assets Held For Sale for further discussion.

The reconciliations of changes in the fair value of financial instruments based on Level 3 inputs for the years ended December 31, 2017, 2016 and 2015 consisted of:

(Millions)	2017	2016	2015
Fair value as of January 1,	\$ 31	\$ (19)	\$ 57
Gains for the year recognized in operating revenues	18	67	33
Losses for the year recognized in operating revenues	(1)	—	(8)
Total gains or losses for the period recognized in operating revenues	17	67	25
Gains recognized in OCI	2	1	2
Losses recognized in OCI	(1)	—	(3)
Total gains or losses recognized in OCI	1	1	(1)
Net change recognized in regulatory assets and liabilities	(17)	(8)	—
Purchases	(5)	3	(73)
Settlements	(17)	(9)	(14)
Transfers out of Level 3 (a)	(4)	(4)	(13)
Fair value as of December 31,	\$ 6	\$ 31	\$ (19)
Gains for the year included in operating revenues attributable to the change in unrealized gains relating to financial instruments still held at the reporting date	\$ 17	\$ 67	\$ 25

(a) Transfers out of Level 3 were the result of increased observability of market data.

For assets and liabilities that are recognized in the consolidated financial statements at fair value on a recurring basis, we determine whether transfers have occurred between levels in the hierarchy by re-assessing categorization based on the lowest level of input that is significant to the fair value measurement as a whole at the end of each reporting period. There have been no transfers between Level 1 and Level 2 during the years reported.

Level 3 Fair Value Measurement

The tables below illustrate the significant sources of unobservable inputs used in the fair value measurement of our Level 3 derivatives, and the variability in prices for those transactions classified as Level 3 derivatives.

As of December 31, 2017							
Instruments	Instrument Description	Valuation Technique	Valuation Inputs	Index	Avg.	Max.	Min.
Fixed price power and gas swaps with delivery period > two years	Transactions with delivery periods exceeding two years	Transactions are valued against forward market prices on a discounted basis	Observable and extrapolated forward gas and power prices not all of which can be corroborated by market data for identical or similar products	NYMEX (\$/MMBtu)	\$ 3.07	\$ 3.93	\$ 2.35
				Indiana hub (\$/MWh)	\$ 31.77	\$ 65.55	\$ 18.53
				Mid C (\$/MWh)	\$ 24.59	\$ 46.50	\$ (0.50)
				Minn hub (\$/MWh)	\$ 26.40	\$ 62.33	\$ 9.56

Our Level 3 valuations primarily consist of NYMEX gas and fixed price power swaps with delivery periods extending through 2024 and 2032, respectively. The gas swaps are used to hedge both gas inventory in firm storage and merchant wind positions. The power swaps are used to hedge merchant wind production in the West and Midwest.

We performed a sensitivity analysis around the Level 3 gas and power positions to changes in the valuation inputs. Given the nature of the transactions in Level 3, the only material input to the valuation is the market price of gas or power for transactions with delivery periods exceeding two years. The fixed price power swaps are economic hedges of future power generation, with decreases in power prices resulting in unrealized gains and increases in power prices resulting in unrealized losses. The gas swaps are economic hedges of gas storage inventory and merchant generation, with decreases in gas prices resulting in unrealized gains and increases in gas prices resulting in unrealized losses. As all transactions are economic hedges of the underlying position, any changes in the fair value of these transactions will be offset by changes in the anticipated purchase/sales price of the underlying commodity.

Two elements of the analytical infrastructure employed in valuing transactions are the price curves used in calculation of market value and the models themselves. We maintain and document authorized trading points and associated forward price curves, and we develop and document models used in valuation of the various products.

Transactions are valued in part on the basis of forward price, correlation, and volatility curves. We maintain and document descriptions of these curves and their derivations. Forward price curves used in valuing the transactions are applied to the full duration of the transaction.

The determination of fair value of the CfDs (see Note 11 for further details on CfDs) was based on a probability-based expected cash flow analysis that was discounted at risk-free interest rates, as applicable, and an adjustment for non-performance risk using credit default swap rates. Certain management assumptions were required, including development of pricing that extended over the term of the contracts. We believe this methodology provides the most reasonable estimates of the amount of future discounted cash flows associated with the CfDs. Additionally, on a quarterly basis, we perform analytics to ensure that the fair value of the derivatives is consistent with changes, if any, in the various fair value model inputs. Significant isolated changes in the risk of non-performance, the discount rate or the contract term pricing would result in an inverse change in the fair value of the CfDs. Additional quantitative information about Level 3 fair value measurements of the CfDs is as follows:

Unobservable Input	Range at December 31, 2017
Risk of non-performance	0.11% - 0.49%
Discount rate	1.89% - 2.40%
Forward pricing (\$ per MW)	\$5.30 - \$9.55

Note 11. Derivative Instruments and Hedging

Our Networks, Renewables and Gas activities are exposed to certain risks, which are managed by using derivative instruments. All derivative instruments are recognized as either assets or liabilities at fair value on the consolidated balance sheets in accordance with the accounting requirements concerning derivative instruments and hedging activities.

(a) Networks activities

NYSEG and RG&E have an electric commodity charge that passes through rates costs for the market price of electricity. They use electricity contracts, both physical and financial, to manage fluctuations in electricity commodity prices in order to provide price stability to customers. We include the cost or benefit of those contracts in the amount expensed for electricity purchased when the related electricity is sold. We record changes in the fair value of electric hedge contracts to derivative assets and / or liabilities with an offset to regulatory assets and / or regulatory liabilities, in accordance with the accounting requirements concerning regulated operations.

The amount recognized in regulatory assets and liabilities for electricity derivatives was a loss of \$0.2 million and \$12.3 million as of December 31, 2017 and 2016, respectively. The loss reclassified from regulatory assets into income, which is included in electricity purchased, was \$36.9 million, \$66.7 million, and \$46.9 million for the years ended December 31, 2017, 2016 and 2015, respectively.

NYSEG and RG&E have purchased gas adjustment clauses that allow them to recover through rates any changes in the market price of purchased natural gas, substantially eliminating their exposure to natural gas price risk. NYSEG and RG&E use natural gas futures and forwards to manage fluctuations in natural gas commodity prices to provide price stability to customers. We include the cost or benefit of natural gas futures and forwards in the commodity cost that is passed on to customers when the related sales commitments are fulfilled. We record changes in the fair value of natural gas hedge contracts to derivative assets and or liabilities with an offset to regulatory assets and or regulatory liabilities in accordance with the accounting requirements for regulated operations.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The amount recognized in regulatory assets for natural gas hedges was a loss of \$2.5 million as of December 31, 2017 and the amount recognized in regulatory liabilities was a gain of \$3.5 million as of December 31, 2016. The loss reclassified from regulatory assets into income, which is included in natural gas purchased, was \$0.2 million, \$1.9 million, and \$6.3 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Pursuant to PURA directive, UI and Connecticut's other electric utility, CL&P, each executed two long-term CfDs with certain incremental capacity resources, each of which specifies a capacity quantity and a monthly settlement that reflects the difference between a forward market price and the contract price. The costs or benefits of each contract will be paid by or allocated to customers and will be subject to a cost-sharing agreement between UI and CL&P pursuant to which approximately 20% of the cost or benefit is borne by or allocated to UI customers and approximately 80% is borne by or allocated to CL&P customers.

PURA has determined that costs associated with these CfDs will be fully recoverable by UI and CL&P through electric rates, and UI has deferred recognition of costs (a regulatory asset) or obligations (a regulatory liability), including carrying costs. For those CfDs signed by CL&P, UI records its approximate 20% portion pursuant to the cost-sharing agreement noted above. As of December 31, 2017, UI has recorded a gross derivative asset of \$12 million (\$0 of which is related to UI's portion of the CfD signed by CL&P), a regulatory asset of \$93 million, a gross derivative liability of \$104 million (\$90 million of which is related to UI's portion of the CfD signed by CL&P) and a regulatory liability of \$0. As of December 31, 2016, UI has recorded a gross derivative asset of \$19 million (\$0 of which is related to UI's portion of the CfD signed by CL&P), a regulatory asset of \$75 million, a gross derivative liability of \$95 million (\$70 million of which is related to UI's portion of the CfD signed by CL&P) and a regulatory liability of \$0.

The unrealized gains and losses from fair value adjustments to these derivatives, which are recorded in regulatory assets or regulatory liabilities, for the years ended December 31, 2017 and 2016, and for the period from December 17, 2015 to December 31, 2015, respectively, were as follows:

	Year Ended December 31, 2017	Year Ended December 31, 2016	Period from December 17, 2015 to December 31, 2015
(Millions)			
Derivative Assets	\$ (8)	\$ (7)	\$ (1)
Derivative Liabilities	\$ (9)	\$ (1)	\$ —

The net notional volumes of the outstanding derivative instruments associated with Networks activities as of December 31, 2017 and 2016, respectively, consisted of:

As of December 31,	2017	2016
(Millions)		
Wholesale electricity purchase contracts (MWh)	3.9	5.6
Natural gas purchase contracts (Dth)	6.1	5.8
Fleet fuel purchase contracts (Gallons)	2.1	2.3

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The offsetting of derivatives, location in the consolidated balance sheet and amounts of derivatives associated with Networks activities as of December 31, 2017 and 2016, respectively, consisted of:

As of December 31, 2017 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 20	\$ 5	\$ 13	\$ —
Derivative liabilities	(13)	—	(32)	(88)
	7	5	(19)	(88)
Designated as hedging instruments				
Derivative assets	—	—	—	—
Derivative liabilities	—	—	—	—
	—	—	—	—
Total derivatives before offset of cash collateral	7	5	(19)	(88)
Cash collateral receivable	—	—	3	—
Total derivatives as presented in the balance sheet	\$ 7	\$ 5	\$ (16)	\$ (88)
As of December 31, 2016 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 19	\$ 16	\$ 7	\$ 5
Derivative liabilities	(7)	(5)	(40)	(79)
	12	11	(33)	(74)
Designated as hedging instruments				
Derivative assets	—	—	—	—
Derivative liabilities	—	—	—	—
	—	—	—	—
Total derivatives before offset of cash collateral	12	11	(33)	(74)
Cash collateral receivable	—	—	10	2
Total derivatives as presented in the balance sheet	\$ 12	\$ 11	\$ (23)	\$ (72)

The effect of derivatives in cash flow hedging relationships on OCI and income for the years ended December 31, 2017, 2016 and 2015, respectively, consisted of:

Year Ended December 31, (Millions)	(Loss) Recognized in OCI on Derivatives Effective Portion (a)	Location of Loss Reclassified from Accumulated OCI into Income	Loss Reclassified from Accumulated OCI into Income
2017			
Interest rate contracts	\$ —	Interest expense	\$ 8
Commodity contracts	(1)	Operating expenses	1
Total	\$ (1)		\$ 9
2016			
Interest rate contracts	\$ —	Interest expense	\$ 8
Commodity contracts	—	Operating expenses	2
Total	\$ —		\$ 10
2015			
Interest rate contracts	\$ —	Interest expense	\$ 9
Commodity contracts	(3)	Operating expenses	3
Total	\$ (3)		\$ 12

- (a) Changes in OCI are reported in pre-tax dollars, the reclassified amounts of commodity contracts are included within "Purchase power, natural gas and fuel used" line item within operating expenses in the consolidated statements of income.

The net loss in accumulated OCI related to previously settled forward starting swaps and accumulated amortization is \$68.8 million and \$76.7 million, as of December 31, 2017 and 2016, respectively. We recorded \$8.0 million, \$8.0 million, and \$8.6 million in net derivative losses related to discontinued cash flow hedges for the years ended December 31, 2017, 2016 and 2015, respectively. We will amortize approximately \$8.0 million of discontinued cash flow hedges in 2018. During the years ended December 31, 2017, 2016 and 2015, there was no ineffective portion for cash flow hedges.

The unrealized loss of \$0.1 million on hedge derivatives is reported in OCI because the forecasted transaction is considered to be probable as of December 31, 2017. We expect that \$0.1 million of those losses will be reclassified into earnings within the next twelve months. The maximum length of time over which we are hedging our exposure to the variability in future cash flows for forecasted fleet fuel transactions is twelve months.

(b) Renewables and Gas activities

We sell fixed-price gas and power forwards to hedge our merchant wind assets from declining commodity prices for our Renewables business. We also purchase fixed-price gas and basis swaps and sell fixed-price power in the forward market to hedge the spark spread or heat rate of our merchant thermal assets. We also enter into tolling arrangements to sell the output of our thermal generation facilities.

Our gas business purchases and sells both fixed-price gas and basis swaps to hedge the value of contracted storage positions. The intent of entering into these swaps is to fix the margin of gas injected into storage for subsequent resale in future periods. We also enter into basis swaps to hedge the value of our contracted transport positions. The intent of buying and selling these basis swaps is to fix the location differential between the price of gas at the receipt and delivery point of the contracted transport in future periods.

Both Renewables and Gas have proprietary trading operations that enter into fixed-price power and gas forwards in addition to basis swaps. The intent is to speculate on fixed-price commodity and basis volatility in the U.S. commodity markets.

Renewables will periodically designate derivative contracts as cash flow hedges for both its thermal and wind portfolios. To the extent that the derivative contracts are effective in offsetting the variability of cash flows associated with future power sales and gas purchases, the fair value changes are recorded in OCI. Any hedge ineffectiveness is recorded in current period earnings. For thermal operations, Renewables will periodically designate both fixed price NYMEX gas contracts and natural gas basis swaps that hedge the fuel requirements of its Klamath Plant in Klamath, Oregon. Renewables will also designate fixed price power swaps at various locations in the U.S. market to hedge future power sales from its Klamath facility and various wind farms.

Gas also periodically designates NYMEX fixed price derivative contracts as cash flow hedges related to its firm storage trading activities. To the extent that the derivative contracts are effective in offsetting the variability of cash flows associated with future gas sales and purchases, the fair value changes are recorded in OCI. Any hedge ineffectiveness is recorded in current period earnings. Derivative contracts entered into to hedge the gas transport trading activities are not designated as cash flow hedges, with all changes in fair value of such derivative contracts recorded in current period earnings.

The below presented information includes derivative financial instruments associated with Gas activities, which were classified as held for sale in the consolidated balance sheet (see Note 25 - Assets Held for Sale). There were no derivative financial instruments classified as assets held for sale as of December 31, 2016.

The net notional volumes of outstanding derivative instruments associated with Renewables and Gas activities as of December 31, 2017 and 2016, respectively, consisted of:

As of December 31, (MWh/Dth in Millions)	2017	2016
Wholesale electricity purchase contracts	4	3
Wholesale electricity sales contracts	6	7
Natural gas and other fuel purchase contracts	285	329
Financial power contracts	12	8
Basis swaps - purchases	68	49
Basis swaps - sales	62	45

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The fair values of derivative contracts associated with Renewables and Gas activities as of December 31, 2017 and 2016, respectively, consisted of:

As of December 31, (Millions)	2017	2016
Wholesale electricity purchase contracts	\$ (3)	\$ (2)
Wholesale electricity sales contracts	8	6
Natural gas and other fuel purchase contracts	19	30
Financial power contracts	55	56
Basis swaps- purchases	(13)	3
Basis swaps- sales	4	(2)
Total	\$ 70	\$ 91

The offsetting of derivatives, location in the consolidated balance sheet and amounts of derivatives associated with Renewables and Gas activities as of December 31, 2017 and 2016, respectively, consisted of:

As of December 31, 2017 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 111	\$ 99	\$ 31	\$ 4
Derivative liabilities	(82)	(5)	(51)	(10)
	29	94	(20)	(6)
Designated as hedging instruments				
Derivative assets	24	4	—	2
Derivative liabilities	—	(1)	(3)	(3)
	24	3	(3)	(1)
Total derivatives before offset of cash collateral	53	97	(23)	(7)
Cash collateral receivable (payable)	(17)	(39)	3	3
Total derivatives as presented in the balance sheet, including assets and liabilities held for sale	\$ 36	\$ 58	\$ (20)	\$ (4)

As of December 31, 2016 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 198	\$ 108	\$ 78	\$ 7
Derivative liabilities	(118)	(4)	(132)	(16)
	80	104	(54)	(9)
Designated as hedging instruments				
Derivative assets	25	4	—	—
Derivative liabilities	(1)	—	(39)	(21)
	24	4	(39)	(21)
Total derivatives before offset of cash collateral	104	108	(93)	(30)
Cash collateral receivable (payable)	(17)	(46)	41	24
Total derivatives as presented in the balance sheet	\$ 87	\$ 62	\$ (52)	\$ (6)

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The effect of trading derivatives associated with Renewables and Gas activities for the years ended December 31, 2017, 2016 and 2015 consisted of:

<u>Years Ended December 31,</u> <u>(Millions)</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Wholesale electricity purchase contracts	\$ (3)	\$ 3	\$ 6
Wholesale electricity sales contracts	4	(7)	(5)
Financial power contracts	(1)	4	—
Financial and natural gas contracts	(8)	(22)	(26)
Total Loss	\$ (8)	\$ (22)	\$ (25)

The effect of non-trading derivatives associated with Renewables and Gas activities for the years ended December 31, 2017, 2016 and 2015 consisted of:

<u>Years Ended December 31,</u> <u>(Millions)</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Wholesale electricity purchase contracts	\$ 1	\$ 9	\$ (8)
Wholesale electricity sales contracts	(3)	(20)	(5)
Financial power contracts	(5)	(10)	24
Natural gas and other fuel purchase contracts	(8)	34	18
Total Gain	\$ (15)	\$ 13	\$ 29

Such gains and losses are included in “Operating revenues” and in “Purchased power, natural gas and fuel used” operating expenses in the consolidated statements of income, depending upon the nature of the transaction.

The effect of derivatives in cash flow hedging relationships on OCI and income for the years ended December 31, 2017, 2016 and 2015 consisted of:

<u>Year Ended December 31,</u> <u>(Millions)</u>	<u>(Loss) Gain Recognized in OCI on Derivatives</u>	<u>Location of Gain Reclassified from Accumulated OCI into Income</u>	<u>Loss (Gain) Reclassified from Accumulated OCI into Income</u>
	<u>Effective Portion (a)</u>		<u>Effective Portion (a)</u>
2017			
Commodity contracts	\$ 41	Revenues	\$ 14
	\$ 41		\$ 14
2016			
Commodity contracts	\$ (42)	Revenues	\$ (43)
	\$ (42)		\$ (43)
2015			
Commodity contracts	\$ 57	Revenues	\$ (2)
Total	\$ 57		\$ (2)

(a) Changes in OCI are reported on a pre-tax basis.

Amounts are reclassified from accumulated OCI into income in the period during which the transaction being hedged affects earnings or when it becomes probable that a forecasted transaction being hedged would not occur. Notwithstanding future changes in prices, approximately \$20.9 million of gain included in accumulated OCI at December 31, 2017 is expected to be reclassified into earnings within the next 12 months. During the years ended December 31, 2017, 2016 and 2015, we recorded a net gain of \$2.6 million, a net loss of \$6.8 million, and a net gain \$4.8 million, respectively, in earnings as a result of ineffectiveness from cash flow hedges. We recorded \$0.5 million in net derivative loss and \$0.4 million and \$2.3 million in net derivative gain related to discontinued cash flow hedge for the years ended December 31, 2017, 2016 and 2015, respectively. The net loss in accumulated OCI of \$0.2 million as of December 31, 2017 related to a discontinued cash flow hedge will amortize through 2018.

(c) Counterparty credit risk management

NYSEG and RG&E face risks related to counterparty performance on hedging contracts due to counterparty credit default. We have developed a matrix of unsecured credit thresholds that are dependent on the counterparty's or the counterparty's guarantor's applicable credit rating, normally Moody's or Standard & Poor's. When our exposure to risk for a counterparty exceeds the unsecured credit threshold, the counterparty is required to post additional collateral or we will no longer transact with the counterparty until the exposure drops below the unsecured credit threshold.

The wholesale power supply agreements of UI contain default provisions that include required performance assurance, including certain collateral obligations, in the event that UI's credit rating on senior debt were to fall below investment grade. If such an event had occurred as of December 31, 2017, UI would have had to post an aggregate of approximately \$15.8 million in collateral.

We have various master netting arrangements in the form of multiple contracts with various single counterparties that are subject to contractual agreements that provide for the net settlement of all contracts through a single payment. Those arrangements reduce our exposure to a counterparty in the event of default on or termination of any single contract. For financial statement presentation purposes, we offset fair value amounts recognized for derivative instruments and fair value amounts recognized for the right to reclaim or the obligation to return cash collateral arising from derivative instruments executed with the same counterparty under a master netting arrangement. The amounts of cash collateral under master netting arrangements that have not been offset against net derivative positions were \$30 million and \$20 million as of December 31, 2017 and 2016, respectively. Derivative instruments settlements and collateral payments are included in "Other assets" and "Other liabilities" of operating activities in the consolidated statements of cash flows.

Certain of our derivative instruments contain provisions that require us to maintain an investment grade credit rating on our debt from each of the major credit rating agencies. If our debt were to fall below investment grade, we would be in violation of those provisions and the counterparties to the derivative instruments could request immediate payment or demand immediate and ongoing full overnight collateralization on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit risk related contingent features that are in a liability position as of December 31, 2017 is \$3 million, for which we have posted collateral.

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Note 12. Commitments and Contingent Liabilities

We are party to various legal disputes arising as part of our normal business activities. We do not provide for accrual of legal costs expected to be incurred in connection with a loss contingency.

Transmission - ROE Complaint – CMP and UI

On September 30, 2011, the Massachusetts Attorney General, Massachusetts Department of Public Utilities, Connecticut Public Utilities Regulatory Authority, New Hampshire Public Utilities Commission, Rhode Island Division of Public Utilities and Carriers, Vermont Department of Public Service, numerous New England consumer advocate agencies and transmission tariff customers collectively filed a complaint (Complaint I) with the FERC pursuant to sections 206 and 306 of the Federal Power Act. The filing parties seek an order from the FERC reducing the 11.14% base return on equity used in calculating formula rates for transmission service under the ISO-New England Open Access Transmission Tariff (OATT) to 9.2%. CMP, MEPCO and UI are New England Transmission Owners (NETOs) with assets and service rates that are governed by the OATT and will thereby be affected by any FERC order resulting from the filed complaint.

On June 19, 2014, the FERC issued its decision in Complaint I, establishing a methodology and setting an issue for a paper hearing. On October 16, 2014, FERC issued its final decision in the Complaint I setting the base ROE at 10.57%, and a maximum total ROE of

11.74% (base plus incentive ROE) for the October 2011 – December 2012 period as well as prospectively from October 16, 2014 and ordered the NETOs to file a refund report. On November 17, 2014 the NETOs filed a refund report.

On March 3, 2015, the FERC issued an order on requests for rehearing of its October 16, 2014 decision. The March order upheld the FERC's June 19, 2014 decision and further clarified that the 11.74% ROE cap will be applied on a project specific basis and not on a transmission owner's total average transmission return. In June 2015 the NETOs and complainants both filed an appeal in the U.S. Court of Appeals for the District of Columbia of the FERC's final order. On April 14, 2017, the Court of Appeals (the Court) vacated FERC's decision on Complaint I and remanded it to FERC. The Court held that FERC, as directed by statute, did not determine first that the existing ROE was unjust and unreasonable before determining a new ROE. The Court ruled that FERC should have first determined that the then existing 11.14% base ROE was unjust and unreasonable before selecting the 10.57% as the new base ROE. The Court also found that FERC did not provide reasoned judgment as to why 10.57%, the point ROE at the midpoint of the upper end of the zone of reasonableness, is a just and reasonable ROE. Instead, FERC had only explained in its order that the midpoint of 9.39% was not just and reasonable and a higher base ROE was warranted. On June 5, 2017, the NETOs made a filing with FERC seeking to reinstate transmission rates to the status quo ante (effect of the Court vacating order is to return the parties to the rates in effect prior to FERC Final decision) as of June 8, 2017, the date the Court decision became effective. In that filing, the NETOs stated that they will not begin billing at the higher rates until 60 days after FERC has a quorum of commissioners. On October 6, 2017, FERC issued an order rejecting the NETOs request to collect transmission revenue requirements at the higher ROE of 11.14%, pending FERC order on remand. In reaching this decision, FERC stated that it has broad remedial authority to make whatever ROE it eventually determines to be just and reasonable effective for the Complaint I refund period and prospectively from October 2014, the effective date of the Complaint I Order. Therefore FERC reasoned that the NETOs will not be harmed financially by not immediately returning to their pre-Complaint I ROE. We anticipate FERC to address the Court decision during 2018. We cannot predict the outcome of action by FERC.

On December 26, 2012, a second, ROE complaint (Complaint II) for a subsequent rate period was filed requesting the then effective ROE of 11.14% be reduced to 8.7%. On June 19, 2014, FERC accepted Complaint II, established a 15-month refund effective date of December 27, 2012, and set the matter for hearing using the methodology established in the Complaint I.

On July 31, 2014, a third, ROE complaint (Complaint III) was filed for a subsequent rate period requesting the then effective ROE of 11.14% be reduced to 8.84%. On November 24, 2014, FERC accepted the Complaint III, established a 15-month refund effective date of July 31, 2014, and set this matter consolidated with Complaint II for hearing in June 2015. Hearings relating to the refund periods and going forward period were held in June 2015 on Complaints II and III before a FERC Administrative Law Judge. On July 29, 2015, post-hearing briefs were filed by parties and on August 26, 2015 reply briefs were filed by parties. On July 13, 2015, the NETOs filed a petition for review of FERC's orders establishing hearing and consolidation procedures for Complaints II and III with the U.S. Court of Appeals. The FERC Administrative Law Judge issued an Initial Decision on March 22, 2016. The Initial Decision determined that: (1) for the 15-month refund period in Complaint II, the base ROE should be 9.59% and that the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and (2) for the 15 month refund period in Complaint III and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The Initial Decision is the Administrative Law Judge's recommendation to the FERC Commissioners. The FERC is expected to make its final decision in 2018.

CMP and UI reserved for refunds for Complaints I, II and III consistent with the FERC's March 3, 2015 final decision in Complaint I. Refunds were provided to customers for Complaint I. The CMP and UI total reserve associated with Complaints II and III is \$22.5 million and \$4.4 million, respectively, as of December 31, 2017, which has not changed since December 31, 2016, except for the accrual of carrying costs. If adopted as final, the impact of the initial decision would be an additional aggregate reserve for Complaints II and III of \$17.1 million, which is based upon currently available information for these proceedings. We cannot predict the outcome of the Complaint II and III proceedings.

On April 29, 2016, a fourth ROE complaint (Complaint IV) was filed for a rate period subsequent to prior complaints requesting the then existing base ROE of 10.57% be reduced to 8.61% and the ROE Cap be set at 11.24%. The NETOs filed a response to the Complaint IV on June 3, 2016. On September 20, 2016, FERC accepted the Complaint IV, established a 15-month refund effective date of April 29, 2016, and set the matter for hearing and settlement judge procedures. In April 2017, the NETOs filed for a stay in the hearings pending FERC on the Court order described above. That request was denied by the Administrative Law Judge. On November 21, 2017, the parties submitted updates to their ROE analyses and recommendations just prior to hearings with the NETOs continuing to advocate that the existing base ROE of 10.57% should remain in effect. Hearings were held in December 2017 with an expected Initial Decision from the Administrative Law Judge by March 31, 2018. A range of possible outcomes is not able to be determined at this time due to the preliminary state of this matter. We cannot predict the outcome of the Complaint IV proceeding.

On October 5, 2017, the NETOs filed a Motion for Dismissal of Pancaked Return on Equity Complaints in light of the decision by the Court in April 2017 that became effective on June 8, 2017. The NETOs assert that all four complaints should be dismissed because the complainants have not shown that the existing ROE of 11.14% is unjust and unreasonable as the Court decision requires. In addition, the NETOs assert that Complaints II, III and IV should also be dismissed because the Court decision implicitly found that FERC's acceptance of Pancaked FPA Section 206 complaints was statutorily improper as Congress intended that the 15-month refund period under Section 206 applies whenever FERC does not complete its review of a complaint within the 15-month period. In the event FERC chooses not to dismiss the complaints, the NETOs request that FERC consolidate the complaints for decision as the evidentiary records are either closed or advanced enough for FERC to address the requirements of the Court decision and expeditiously issue a final order. FERC has not yet ruled on this Motion. We cannot predict the outcome of action by FERC.

California Energy Crisis Litigation

Two California agencies brought a complaint in 2001 against a long-term PPA entered into by Renewables, as seller, to the California Department of Water Resources, as purchaser, alleging that the terms and conditions of the PPA were unjust and unreasonable. FERC dismissed Renewables from the proceedings; however, the Ninth Circuit Court of Appeals reversed FERC's dismissal of Renewables.

Joining with two other parties, Renewables filed a petition for certiorari in the United States Supreme Court on May 3, 2007. In an order entered on June 27, 2008, the Supreme Court granted Renewables' petition for certiorari, vacated the appellate court's judgment, and remanded the case to the appellate court for further consideration in light of the Supreme Court's decision in a similar case. In light of the Supreme Court's order, on December 4, 2008, the Ninth Circuit Court of Appeals vacated its prior opinion and remanded the complaint proceedings to the FERC for further proceedings consistent with the Supreme Court's rulings. In 2014 FERC assigned an administrative law judge to conduct evidentiary hearings. Following discovery, the FERC Trial Staff recommended that the complaint against Renewables be dismissed.

A hearing was held before an administrative law judge of FERC in November and early December 2015. A preliminary proposed ruling by the administrative law judge was issued on April 12, 2016. The proposed ruling found no evidence that Renewables had engaged in any unlawful market contract that would justify finding the Renewables PPAs unjust and unreasonable. However, the proposed ruling did conclude that price of the PPAs imposed an excessive burden on customers in the amount of \$259 million. Renewables position, as presented at hearings and agreed by FERC Trial Staff, is that Renewables entered into bilateral power purchase contracts appropriately and complied with all applicable legal standards and requirements. The parties have submitted to FERC briefs on exceptions to the administrative law judge's proposed ruling. There is no specific timetable to FERC's ruling. We cannot predict the outcome of this proceeding.

New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm

On March 11, 2017, the New York State Department of Public Service (the Department) commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 customers. The Department investigation included a comprehensive review of NYSEG's and RG&E's preparation for and response to the windstorm, including all aspects of the companies' filed and approved emergency plan. The Department held public hearings on April 12 and 13, 2017.

On November 16, 2017, the NYPSC announced that the Department Staff had completed their investigation into the March 2017 Windstorm and the NYPSC issued an Order Instituting Proceeding and to Show Cause. The Staff's investigation found that RG&E and NYSEG violated certain parts of their emergency response plans, which makes them subject to possible financial penalties. NYSEG and RG&E responded to the order in a timely manner and have entered into settlement discussions with the Department Staff. The unprecedented weather that resulted in the March 2017 windstorm posed great challenges to the NYSEG's and RG&E's communities, employees, contractors, assisting utilities, and municipal partners who all worked tirelessly to safely restore power to all customers. NYSEG's and RG&E's priorities during any storm are the restoration of service to their respective customers and the safety of their communities, customers, employees and contractors. We cannot predict the outcome of this regulatory action.

Class Action Regarding LDC Gas Transportation Service on Algonquin Gas Transmission

On November 16, 2017, a class action lawsuit was filed in the U.S. District Court in Massachusetts on behalf of customers in New England against the Company and Eversource alleging that certain of their respective subsidiaries that take gas transportation service over the Algonquin Gas Transmission, AGT, which for AVANGRID would be its indirect subsidiaries SCG and CNG, engaged in pipeline capacity scheduling practices on AGT that resulted in artificially increased electricity prices in New England. These allegations were based on the conclusions of a White Paper issued by the Environmental Defense Fund (EDF), an environmental

advocacy organization, on October 10, 2017, purporting to analyze the relationship between the New England electricity market and the New England local gas distribution companies. The plaintiffs assert claims under federal antitrust law, state antitrust, unfair competition and consumer protection laws, and under the common law of unjust enrichment. They seek damages, disgorgement, restitution, injunctive relief, and attorney fees and costs. The Company filed a Motion to Dismiss all of the claims on January 29, 2018. On February 27, 2018, the FERC released the results of a FERC staff inquiry into the pipeline capacity scheduling practices on the AGT. The inquiry arose out of the allegations made by the EDF in its White Paper. FERC announced that, based on an extensive review of public and non-public data, it had determined that the EDF study was flawed and led to incorrect conclusions. FERC also stated that the staff inquiry revealed no evidence of anticompetitive withholding of natural gas pipeline capacity on the AGT and that it would take no further action on the matter. Nevertheless, we cannot predict the outcome of this class action lawsuit.

Leases

Operating lease expense relating to operational facilities, office building leases, and vehicle and equipment leases was \$71.5 million, \$70.6 million and \$47.7 million for the years ended December 31, 2017, 2016 and 2015, respectively. Amounts related to contingent payments predominantly linked to electricity generation at the respective facilities were \$18.6 million, \$22.2 million and \$22.2 million for the years ended December 31, 2017, 2016 and 2015, respectively. Leases for most of the land on which wind farm facilities are located have various renewal and termination clauses.

On January 16, 2014, as required by the NYPSC, NYSEG renewed a Reliability Support Services Agreement (RSS Agreement) with Cayuga Operating Company, LLC (Cayuga) for Cayuga to provide reliability support services to maintain necessary system reliability through June 2017. Cayuga owns and operates the Cayuga Generating Facility (Facility), a coal-fired generating station that includes two generating units. Cayuga operates and maintains the RSS units and manages and complies with scheduling deadlines and requirements for maintaining the Facility and the RSS units as eligible energy and capacity providers and complies with dispatch instructions. NYSEG pays Cayuga a monthly fixed price and also pays for capital expenditures for specified capital projects. NYSEG is entitled to a share of any capacity and energy revenues earned by Cayuga. We account for this arrangement as an operating lease. The net expense incurred under this operating lease was \$17.6 million, \$37.8 million and \$25.5 million for the years ended December 31, 2017, 2016 and 2015, respectively.

On October 21, 2015, RG&E, GNPP and multiple intervenors filed a joint proposal with the regulator for approval of the modified RSS Agreement for the continued operation of the Ginna Facility. On February 23, 2016, the NYPSC unanimously adopted the joint proposal, which provides for a term of the RSSA from April 1, 2015, through March 31, 2017 and RG&E monthly payments to GNPP in the amount of \$15.4 million. RG&E is entitled to 70% of revenues from GNPP's sales into the energy and capacity markets, while GNPP is entitled to 30% of such revenues. We account for this arrangement as an operating lease. The net expense incurred under this operating lease was \$5.6 million, \$114.9 million and \$79.9 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Total future minimum lease payments as of December 31, 2017 consisted of:

Year	Operating Leases	Capital Leases (Millions)	Total
2018	\$ 36	\$ 7	\$ 43
2019	35	8	43
2020	36	8	44
2021	36	5	41
2022	31	2	33
Thereafter	757	47	804
Total	\$ 931	\$ 77	\$ 1,008

Power, Gas, and Other Arrangements

Power and Gas Supply Arrangements – Networks

NYSEG and RG&E are the providers of last resort for customers. As a result, the companies buy physical energy and capacity from the NYISO. In accordance with the NYPSC's February 26, 2008 Order, NYSEG and RG&E are required to hedge on behalf of non-demand billed customers. The physical electric capacity purchases we make from parties other than the NYISO are to comply with the hedge requirement for electric capacity. The companies enter into financial swaps to comply with the hedge requirement for physical electric energy purchases. Other purchases, from some Independent Power Producers (IPPs) and NYPA are from contracts entered

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Notes to Consolidated Financial Statements (Continued)

into many years ago when the companies made purchases under contract as part of their supply portfolio to meet their load requirement. More recent IPP purchases are required to comply with the companies' Public Utility Regulatory Policies Act (PURPA) purchase obligation.

NYSEG, RG&E, SCG, CNG and BGC (collectively, the Regulated Gas Companies) satisfy their natural gas supply requirements through purchases from various producers and suppliers, withdrawals from natural gas storage, capacity contracts and winter peaking supplies and resources. The Regulated Gas Companies operate diverse portfolios of gas supply, firm transportation capacity, gas storage and peaking resources. Actual gas costs incurred by each of the Regulated Gas Companies are passed through to customers through state regulated purchased gas adjustment mechanisms, subject to regulatory review.

The Regulated Gas Companies purchase the majority of their natural gas supply at market prices under seasonal, monthly or mid-term supply contracts and the remainder is acquired on the spot market. The Regulated Gas Companies diversify their sources of supply by amount purchased and location and primarily acquire gas at various locations in the US Gulf of Mexico region, in the Appalachia region and in Canada.

The Regulated Gas Companies acquire firm transportation capacity on interstate pipelines under long-term contracts and utilize that capacity to transport both natural gas supply purchased and natural gas withdrawn from storage to the local distribution system.

The Regulated Gas Companies acquire firm underground natural gas storage capacity using long-term contracts and fill the storage facilities with gas in the summer months for subsequent withdrawal in the winter months.

Winter peaking resources are primarily attached to the local distribution systems and are either owned or are contracted for by the Regulated Gas Companies, each of which is a Local Distribution Company. Each Regulated Gas Company owns or has rights to the natural gas stored in an LNG facility directly attached to its distribution system.

Other arrangements include UI's long-term contracts to purchase RECs and contractual obligations for property, plant and equipment, material and services on order but not yet delivered at December 31, 2017.

Power, Gas, and Other Arrangements – Renewables and Gas

Gas purchase commitments include multi-year contracted storage and transport capacity contracts that allow the Gas business to participate in seasonal and locational gas price differentials. The agreements contain fixed payment obligations for the use of both storage and transport capacity throughout the U.S. Power purchase commitments include the following: (i) a 55MW Biomass PPA for 12 years (four years remaining) with a guaranteed output of 34.4MW flat and a schedule of fixed price rates depending on season and time of day, (ii) long-term firm transmission agreements with fixed monthly capacity payments that allow the delivery of electricity from wind and thermal generation sources to various customers and (iii) a three year purchase of hydro capacity and energy to provide balancing services to the NW wind assets that has monthly fixed payments (one year remaining) and (iv) a five year purchase of hydro capacity and energy to provide balancing services to the NW wind assets that has monthly fixed payments (beginning in 2019 and expiring in 2023). Power sales commitments include: (i) a 55MW Biomass off-take agreement for 12 years (four years remaining) with guaranteed annual production of 34.4MW flat with a schedule of fixed price rates depending on season and time of day, (ii) fixed price, fixed volume power sales off the Klamath Cogen facility in addition to tolling arrangements that have fixed capacity charges and (iii) fixed price, fixed volume renewable energy credit sales off merchant wind facilities.

Forward purchases and sales commitments under power, gas, and other arrangements as of December 31, 2017 consisted of:

Year	Purchases				Sales			
	Gas	Power	Other	Total	Gas	Power	Other	Total
	(Millions)							
2018	\$ 280	\$ 171	\$ 528	\$ 979	\$ 26	\$ 127	\$ 4	\$ 157
2019	239	123	201	563	9	104	1	114
2020	186	102	39	327	7	71	—	78
2021	149	89	20	258	4	51	—	55
2022	120	63	12	195	—	23	—	23
Thereafter	638	443	100	1,181	—	42	—	42
Totals	\$ 1,612	\$ 991	\$ 900	\$ 3,503	\$ 46	\$ 418	\$ 5	\$ 469

Guarantee Commitments to Third Parties

As of December 31, 2017, we had approximately \$2.4 billion of standby letters of credit, surety bonds, guarantees and indemnifications outstanding. These instruments provide financial assurance to the business and trading partners of AVANGRID and its subsidiaries in their normal course of business. The instruments only represent liabilities if AVANGRID or its subsidiaries fail to deliver on contractual obligations. We therefore believe it is unlikely that any material liabilities associated with these instruments will be incurred and, accordingly, as of December 31, 2017, neither we nor our subsidiaries have any liabilities recorded for these instruments.

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Note 13. Environmental Liabilities

Environmental laws, regulations and compliance programs may occasionally require changes in our operations and facilities and may increase the cost of electric and natural gas service. We do not provide for accruals of legal costs expected to be incurred in connection with loss contingencies.

Waste sites

The Environmental Protection Agency and various state environmental agencies, as appropriate, have notified us that we are among the potentially responsible parties that may be liable for costs incurred to remediate certain hazardous substances at twenty-five waste sites, which do not include sites where gas was manufactured in the past. Fifteen of the twenty-five sites are included in the New York State Registry of Inactive Hazardous Waste Disposal Sites; six sites are included in Maine's Uncontrolled Sites Program and one site is included on the Massachusetts Non- Priority Confirmed Disposal Site list. The remaining sites are not included in any registry list. Finally, nine of the twenty-five sites are also included on the National Priorities list. Any liability may be joint and severable for certain sites.

We have recorded an estimated liability of \$5 million related to ten of the twenty-five sites. We have paid remediation costs related to the remaining fifteen sites and do not expect to incur additional liabilities. Additionally, we have recorded an estimated liability of \$8 million related to another ten sites where we believe it is probable that we will incur remediation costs and or monitoring costs, although we have not been notified that we are among the potentially responsible parties or that we are regulated under State Resource Conservation and Recovery Act programs. It is possible the ultimate cost to remediate these sites may be significantly more than the accrued amount. Our estimate for costs to remediate these sites ranges from \$12 million to \$21 million as of December 31, 2017. Factors affecting the estimated remediation amount include the remedial action plan selected, the extent of site contamination, and the portion of remediation attributed to us.

Manufactured Gas Plants

We have a program to investigate and perform necessary remediation at our fifty-three sites where gas was manufactured in the past (Manufactured Gas Plants, or MGPs). Eight sites are included in the New York State Registry; twelve sites are included in the New York Voluntary Cleanup Program; three sites are part of Maine's Voluntary Response Action Program and with two of such sites being part of Maine's Uncontrolled Sites Program. The remaining sites are not included in any registry list. We have entered into consent orders with various environmental agencies to investigate and where necessary remediate forty-nine of the fifty-three sites.

Our estimate for all costs related to investigation and remediation of the fifty-three sites ranges from \$213 million to \$442 million as of December 31, 2017. Our estimate could change materially based on facts and circumstances derived from site investigations, changes in required remedial actions, changes in technology relating to remedial alternatives, and changes to current laws and regulations.

Certain other Connecticut and Massachusetts regulated gas companies own or have previously owned properties where MGPs had historically operated. MGP operations have led to contamination of soil and groundwater with petroleum hydrocarbons, benzene and metals, among other things, at these properties, the regulation and cleanup of which is regulated by the federal Resource Conservation and Recovery Act as well as other federal and state statutes and regulations. Each of the companies has or had an ownership interest in one or more such properties contaminated as a result of MGP-related activities. Under the existing regulations, the cleanup of such sites requires state and at times, federal, regulators' involvement and approval before cleanup can commence. In certain cases, such contamination has been evaluated, characterized and remediated. In other cases, the sites have been evaluated and characterized, but not yet remediated. Finally, at some of these sites, the scope of the contamination has not yet been fully characterized; no liability was recorded in respect of these sites as of December 31, 2017 and no amount of loss, if any, can be reasonably estimated at this time. In the past, the companies have received approval for the recovery of MGP-related remediation expenses from customers through rates and will seek recovery in rates for ongoing MGP-related remediation expenses for all of their MGP sites.

As of December 31, 2017 and 2016, the liability associated with MGP sites in Connecticut, the remediation costs of which could be significant and will be subject to a review by PURA as to whether these costs are recoverable in rates, was \$100 million and \$97 million, respectively.

The liability to investigate and perform remediation at the known inactive MGP sites and other sites was \$389 million and \$388 million as of December 31, 2017 and 2016, respectively. We recorded a corresponding regulatory asset, net of insurance recoveries and the amount collected from FirstEnergy, as described below, because we expect to recover the net costs in rates. Our environmental liability accruals are recorded on an undiscounted basis and are expected to be paid through the year 2054.

FirstEnergy

NYSEG sued FirstEnergy under the Comprehensive Environmental Response, Compensation, and Liability Act to recover environmental cleanup costs at sixteen former manufactured gas sites, which are included in the discussion above. In July 2011, the District Court issued a decision and order in NYSEG's favor. Based on past and future clean-up costs at the sixteen sites in dispute, FirstEnergy would be required to pay NYSEG approximately \$60 million if the decision were upheld on appeal. On September 9, 2011, FirstEnergy paid NYSEG \$30 million, representing their share of past costs of \$27 million and pre-judgment interest of \$3 million.

FirstEnergy appealed the decision to the Second Circuit Court of Appeals. On September 11, 2014, the Second Circuit Court of Appeals affirmed the District Court's decision in NYSEG's favor, but modified the decision for nine sites, reducing NYSEG's damages for incurred costs from \$27 million to \$22 million, excluding interest, and reducing FirstEnergy's allocable share of future costs at these sites. NYSEG refunded FirstEnergy the excess \$5 million in November 2014.

FirstEnergy remains liable for a substantial share of clean up expenses at nine MPG sites. Based on current projections, FirstEnergy's share is estimated at approximately \$22 million. This amount is being treated as a contingent asset and has not been recorded as either a receivable or a decrease to the environmental provision. Any recovery will be flowed through to NYSEG ratepayers.

Century Indemnity and OneBeacon

On August 14, 2013, NYSEG filed suit in federal court against two excess insurers, Century Indemnity and OneBeacon, who provided excess liability coverage to NYSEG. NYSEG seeks payment for clean-up costs associated with contamination at twenty-two former manufactured gas plants. Based on estimated clean-up costs of \$282 million, the carriers' allocable share is approximately \$89 million, excluding pre-judgment interest, although this amount may change substantially depending upon the determination of various factual matters and legal issues during the case.

Century Indemnity and OneBeacon have answered admitting issuance of the excess policies, but contesting coverage and providing documentation proving they received notice of the claims in the 1990s. On March 31, 2017, the District Court granted motions filed by Century Indemnity and One Beacon dismissing all of NYSEG's claims against both defendants on the grounds of late notice. NYSEG filed a motion with the District Court on April 14, 2017 seeking reconsideration of the Court's decision and is researching grounds for further appeal if the reconsideration motion is denied. We cannot predict the outcome of this matter, however, any recovery will be flowed through to NYSEG ratepayers.

English Station

In January 2012, Evergreen Power, LLC (Evergreen Power) and Asnat Realty LLC (Asnat), then and current owners of a former generation site on the Mill River in New Haven (the English Station site) that UI sold to Quinnipiac Energy in 2000, filed a lawsuit in federal district court in Connecticut against UI seeking, among other things: (i) an order directing UI to reimburse the plaintiffs for costs they have incurred and will incur for the testing, investigation and remediation of hazardous substances at the English Station site and (ii) an order directing UI to investigate and remediate the site. This proceeding had been stayed in 2014 pending resolutions of other proceedings before the DEEP concerning the English Station site. In December 2016, the court administratively closed the file without prejudice to reopen upon the filing of a motion to reopen by any party. In December 2013, Evergreen Power and Asnat filed a subsequent lawsuit in Connecticut state court seeking among other things: (i) remediation of the English Station site; (ii) reimbursement of remediation costs; (iii) termination of UI's easement rights; (iv) reimbursement for costs associated with securing the property; and (v) punitive damages. This lawsuit had been stayed in May 2014 pending mediation. Due to lack of activity in the case, the court terminated the stay and scheduled a status conference for July 6, 2017. On July 5, 2017, Asnat filed a pretrial memorandum claiming damages of \$10 million for "environmental remediation activities" and lost use of the property. In December 2017 Plaintiffs filed a Request for Leave to Amend Complaint and Motion to Cite-In Additional Parties, including former UIL officers and employees and other UI officers, which motion was approved in February 2018. We cannot predict the outcome of this matter.

On April 8, 2013, DEEP issued an administrative order addressed to UI, Evergreen Power, Asnat and others, ordering the parties to take certain actions related to investigating and remediating the English Station site. Mediation of the matter began in the fourth quarter of 2013 and concluded unsuccessfully in April 2015. This proceeding was stayed while DEEP and UI continue to work through the remediation process pursuant to the consent order described below. Status reports are periodically filed with the DEEP.

On August 4, 2016, DEEP issued a partial consent order (the consent order), that, subject to its terms and conditions, requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI will remit to the State of Connecticut the difference between such cost and \$30 million to be used for a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut, and the Commissioner of DEEP. UI is obligated to comply with the terms of the consent order even if the cost of such compliance exceeds \$30 million. Under the terms of the consent order, the State will discuss options with UI on recovering or funding any cost above \$30 million such as through public funding or recovery from third parties; however, it is not bound to agree to or support any means of recovery or funding. UI has initiated its process to investigate and remediate the environmental conditions within the perimeter of the English Station site pursuant to the consent order.

As of December 31, 2017 we reserved \$25 million for this matter. We cannot predict the outcome of this matter.

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Note 14. Income Taxes

The Tax Act changes significantly the federal taxation of business entities, including among other things, a federal corporate tax rate decrease from 35% to 21% for tax years beginning after December 31, 2017. We have made a reasonable estimate of the effects of the Tax Act and recorded provisional amounts for the income tax effects related to the remeasurement of our deferred tax assets and liabilities and the associated regulatory liabilities established by our regulated utility companies in our consolidated financial statements as of December 31, 2017. As we complete our analysis of the Tax Act, collect and prepare necessary data, and interpret any additional guidance issued by the U.S. Treasury Department, the IRS, and other standard-setting bodies, we may make adjustments to the provisional amounts. Those adjustments may materially impact our provision for income taxes in the period in which the adjustments are made.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Current and deferred taxes charged to (benefit) expense for the years ended December 31, 2017, 2016 and 2015 consisted of:

Years Ended December 31, (Millions)	2017	2016	2015
Current			
Federal	\$ (20)	\$ (6)	\$ (20)
State	12	8	(33)
Current taxes charged to (benefit) expense	(8)	2	(53)
Deferred			
Federal	(124)	412	131
State	(73)	2	(6)
Deferred taxes charged to (benefit) expense	(197)	414	125
Production tax credits	(53)	(38)	(42)
Investment tax credits	(1)	(1)	(1)
Total Income Tax (Benefit) Expense	\$ (259)	\$ 377	\$ 29

The differences between tax expense per the statements of income and tax expense at the 35% statutory federal tax rate for the years ended December 31, 2017, 2016 and 2015 consisted of:

Years Ended December 31, (Millions)	2017	2016	2015
Tax expense at federal statutory rate	\$ 43	\$ 353	\$ 106
Depreciation and amortization not normalized	9	61	15
Investment tax credit amortization	(1)	(1)	(1)
Tax return related adjustments	7	(2)	6
Production tax credits	(53)	(38)	(42)
Tax equity financing arrangements	(10)	(27)	(42)
Federal tax rate impact on held for sale classification	82	—	—
State tax (benefit) expense, net of federal benefit	(40)	7	(25)
Tax Act - remeasurement	(328)	—	—
Non-deductible acquisition costs	—	—	9
Other, net	32	24	3
Total Income Tax (Benefit) Expense	\$ (259)	\$ 377	\$ 29

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Deferred tax assets and liabilities as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Non-current Deferred Income Tax Liabilities (Assets)		
Property related	\$ 3,543	\$ 5,195
Unfunded future income taxes	75	216
Federal and state tax credits	(574)	(417)
Accumulated deferred investment tax credits	14	14
Federal and state NOL's	(975)	(1,397)
Joint ventures/partnerships	302	565
Nontaxable grant revenue	(449)	(581)
Pension and other post-retirement benefits	(33)	52
Tax Act - tax on regulatory remeasurement	(401)	—
Other	(58)	(223)
Non-current Deferred Income Tax Liabilities	1,444	3,424
Add: Valuation allowance	21	31
Total Non-current Deferred Income Tax Liabilities	1,465	3,455
Less amounts classified as regulatory liabilities		
Non-current deferred income taxes	13	565
Non-current Deferred Income Tax Liabilities	\$ 1,452	\$ 2,890
Deferred tax assets	\$ 2,490	\$ 2,617
Deferred tax liabilities	3,955	6,072
Net Accumulated Deferred Income Tax Liabilities	\$ 1,465	\$ 3,455

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that all or a portion of a tax benefit will not be realized. The valuation allowance for deferred tax assets as of December 31, 2017 and 2016 was \$21 million and \$31 million, respectively. Valuation allowances have been established on various state net operating losses and tax credit carryforwards. The Company has not recorded a valuation allowance on its federal net operating losses or tax credit carryforwards. The \$10 million decrease (net of federal benefit) in valuation allowance was primarily driven by a reduction of \$15.9 million for Connecticut general business credits resulting from a change in state tax law, an increase of \$8.5 million for additional valuation on state net operating losses, a release of \$5.3 million in Maine super credits, offset by an increase of \$3.0 million resulting from the change in corporate tax rate from 35% to 21%, reducing the federal benefit of state taxes.

The reconciliation of unrecognized income tax benefits for the years ended December 31, 2017, 2016 and 2015 consisted of:

Years ended December 31, (Millions)	2017	2016	2015
Beginning Balance	\$ 40	\$ 36	\$ 38
Increases for tax positions related to prior years	23	8	1
Decreases for tax positions related to prior years	(16)	(4)	—
Reduction for tax position related to settlements with taxing authorities	(2)	—	(3)
Ending Balance	\$ 45	\$ 40	\$ 36

Unrecognized income tax benefits represent income tax positions taken on income tax returns but not yet recognized in the consolidated financial statements. The accounting guidance for uncertainty in income taxes provides that the financial effects of a tax position shall initially be recognized when it is more likely than not based on the technical merits the position will be sustained upon examination, assuming the position will be audited and the taxing authority has full knowledge of all relevant information.

Accruals for interest and penalties on tax reserves were \$0.4 million, \$2 million, and \$2 million for the years ended December 31, 2017, 2016 and 2015, respectively. If recognized, \$14 million of the total gross unrecognized tax benefits would affect the effective tax rate.

It is estimated that no unrecognized tax benefits are anticipated to result in a net increase or decrease within 12 months of December 31, 2017.

AVANGRID and its subsidiaries, without ARHI, have been audited for the federal tax years 1998 through 2009. The results of these audits, net of reserves already provided, were immaterial. Tax years 2010 and forward are open for potential federal adjustments. All New York state returns, which were filed without ARHI, are closed through 2011 and Maine state returns are closed through 2015.

All federal tax returns filed by ARHI from the periods ended March 31, 2004, to December 31, 2009, are closed for adjustment. Generally, the adjustment period for the individual states we filed in is at least as long as the federal period.

As of December 31, 2017, UIL is subject to audit of its federal tax return for years 2013 and 2014. UIL income tax years 2010 through 2014 are open and subject to Connecticut and Massachusetts audit.

As of December 31, 2017, we had federal tax net operating losses of \$3.6 billion, federal renewable energy and investment tax credits, federal R&D tax credits and other federal credits of \$404 million, state tax net operating losses of \$231 million in several jurisdictions and miscellaneous state tax credits of \$37 million available to carry forward and reduce future income tax liabilities. For state purposes, we recognized a valuation allowance of \$21 million. The federal net operating losses begin to expire in 2028, while the federal tax credits begin to expire in 2023. The more significant state net operating losses begin to expire in 2021.

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Note 15. Post-retirement and Similar Obligations

Networks has funded noncontributory defined benefit pension plans that cover the majority of Networks employees. The plans provide defined benefits based on years of service and final average salary for employees hired before 2002. Most employees hired in 2002, or later based upon the plan, are covered under a cash balance plan or formula where their benefit accumulates based on a percentage of annual salary and credited interest. During 2013, Networks announced that they would discontinue, effective December 31, 2013, the cash balance accruals for all non-union employees covered under the cash balance plans or formula. At the same time, the plans were closed to newly-hired non-union employees. The plans had been closed to newly-hired union employees in prior years. CMP's unionized employees covered under the cash balance plans ceased to receive accruals as of December 31, 2014. NYSEG's unionized employees covered under the cash balance plans ceased to receive accruals as of December 31, 2015. Their earned balances will continue to accrue interest but will no longer be increased by a flat dollar amount or percentage of pay, as defined by the plan. Instead, they will receive a contribution to their account under their respective company's defined contribution plan. There was no change to the defined benefit plans for employees covered under the plans that provide defined benefits based on years of service and final average salary. Employees not participating in a defined benefit plan are eligible to participate in an enhanced 401(k) plan.

Networks has other postretirement health care benefit plans covering the majority of Networks employees. The plans were closed to newly-hired non-union employees at the end of 2010. The plans had been closed to union employees in prior years. The pre-Medicare-eligible healthcare plans are contributory and participants' contributions are adjusted annually. Networks average contribution to these plans is limited at a level determined in prior periods. Except for a small group of "grandfathered" retirees, all Medicare eligible retirees that choose to participate are provided with a subsidy through a Health Reimbursement Account (HRA) to purchase coverage on the individual market.

With the acquisition of UIL, Networks also includes pension and other postretirement plans of UIL operating utility companies. The UI pension plans cover about one half of employees of UIL. The plan was closed to newly-hired employees in 2005. UI also has a non-qualified supplemental pension plan for certain employees.

The Regulated Gas Companies in Connecticut and Massachusetts have multiple qualified pension plans covering a majority of their union and management employees. The union plans are all closed to new hires, and the nonunion plans were closed as of December 31, 2017. These entities also have non-qualified supplemental pension plans for certain employees and retirees. The qualified pension plans are traditional defined benefit plans or cash balance plans for those hired on or after specified dates. In some cases, neither of these plans is offered to new employees and have been replaced with enhanced 401(k) plans for those hired on or after specified dates.

In addition to providing pension benefits, UI also provides other postretirement benefits, consisting principally of health care and life insurance benefits, for retired employees and their dependents. The healthcare plans are contributory and participants' contributions are adjusted annually. For Medicare eligible non-union retirees, UI provides a subsidy through a Health Reimbursement Account for retirees to purchase coverage on the individual market. Medicare eligible union retirees have the option of receiving a subsidy through an HRA or paying contributions and participating in company-sponsored retiree health plans.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

SCG and CNG also have plans providing other postretirement benefits for a majority of their employees. These benefits consist primarily of health care, prescription drug and life insurance benefits, for retired employees and their dependents. For Medicare eligible non-union retirees, SCG and CNG provide a subsidy through a HRA for retirees to purchase coverage on the individual market. Medicare eligible union retirees have the option of receiving a subsidy through an HRA or paying contributions and participating in company-sponsored retiree health plans.

ARHI has funded defined benefit pension plans for eligible employees hired prior to January 1, 2008. The benefit is based on participant's age, service, and five years average pay at the time of the freeze date of April 30, 2011. ARHI has other postretirement health care benefit plans covering eligible retirees and employees hired prior to January 1, 2008. Health and life insurance rates are based on age and service points at the time of retirement.

Obligations and funded status of Networks and ARHI as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	Pension Benefits		Postretirement Benefits	
	2017	2016	2017	2016
Change in benefit obligation				
Benefit obligation as of January 1,	\$ 3,448	\$ 3,509	\$ 495	\$ 525
Service cost	42	44	4	5
Interest cost	139	142	22	21
Plan participants' contributions	—	—	7	7
Actuarial loss (gain)	188	(43)	3	(24)
Special termination benefits	—	—	—	—
Benefits paid	(219)	(204)	(39)	(39)
Reclassified to held for sale	(5)	—	(1)	—
Benefit Obligation as of December 31,	3,593	3,448	491	495
Change in plan assets				
Fair value of plan assets as of January 1,	2,672	2,664	160	162
Actual return on plan assets	382	169	17	11
Employer contributions	33	43	20	30
Plan participants' contributions	—	—	7	7
Benefits paid	(219)	(204)	(39)	(39)
Reclassified to held for sale	(3)	—	—	—
Withdrawals from VEBA	—	—	—	(11)
Fair Value of Plan Assets as of December 31,	2,865	2,672	165	160
Funded Status as of December 31,	\$ (728)	\$ (776)	\$ (326)	\$ (335)

Amounts recognized as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	Pension Benefits		Postretirement Benefits	
	2017	2016	2017	2016
Current liabilities	\$ —	\$ —	\$ (5)	\$ (5)
Non-current liabilities	(728)	(776)	(321)	(330)
Total	\$ (728)	\$ (776)	\$ (326)	\$ (335)

Amounts recognized in OCI for ARHI for the years ended December 31, 2017, 2016 and 2015, consisted of:

Years Ended December 31, (Millions)	Pension Benefits			Postretirement Benefits		
	2017	2016	2015	2017	2016	2015
Net (gain) loss	\$ 25	\$ 23	\$ 25	\$ (4)	\$ (3)	\$ (1)

We have determined that all Networks' regulated operating companies are allowed to defer as regulatory assets or regulatory liabilities items that would have otherwise been recorded in accumulated OCI pursuant to the accounting requirements concerning defined benefit pension and other postretirement plans.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Amounts recognized as regulatory assets or regulatory liabilities for Networks for the years ended December 31, 2017, 2016 and 2015 for Networks consisted of:

Years Ended December 31, (Millions)	Pension Benefits			Postretirement Benefits		
	2017	2016	2015	2017	2016	2015
Net loss	\$ 737	\$ 860	\$ 994	\$ 35	\$ 44	\$ 76
Prior service cost (credit)	6	7	9	(31)	(40)	(49)

Our accumulated benefit obligation for all defined benefit pension plans of Networks and ARHI was \$3,363 million and \$3,214 million as of December 31, 2017 and 2016, respectively. CMP's and NYSEG's postretirement benefits were partially funded as of December 31, 2017 and 2016.

The projected benefit obligation (PBO) and the accumulated benefit obligation (ABO) exceeded the fair value of pension plan assets for all plans of Networks and ARHI as of December 31, 2017 and 2016.

The aggregate PBO and ABO and the fair value of plan assets for underfunded plans of Networks and ARHI as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	PBO in excess of plan assets	
	2017	2016
Projected benefit obligation	\$ 3,593	\$ 3,448
Fair value of plan assets	2,865	2,672

As of December 31, (Millions)	ABO in excess of plan assets	
	2017	2016
Accumulated benefit obligation	\$ 3,363	\$ 3,214
Fair value of plan assets	2,865	2,672

Components of Networks' net periodic benefit cost and other changes in plan assets and benefit obligations recognized in income and regulatory assets and liabilities for the years ended December 31, 2017, 2016 and 2015 consisted of:

(Millions)	Pension Benefits			Postretirement Benefits		
For the years ended December 31,	2017	2016	2015	2017	2016	2015
Net Periodic Benefit Cost:						
Service cost	\$ 42	\$ 44	\$ 36	\$ 5	\$ 5	\$ 4
Interest cost	137	140	97	21	20	15
Expected return on plan assets	(195)	(199)	(156)	(8)	(8)	(7)
Amortization of prior service cost (benefit)	2	2	3	(9)	(9)	(9)
Amortization of net loss	126	123	130	5	8	7
Special termination benefit charge	—	—	2	—	—	—
Settlement charge	—	—	2	—	—	—
Net Periodic Benefit Cost	112	110	114	14	16	10
Other changes in plan assets and benefit obligations recognized in regulatory assets and regulatory liabilities:						
Settlements	—	—	(2)	—	—	—
Net loss (gain)	3	(11)	69	(5)	(24)	(12)
Amortization of net loss	(126)	(123)	(130)	(5)	(8)	(7)
Current year prior service cost	—	—	—	—	—	(1)
Amortization of prior service (cost) benefit	(2)	(2)	(3)	9	9	9
Total Other Changes	(125)	(136)	(66)	(1)	(23)	(11)
Total Recognized	\$ (13)	\$ (26)	\$ 48	\$ 13	\$ (7)	\$ (1)

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Components of ARHI's net periodic benefit cost and other changes in plan assets and benefit obligations recognized in income and OCI for the years ended December 31, 2017, 2016 and 2015 consisted of:

(Millions)	Pension Benefits			Postretirement Benefits		
For the years ended December 31,	2017	2016	2015	2017	2016	2015
Net Periodic Benefit Cost:						
Service cost	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 1
Interest cost	2	2	2	1	1	1
Expected return on plan assets	(2)	(2)	(2)	—	—	—
Amortization of net loss	1	1	1	—	—	—
Settlement charge	—	1	—	—	—	—
Net Periodic Benefit Cost (income)	1	2	1	1	1	2
Other Changes in plan assets and benefit obligations recognized in OCI:						
Net loss (gain)	2	—	4	(1)	(2)	(8)
Amortization of net loss	(1)	(1)	(1)	—	—	—
Total Other Changes	1	(1)	3	(1)	(2)	(8)
Total Recognized	\$ 2	\$ 1	\$ 4	\$ —	\$ (1)	\$ (6)

The net periodic benefit cost for postretirement benefits represents the amount expensed for providing health care benefits to retirees and their eligible dependents. We include the net periodic benefit cost in other operating expenses net of capitalized portion.

Amounts expected to be amortized from regulatory assets or liabilities into net periodic benefit cost for the year ending December 31, 2018 consists of:

(Millions)	Pension Benefits	Postretirement Benefits
Estimated net loss	\$ 150	\$ 5
Estimated prior service cost (benefit)	1	(9)

Amounts expected to be amortized from OCI into net periodic benefit cost for the year ending December 31, 2018 consists of:

(Millions)	Pension Benefits	Postretirement Benefits
Estimated net loss	\$ 1	\$ —
Estimated prior service cost (benefit)	—	—

We expect that no pension benefit or postretirement benefit plan assets will be returned to us during the year ending December 31, 2018.

The weighted-average assumptions used to determine benefit obligations for Networks and ARHI as of December 31, 2017 and 2016 consisted of:

As of December 31,	Pension Benefits		Postretirement Benefits	
	2017	2016	2017	2016
Discount rate - Networks	3.63% / 3.80%	4.12% / 4.24%	3.63% / 3.80%	4.12% / 4.24%
Discount rate - ARHI	3.80%	3.81%	3.80%	3.81%
Rate of compensation increase - Networks	3.50% - 4.20%	3.50% - 4.20%	—	—

The discount rate is the rate at which the benefit obligations could presently be effectively settled. We determined the discount rates by developing yield curves derived from a portfolio of high grade noncallable bonds with yields that closely match the duration of the expected cash flows of our benefit obligations.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The weighted-average assumptions used to determine net periodic benefit cost for Networks and ARHI for the years ended December 31, 2017, 2016 and 2015 consisted of:

Years Ended December 31,	Pension Benefits			Postretirement Benefits		
	2017	2016	2015	2017	2016	2015
Discount rate - Networks	4.12% / 4.24%	4.12% / 4.24%	3.80% / 4.24%	4.12% / 4.24%	4.12% / 4.24%	3.80% / 4.24%
Discount rate - ARHI	3.81%	3.90%	3.90%	3.81%	3.90%	3.90%
Expected long-term return on plan assets - Networks	7.00% / 7.50%	7.40% / 7.75%	7.50%	6.13%	7.16%	—
Expected long-term return on plan assets - ARHI	5.50%	5.50%	5.50%	5.50%	5.50%	5.75%
Expected long-term return on plan assets - nontaxable trust - Networks	—	—	—	6.50%	7.00%	7.50%
Expected long-term return on plan assets - taxable trust - Networks	—	—	—	4.25%	4.50%	5.00%
Rate of compensation increase - Networks	3.50% - 4.20%	3.50% - 4.20%	4.10%	—	—	—

We developed our expected long-term rate of return on plan assets assumption based on a review of long-term historical returns for the major asset classes, the target asset allocations, and the effect of rebalancing of plan assets discussed below. Our analysis considered current capital market conditions and projected conditions. NYSEG, RG&E and UIL amortize unrecognized actuarial gains and losses over ten years from the time they are incurred as required by the NYSPSC, PURA and DPU. Our other companies use the standard amortization methodology under which amounts in excess of ten-percent of the greater of the projected benefit obligation or market related value are amortized over the plan participants' average remaining service to retirement.

Assumed health care cost trend rates used to determine benefit obligations as of December 31, 2017 and 2016 consisted of:

As of December 31,	2017	2016
Health care cost trend rate assumed for next year - Networks	6.75%/8.50%	7.00%/9.00%
Health care cost trend rate assumed for next year - ARHI	7.50%/8.50%	6.75%/8.50%
Rate to which cost trend rate is assumed to decline (ultimate trend rate) - Networks	4.50%	4.50%
Rate to which cost trend rate is assumed to decline (ultimate trend rate) - ARHI	4.50%	4.50%
Year that the rate reaches the ultimate trend rate - Networks	2026 / 2028	2026 / 2028
Year that the rate reaches the ultimate trend rate - ARHI	2028 / 2030	2026 / 2028

The effects of a one-percent change in the assumed health care cost trend rates would have the following effects:

(Millions)	1% Increase	1% Decrease
Effect on total of service and interest cost	\$ 1	\$ (1)
Effect on postretirement benefit obligation	\$ 15	\$ (12)

Contributions

We make annual contributions in accordance with our funding policy of not less than the minimum amounts as required by applicable regulations. Networks expect to contribute \$48 million to the pension benefit plans during 2018.

Estimated Future Benefit Payments

Expected benefit payments and Medicare Prescription Drug, Improvement and Modernization Act of 2003 subsidy receipts reflecting expected future service for Networks and ARHI as of December 31, 2017 consisted of:

(Millions)	Pension Benefits	Postretirement Benefits	Medicare Act Subsidy Receipts
2018	\$ 234	\$ 33	\$ —
2019	215	33	—
2020	218	33	—
2021	221	33	—
2022	225	33	—
2023 - 2027	1,122	165	4

Non-Qualified Pension Plans

Networks and ARHI also sponsor various unfunded pension plans for certain current employees, former employees and former directors. The total liability for these plans, which is included in Other current and Other Non-current Liabilities, was \$55 million and \$57 million at December 31, 2017 and 2016, respectively.

Plan Assets

Our pension benefits plan assets for Networks and ARHI are held in three master trusts. This provides for a uniform investment manager lineup and an efficient, cost effective means of allocating expenses and investment performance to each plan. Our primary investment objective is to ensure that current and future benefit obligations are adequately funded and with volatility commensurate with our risk tolerance. Preservation of capital and achievement of sufficient total return to fund accrued and future benefits obligations are of highest concern. Our primary means for achieving capital preservation is through diversification of the trusts' investments while avoiding significant concentrations of risk in any one area of the securities markets. Further diversification is achieved within each asset group through utilizing multiple asset managers and systematic allocation to various asset classes and providing broad exposure to different segments of the equity, fixed income, and alternative investment markets.

Networks' asset allocation policy is the most important consideration in achieving our objective of superior investment returns while minimizing risk. We have established a target asset allocation policy within allowable ranges for our pension benefits plan assets within broad categories of asset classes made up of Return-Seeking and Liability-Hedging investments. Within the Return-Seeking category, we have targets of 35%-54% in equity securities and 3%-20% in equity alternative investments. The Liability-Hedging asset class has a target allocation percentage of 43%-45%. Return-Seeking investments generally consist of domestic, international, global, and emerging market equities invested in companies across all market capitalization ranges. Return-Seeking assets also include investments in real estate, absolute return, and strategic markets. Liability-Hedging investments generally consist of long-term corporate bonds, annuity contracts, long-term treasury STRIPS, and opportunistic fixed income investments. Systematic rebalancing within the target ranges increases the probability that the annualized return on the investments will be enhanced, while realizing lower overall risk, should any asset categories drift outside their specified ranges.

ARHI's investment portfolio contains a diversified blend of equity, fixed income, and other investments. In ARHI's asset allocation policy we have established targets of 33% for equity investments, 50% for fixed income investments and 17% for other assets classes. Equity investments are diversified across U.S. and non-U.S. stocks, investment styles, and market capitalization ranges. Fixed income investments are primarily invested in U.S. bonds and may also include some non-U.S. bonds. Other asset classes, including real estate, absolute return, and real return, are used to enhance long-term returns while improving portfolio diversification. We primarily minimize the risk of large losses through diversification but also through monitoring and managing other aspects of risk through quarterly investment portfolio reviews, annual liability measurements, and periodic asset and liability studies.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The fair values of pension benefits plan assets, by asset category, as of December 31, 2017, consisted of:

As of December 31, 2017 (Millions)		Fair Value Measurements		
	Total	Level 1	Level 2	Level 3
Asset Category				
Cash and cash equivalents	\$ 18	\$ —	\$ 18	\$ —
U.S. government securities	13	13	—	—
Common stocks	129	129	—	—
Registered investment companies	134	134	—	—
Corporate bonds	447	—	447	—
Preferred stocks	4	—	4	—
Equity commingled funds	436	186	250	—
Other, principally annuity, fixed income	553	—	553	—
	\$ 1,734	\$ 462	\$ 1,272	\$ —
Other investments measured at net asset value	1,131			
Total	\$ 2,865			

The fair values of pension benefits plan assets, by asset category, as of December 31, 2016, consisted of:

As of December 31, 2016 *		Fair Value Measurements		
(Millions)	Total	Level 1	Level 2	Level 3
Asset Category				
Cash and cash equivalents	\$ 49	\$ —	\$ 49	\$ —
U.S. government securities	172	172	—	—
Common stocks	120	120	—	—
Registered investment companies	122	122	—	—
Corporate bonds	358	—	358	—
Preferred stocks	4	—	4	—
Equity commingled funds	371	—	371	—
Other, principally annuity, fixed income	386	—	386	—
	\$ 1,582	\$ 414	\$ 1,168	\$ —
Other investments measured at net asset value	1,090			
Total	\$ 2,672			

*Certain amounts in this table have been reclassified to conform to 2017 presentation.

Valuation Techniques

We value our pension benefits plan assets as follows:

- Cash and cash equivalents - Level 1: at cost, plus accrued interest, which approximates fair value. Level 2: proprietary cash associated with other investments, based on yields currently available on comparable securities of issuers with similar credit ratings.
- U.S. government securities, common stocks and registered investment companies - at the closing price reported in the active market in which the security is traded.
- Corporate bonds - based on yields currently available on comparable securities of issuers with similar credit ratings.
- Preferred stocks - at the closing price reported in the active market in which the individual investment is traded.
- Equity commingled funds – the fair value is primarily derived from the quoted prices in active markets of the underlying securities. Because the fund shares are offered to a limited group of investors, they are not considered to be traded in an active market.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

- Other investments, principally annuity and fixed income - Level 1: at the closing price reported in the active market in which the individual investment is traded. Level 2: based on yields currently available on comparable securities of issuers with similar credit ratings. Level 3: when quoted prices are not available for identical or similar instruments, under a discounted cash flows approach that maximizes observable inputs such as current yields of similar instruments but includes adjustments for certain risks that may not be observable such as credit and liquidity risks.
- Other investments measured at net asset value (NAV) – alternative investments, such as private equity and real estate oriented investments, partnership/joint ventures and hedge funds are valued using the NAV as a practical expedient.

Our postretirement benefits plan assets are held with trustees in multiple voluntary employees' beneficiary association (VEBA) and 401(h) arrangements and are invested among and within various asset classes to achieve sufficient diversification in accordance with our risk tolerance. This is achieved for our postretirement benefits plan assets through the utilization of multiple institutional mutual and money market funds, providing exposure to different segments of the fixed income, equity and short-term cash markets. Approximately 37% of the postretirement benefits plan assets are invested in VEBA and 401(h) arrangements that are not subject to income taxes with the remainder being invested in arrangements subject to income taxes.

Networks has established a target asset allocation policy within allowable ranges for postretirement benefits plan assets of 46%-66% for equity securities, 30%-31% for fixed income, and 3%-23% for all other investment types. In ARHI's asset allocation policy we have established targets of 48% in equity securities, 49% in fixed income and 3% in all other investment types. The target allocations within allowable ranges are further diversified into 27%-66% large cap domestic equities, 5% small cap domestic equities, 8% international developed market, and 6% emerging market equity securities. Fixed income investment targets and ranges are segregated into core fixed income at 24%-31%, global high yield fixed income at 4%, and international developed market debt at 3%. Other alternative investment targets are 6% for real estate, 6% for tangible assets, and 3%-11% for other funds. Systematic rebalancing within target ranges increases the probability that the annualized return on investments will be enhanced, while realizing lower overall risk, should any asset categories drift outside their specified ranges.

The fair value of other postretirement benefits plan assets, by asset category, as of December 31, 2017 consisted of:

As of December 31, 2017 (Millions)	Total	Fair Value Measurements		
		Level 1	Level 2	Level 3
Asset Category				
Money market funds	\$ 4	\$ 4	\$ —	\$ —
Mutual funds, fixed	35	35	—	—
Government and corporate bonds	2	—	2	—
Mutual funds, equity	77	50	27	—
Common stocks	20	20	—	—
Mutual funds, other	27	19	8	—
Total	\$ 165	\$ 128	\$ 37	\$ —

The fair values of other postretirement benefits plan assets, by asset category, as of December 31, 2016 consisted of:

As of December 31, 2016 (Millions)	Total	Fair Value Measurements		
		Level 1	Level 2	Level 3
Asset Category				
Money market funds	\$ 6	\$ 4	\$ 2	\$ —
Mutual funds, fixed	41	39	2	—
Government and corporate bonds	2	—	2	—
Mutual funds, equity	72	43	29	—
Common stocks	23	23	—	—
Mutual funds, other	16	9	7	—
Total	\$ 160	\$ 118	\$ 42	\$ —

Valuation Techniques

We value our postretirement benefits plan assets as follows:

- Money market funds and mutual funds - based upon quoted market prices in active markets.
- Government bonds, and common stocks - at the closing price reported in the active market in which the security is traded.
- Corporate bonds - based on yields currently available on comparable securities of issuers with similar credit ratings.

Pension and postretirement benefit plan equity securities did not include any Iberdrola common stock as of both December 31, 2017 and 2016.

Defined contribution plans

We also have defined contribution plans defined as 401(k)s. The annual contributions made through these plans for Networks and ARHI amounted to \$36 million, \$34 million and \$17 million for 2017, 2016, and 2015 respectively.

Note 16. Equity

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As of December 31, 2017, our share capital consisted of 500,000,000 shares of common stock authorized, 309,670,932 shares issued and 309,005,272 shares outstanding, 81.5% of which is owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock of \$3 million and additional paid in capital of \$13,653 million. As of December 31, 2016, our share capital consisted of 500,000,000 shares of common stock authorized, 309,600,439 shares issued and 308,993,149 shares outstanding, 81.5% of which was owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock capital of \$3 million and additional paid in of \$13,653 million. We had 485,810 and 491,459 shares of common stock held in trust and no convertible preferred shares outstanding as of December 31, 2017 and December 31, 2016, respectively. During the year ended December 31, 2017, we issued 70,493 shares of common stock and released 5,649 shares of common stock held in trust each having a par value of \$0.01. During the year ended December 31, 2016, we issued 109,357 shares of common stock and released 135,014 shares of common stock held in trust each having a par value of \$0.01.

On April 28, 2016, we entered into a repurchase agreement with J.P. Morgan Securities, LLC. (JPM), pursuant to which JPM will, from time to time, acquire, on behalf of AVANGRID, shares of common stock of AVANGRID. The purpose of the stock repurchase program is to allow AVANGRID to maintain the relative ownership percentage of Iberdrola at 81.5%. The stock repurchase program may be suspended or discontinued at any time upon notice. Out of a total of 179,850 treasury shares of common stock of AVANGRID as of December 31, 2017, 115,831 shares were repurchased during 2016 and 64,019 shares were repurchased in May 2017, all in the open market. The total cost of repurchases, including commissions, was \$8 million as of December 31, 2017.

On December 15, 2015, the board of directors approved our common stock dividend, accounted for as a stock split. The stock split, effected through a stock dividend, resulted in the issuance of 252,234,989 shares, which in addition to the 243 previously existing shares increased the total shares outstanding to 252,235,232. The stock dividend was effective upon the board of directors' approval. All share and per share information included in the consolidated financial statements has been retroactively adjusted to reflect the impact of the stock dividend.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Accumulated OCI (Loss)

Accumulated OCI for the years ended December 31, 2017, 2016 and 2015 consisted of:

Accumulated Other Comprehensive Income (Loss)	As of December 31, 2014	2015 Change	As of December 31, 2015	2016 Change	As of December 31, 2016	2017 Change	As of December 31, 2017
(Millions)							
(Loss) gain on revaluation of defined benefit plans, net of income tax expense of \$2.2 for 2015, and \$4.3 for 2016	\$ (25)	\$ 4	\$ (21)	\$ 7	\$ (14)	\$ —	\$ (14)
Loss for nonqualified pension plans, net of income tax expense (benefit) of \$1.7 for 2015, \$0.4 for 2016 and \$0.2 for 2017	(11)	3	(8)	1	(7)	1	(6)
Unrealized (loss) gain on derivatives qualifying as cash flow hedges:							
Unrealized (loss) gain during period on derivatives qualifying as cash flow hedges, net of income tax expense (benefit) of \$20.9 for 2015, \$(15.8) for 2016 and \$15.2 for 2017	(2)	33	31	(26)	5	25	30
Reclassification to net income of losses on cash flow hedges, net of income tax expense (benefit) of \$4.9 for 2015, \$(11.0) for 2016 and \$9.3 for 2017 (a)	(61)	7	(54)	(16)	(70)	14	(56)
Gain (loss) on derivatives qualifying as cash flow hedges	(63)	40	(23)	(42)	(65)	39	(26)
Accumulated Other Comprehensive (Loss) Income	\$ (99)	\$ 47	\$ (52)	\$ (34)	\$ (86)	\$ 40	\$ (46)

(a) Reclassification is reflected in the operating expenses line item in the consolidated statements of income.

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Note 17. Earnings Per Share

Basic earnings per share is computed by dividing net income attributable to AVANGRID by the weighted-average number of shares of our common stock outstanding. In 2017, 2016 and 2015, while we did have securities that were dilutive, these securities did not result in a change to our earnings per share calculations for the years ended December 31, 2017, 2016 and 2015. In accordance with Accounting Standards Codification (ASC) Topic 260, Earnings per Share, we retroactively applied the stock split to prior periods presented.

The calculations of basic and diluted earnings per share attributable to AVANGRID for the years ended December 31, 2017, 2016 and 2015, consisted of:

Years Ended December 31,	2017	2016	2015
(Millions, except for number of shares and per share data)			
Numerator:			
Net income attributable to AVANGRID	\$ 381	\$ 632	\$ 273
Denominator:			
Weighted average number of shares outstanding - basic	309,502,861	309,512,553	254,588,212
Weighted average number of shares outstanding - diluted	309,661,883	309,817,322	254,605,111
<i>Earnings per share attributable to AVANGRID</i>			
Earnings Per Common Share, Basic	\$ 1.23	\$ 2.04	\$ 1.07
Earnings Per Common Share, Diluted	\$ 1.23	\$ 2.04	\$ 1.07

Note 18. Variable Interest Entities

We participate in certain partnership arrangement that qualify as variable interest entities (VIEs). These arrangements consist of tax equity financing arrangements (TEFs) and partnerships in which an investor holds a noncontrolling interest and the investor does not have substantive kick-out or participating rights.

The sale of a membership interest in the TEFs represents the sale of an equity interest in a structure that is considered in substance real estate. Under existing guidance for real estate financings, the membership interests in the TEFs we sold to the third-party investors are reflected as a financing obligation in the consolidated balance sheets. We continue to fully consolidate the TEFs' assets and liabilities in the consolidated balance sheets and to report the results of the TEFs' operations in the consolidated statements of income. The presentation reflects revenues and expenses from the TEFs' operations on a fully consolidated basis. We consolidate the TEFs based on being the primary beneficiary for these VIEs. The liabilities are increased for cash contributed by the third-party investors, interest accrued, and the federal income tax impact to the third-party investors of the allocation of taxable income. Interest is accrued on the balance using the effective interest method and the third-party investors' targeted rate of return. The balance accrued interest at an average rate of 8.4% and 5.4% as of December 31, 2017 and 2016, respectively. The liabilities are reduced by cash distributions to the third-party investors, the allocation of production tax credits to the third-party investors, and the federal income tax impact to the third-party investors of the allocation of taxable losses.

The assets and liabilities of the VIEs totaled approximately \$1,441 million and \$185 million, respectively, at December 31, 2017. As of December 31, 2016 the assets and liabilities of VIEs totaled approximately \$1,343 million and \$244 million, respectively. At December 31, 2017 and 2016, the assets and liabilities of the VIEs consisted primarily of property, plant and equipment, equity method investments and other liabilities. At December 31, 2017 and 2016, equity method investments of VIEs were approximately \$107 million and \$161 million, respectively.

At December 31, 2017, we consider Aeolus Wind Power II LLC and Aeolus Wind Power IV LLC, (collectively, Aeolus) to be TEFs. In February and November 2017, we acquired the tax equity investor's interest in other TEFs, Locust Ridge Wind Farm, LLC and Aeolus Wind Power III LLC, for \$5 million and \$15 million, respectively. These acquisitions converted the partnerships to single member limited liability companies and they no longer qualify as VIEs. Lastly, at December 31, 2017, we consider El Cabo Wind, LLC to be a VIE.

We retain a class of membership interest and day-to-day operational and management control of Aeolus, subject to investor approval of certain major decisions. The third-party investors do not receive a lien on any Aeolus assets and have no recourse against us for their upfront cash payments.

Wind power generation is subject to certain favorable tax treatments in the U.S. In order to monetize the tax benefits generated by Aeolus, we have entered into the Aeolus structured institutional partnership investment transactions related to certain wind farms. Under the Aeolus structures, we contribute certain wind assets, relating both to existing wind farms and wind farms that are being placed into operation at the time of the relevant transaction, and other parties invest in the share equity of the Aeolus limited liability holding company. As consideration for their investment, the third parties make either an upfront cash payment or a combination of upfront cash and issuance of fixed and contingent notes.

The third party investors receive a disproportionate amount of the profit or loss, cash distributions and tax benefits resulting from the wind farm energy generation until the investor recovers its investment and achieves a cumulative annual after-tax return. Once this target return is met, the relative sharing of profit or loss, cash distributions and taxable income or loss between the Company and the third party investor flips, with the Company taking a disproportionate share of such amounts thereafter. We also have a call option to acquire the third party investors' membership interest within a defined time period after this target return is met.

Our Aeolus interests are not subject to any rights of investors that may restrict our ability to access or use the assets or to settle any existing liabilities associated with the interests.

Note 19. Grants, Government Incentives and Deferred Income

The changes in deferred income as of December 31, 2017 and 2016 consisted of:

(Millions)	Government grants	Other deferred income	Total
As of December 31, 2015	\$ 1,529	\$ 24	\$ 1,553
Additions	—	—	—
Recognized in income	(68)	(2)	(70)
As of December 31, 2016	\$ 1,461	\$ 22	\$ 1,483
Additions	33	2	35
Reclassified to held for sale	—	(2)	(2)
Recognized in income	(67)	(3)	(70)
As of December 31, 2017	\$ 1,427	\$ 19	\$ 1,446

Within deferred income we classify grants we received under Section 1603 of the American Recovery and Reinvestment Act of 2009, where the United States Department of Treasury (DOT) provides eligible parties the option of claiming grants for specified energy property in lieu of tax credits, which we claimed for the majority of our qualifying properties. Deferred income has been recorded for the grant amounts and is amortized as an offset against depreciation expense using the straight-line method over the estimated useful life of the associated property to which the grants apply. We recognize a net deferred tax asset for the book to tax basis differences related to the property for income tax purposes within the nontaxable grant revenue deferred income tax liabilities (see Note 14 – Income Taxes).

We are required to comply with certain terms and conditions applicable to each grant and, if a disqualifying event should occur as specified in the grant's terms and conditions, we are required to repay the grant funds to the DOT. We believe we are in compliance with each grant's terms and conditions as of December 31, 2017 and 2016.

Other deferred income relates predominantly to gas storage transactions where revenues are recognized as services are provided. As of December 31, 2017, we reclassified \$2 million of other deferred income to liabilities held for sale in the consolidated balance sheet (see Note 25 - Assets Held for Sale). There was no amount classified as liabilities held for sale as of December 31, 2016.

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Note 20. Equity method investments

We have a 50-50 joint venture with Shell Wind Energy, Inc., which owns and operates a 162- megawatt (MW) wind farm located in southeast Colorado (Colorado Wind Ventures LLC), which commenced operations in January 2004. We account for this venture under the equity method of accounting. The carrying amount of this investment was \$18 million and \$45 million as of December 31, 2017 and 2016, respectively. During the year ended December 31, 2017 we recorded an OTTI of \$49 million on this investment. The fair value for OTTI calculation purposes was determined using Level 3 inputs and was estimated based on a discounted cash flows valuation technique utilizing the net amount of estimated future cash inflows and outflows related to the respective PPA.

We have two 50-50 joint ventures with Horizon Wind Energy, LLC, which own and operate the Flat Rock Windpower LLC and the Flat Rock Wind Power II LLC wind farms located in upstate New York. Flat Rock Wind Power LLC, which commenced operations in January 2006, has a 231-MW capacity. Flat Rock Wind Power II LLC commenced operations in September 2007 and has a 91-MW capacity. We account for the Flat Rock joint ventures under the equity method of accounting. The carrying amount of these investments was \$120 million and \$128 million for Flat Rock Wind Power LLC, and \$57 million and \$64 million for Flat Rock Wind Power II LLC, as of December 31, 2017 and 2016, respectively.

In 2017 we also acquired a 50% ownership in Vineyard Wind, LLC joint venture from Copenhagen Infrastructure Partners to build and operate the offshore wind facility to be developed off of Martha's Vineyard with a nameplate capacity of approximately 1,600 MW. We account for this venture under the equity method of accounting. The carrying amount of this investment was \$10 million as of December 31, 2017.

Through UI, we are party to a 50-50 joint venture with NRG affiliates in GenConn, which operates two peaking generation plants in Connecticut. The investment in GenConn is being accounted for as an equity investment, the carrying value of which was \$124 million and \$128 million as of December 31, 2017 and 2016, respectively.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Networks holds an approximate 20% ownership interest in New York TransCo. New York TransCo was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. The investment in New York TransCo is being accounted for as an equity investment, the carrying value of which was \$23 million and \$22 million as of December 31, 2017 and 2016, respectively (See also Note 23).

None of our joint ventures have any contingent liabilities or capital commitments. Distributions received from equity method investments amounted to \$20 million, \$20 million, and \$12 million for the years ended December 31, 2017, 2016, and 2015 respectively, which are reflected as either distributions of earnings or as returns of capital in the operating and investing sections of the consolidated statements of cash flows, respectively. In addition, during the year ended December 31, 2017, we received \$3.5 million of distributions in RECs from our equity method investments. As of December 31, 2017, there was an immaterial amount of undistributed earnings from our equity method investments.

During the year ended December 31, 2016, we completed the sale of our interest in Iroquois Gas Transmission System L.P. (Iroquois) to an unaffiliated third party for proceeds of \$53.8 million and an impact to net income of \$19.0 million. The carrying value of this equity method investment was \$22 million.

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Note 21. Other Financial Statements Items

Other income

Other income for the years ended December 31, 2017, 2016 and 2015 consisted of:

Years ended December 31, (Millions)	2017	2016	2015
Allowance for funds used during construction	\$ 36	\$ 26	\$ 21
Carrying costs on regulatory assets	11	14	28
Other	11	36	7
Total Other Income	\$ 58	\$ 76	\$ 56

In 2016 included in "Other" is a gain of \$33 million resulted from the sale of our interest in Iroquois in 2016 (See Note 20).

Accounts Receivable

Accounts receivable as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Trade receivables	\$ 1,104	\$ 1,183
Allowance for bad debts	(64)	(64)
Total Accounts Receivable	\$ 1,040	\$ 1,119

The allowance for bad debts relates entirely to gas and electricity consumers and comprises an amount that has been reserved following historical averages of loss percentages.

The change in the allowance for bad debts as of December 31, 2017 and 2016 consisted of:

(Millions)	
As of December 31, 2014	\$ 49
Current period provision	46
Write-off as uncollectible	(33)
As of December 31, 2015	\$ 62
Current period provision	48
Write-off as uncollectible	(46)
As of December 31, 2016	\$ 64
Current period provision	69
Write-off as uncollectible	(69)
As of December 31, 2017	\$ 64

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

DPA receivable balances were \$55 million and \$54 million as of December 31, 2017 and 2016, respectively.

Prepayments and Other Current Assets

Prepayments and other current assets as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Prepaid other taxes	\$ 194	\$ 153
Broker margin and collateral accounts	32	32
Loans to third parties	2	3
Fixed-term deposits	—	3
Other pledged deposits	9	8
Prepaid expenses	33	53
Other	3	3
Total	\$ 273	\$ 255

Other Non-current Assets

Included in “Other non-current assets” as of December 31, 2016, are \$186 million of safe harbor turbine payments made for production tax credit qualification purposes.

Other current liabilities

Other current liabilities as of December 31, 2017 and 2016 consisted of:

As of December 31, (Millions)	2017	2016
Advances received	\$ 113	\$ 107
Accrued salaries	87	84
Short-term environmental provisions	69	34
Collateral deposits received	43	45
Pension and other postretirement	5	5
Other	13	4
Total	\$ 330	\$ 279

Note 22. Segment Information

Our segment reporting structure uses our management reporting structure as its foundation to reflect how AVANGRID manages the business internally and is organized by type of business. We report our financial performance based on the following three reportable segments:

- Networks: including all the energy transmission and distribution activities, and any other regulated activity originating in New York and Maine, and regulated electric distribution, electric transmission and gas distribution activities originating in Connecticut and Massachusetts. The Networks reportable segment includes eight rate regulated operating segments. These operating segments generally offer the same services distributed in similar fashions, have the same types of customers, have similar long-term economic characteristics and are subject to similar regulatory requirements, allowing these operations to be aggregated into one reportable segment.
- Renewables: activities relating to renewable energy, mainly wind energy generation and trading related with such activities.
- Gas: including gas trading and storage businesses carried on by the AVANGRID Group

Products and services are sold between reportable segments and affiliate companies at cost. The chief operating decision maker evaluates segment performance based on segment adjusted EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) defined as net income adding back net income attributable to other non-controlling interests, income tax expense, impairment, depreciation and amortization and interest expense net of capitalization, and then subtracting other income and (expense) and earnings

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

from equity method investments per segment. Segment income, expense, and assets presented in the accompanying tables include all intercompany transactions that are eliminated in the consolidated financial statements.

Segment information as of and for the year ended December 31, 2017 consisted of:

For the year ended December 31, 2017 (Millions)	Networks	Renewables	Gas	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 4,950	\$ 1,038	\$ (26)	\$ 1	\$ 5,963
Revenue - intersegment	11	9	41	(61)	—
Impairment	—	—	642	—	642
Depreciation and amortization	474	325	25	—	824
Operating income (loss)	994	92	(701)	—	385
Adjusted EBITDA	1,468	417	(34)	—	1,851
Earnings (loss) from equity method investments	15	(55)	—	—	(40)
Interest expense, net of capitalization	244	28	24	(16)	280
Income tax expense (benefit)	316	(320)	(212)	(43)	(259)
Capital expenditures	1,305	1,097	7	7	2,416
As of December 31, 2017					
Property, plant and equipment	13,876	8,786	—	7	22,669
Equity method investments	147	205	—	—	352
Total assets	\$ 21,411	\$ 11,308	\$ 383	\$ (1,431)	\$ 31,671

(a) Does not represent a segment. It mainly includes Corporate and intercompany eliminations.

Included in revenue-external for the year ended December 31, 2017 are: \$3,585 million from regulated electric operations, \$1,375 million from regulated gas operations and \$(10) million from other operations of Networks; \$1,038 million from renewable energy generation of Renewables; \$(25) million from gas storage services and \$1 million from gas trading operations of Gas.

AVANGRID made a net non-cash capital contribution of \$921 million in Renewables in 2017, which was used by Renewables to settle outstanding intercompany debt payables of Gas segment accumulated prior to August 2017. The elimination of this activity between Renewables and Gas is included in Other at December 31, 2017.

Segment information as of and for the year ended December 31, 2016 consisted of:

For the year ended December 31, 2016 (Millions)	Networks	Renewables	Gas	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 5,027	\$ 1,000	\$ (7)	\$ (2)	\$ 6,018
Revenue - intersegment	3	15	39	(57)	—
Depreciation and amortization	466	313	25	—	804
Operating income (loss)	1,086	149	(41)	—	1,194
Adjusted EBITDA	1,552	462	(16)	—	1,998
Earnings (loss) from equity method investments	15	(8)	—	—	7
Interest expense, net of capitalization	252	50	25	(59)	268
Income tax expense (benefit)	415	7	(22)	(23)	377
Capital expenditures	1,140	561	6	—	1,707
As of December 31, 2016					
Property, plant and equipment	13,032	8,015	501	—	21,548
Equity method investments	151	236	—	—	387
Total assets	\$ 20,753	\$ 9,884	\$ 1,124	\$ (452)	\$ 31,309

(a) Does not represent a segment. It mainly includes Corporate and intercompany eliminations.

Included in revenue-external for the year ended December 31, 2016 are: \$3,686 million from regulated electric operations, \$1,306 million from regulated gas operations and \$35 million from other operations of Networks; \$1,000 million from renewable energy generation of Renewables; \$7 million from gas storage services and \$(14) million from gas trading operations of Gas.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Segment information as of and for the year ended December 31, 2015 consisted of:

For the year ended December 31, 2015 (Millions)	Networks	Renewables	Gas	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 3,386	\$ 1,051	\$ (71)	\$ 1	\$ 4,367
Revenue - intersegment	—	16	52	(68)	—
Impairment	—	12	—	—	12
Depreciation and amortization	328	344	23	—	695
Operating income (loss) from continuing operations	537	100	(85)	(39)	513
Adjusted EBITDA	865	456	(62)	(39)	1,220
Earnings from equity method investments	1	(5)	—	4	—
Interest expense, net of capitalization	227	54	31	(45)	267
Income tax expense (benefit)	146	8	(44)	(81)	29
Capital expenditures	773	304	5	—	1,082
As of December 31, 2015					
Property, plant and equipment	12,363	7,835	513	—	20,711
Equity method investments	110	253	—	22	385
Total assets	\$ 20,126	\$ 10,685	\$ 1,265	\$ (1,333)	\$ 30,743

(a) Does not represent a segment. It mainly includes Corporate and intercompany eliminations.

Included in revenue-external for the year ended December 31, 2015 are: \$2,779 million from regulated electric operations, \$605 million from regulated gas operations and \$2 million from other operations of Networks; \$1,051 million from renewable energy generation of Renewables; \$21 million from gas storage services and \$(92) million from gas trading operations of Gas.

Reconciliation of consolidated Adjusted EBITDA to the AVANGRID consolidated Net Income for the years ended December 31, 2017, 2016 and 2015, respectively, is as follows:

Years Ended December 31, (Millions)	2017	2016	2015
Consolidated Adjusted EBITDA	\$ 1,851	\$ 1,998	\$ 1,220
Less:			
Impairment	642	—	12
Depreciation and amortization	824	804	695
Interest expense, net of capitalization	280	268	267
Income tax expense	(259)	377	29
Add:			
Other income	58	76	56
Earnings from equity method investments	(40)	7	—
Consolidated Net Income	\$ 382	\$ 632	\$ 273

Note 23. Related Party Transactions

We engage in related party transactions that are generally billed at cost and in accordance with applicable state and federal commission regulations.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Related party transactions for the years ended December 31, 2017, 2016 and 2015, respectively, consisted of:

Years Ended December 31,	2017		2016		2015	
(Millions)	Sales To	Purchases From	Sales To	Purchases From	Sales To	Purchases From
Iberdrola Financiación, S.A.	\$ —	\$ (2)	\$ —	\$ (2)	\$ —	\$ (1)
Iberdrola Renovables Energía, S.L.	—	(9)	—	(8)	—	(9)
Iberdrola Canada Energy Services, Ltd	—	(33)	—	(37)	—	(55)
Iberdrola, S.A.	1	(36)	—	(31)	—	(35)
Iberdrola Energía Monterrey, S.A. de C.V.	46	—	18	—	—	—
Other	1	(1)	3	(1)	3	(2)

In addition to the statements of income items above we made purchases of turbines for wind farms from Siemens-Gamesa, in which Iberdrola has an 8.1% ownership. The amounts capitalized for these transactions were \$266 million and \$269 million for the years ended December 31, 2017 and 2016, respectively. In addition, included in “Other non-current assets” were \$92 million of safe harbor turbine payments we made to Siemens-Gamesa as of December 31, 2016 (see Note 21).

Related party balances as of December 31, 2017 and 2016, respectively, consisted of:

As of December 31,	2017		2016	
(Millions)	Owed By	Owed To	Owed By	Owed To
Iberdrola Canada Energy Services, Ltd	\$ —	\$ (31)	\$ —	\$ (14)
Siemens-Gamesa	2	(51)	1	(181)
Iberdrola, S.A.	1	(32)	—	(30)
Iberdrola Renovables Energía, S.L.	—	—	2	—
Iberdrola Energía Monterrey, S.A. de C.V.	1	—	11	—
Other	6	(4)	11	(3)

Transactions with our parent company, Iberdrola, relate predominantly to the provision and allocation of corporate services and management fees. Also included within the Purchases From category are charges for credit support relating to guarantees Iberdrola has provided to third parties guaranteeing our performance. All costs that can be specifically allocated, to the extent possible, are charged directly to the company receiving such services. In situations when Iberdrola corporate services are provided to two or more companies of AVANGRID any costs remaining after direct charge are allocated using agreed upon cost allocation methods designed to allocate those costs. We believe that the allocation method used is reasonable.

Transactions with Iberdrola Canada Energy Services (ICES) predominantly relate to the purchase of gas for ARHI’s gas-fired generation facility at Klamath, Oregon. Included in the amounts owed to ICES is the balance of notes payable of \$29 million and \$10 million as of December 31, 2017 and December 31, 2016, respectively.

Transactions with Iberdrola Energía Monterrey predominantly relate to the sale of gas by Gas for the power generation plant in Monterrey, Mexico.

There have been no guarantees provided or received for any related party receivables or payables. These balances are unsecured and are typically settled in cash. Interest is not charged on regular business transactions but is charged on outstanding loan balances. There have been no impairments or provisions made against any affiliated balances, other than a \$10 million write-off related to an arrangement to purchase turbines from Siemens-Gamesa, which was recorded in impairment in the consolidated statements of income for the year ended December 31, 2015.

Networks holds an approximate 20% ownership interest in the regulated New York TransCo. Through New York TransCo, Networks has formed a partnership with Central Hudson Gas and Electric Corporation, Consolidated Edison, Inc., National Grid, plc and Orange and Rockland Utilities, Inc. to develop a portfolio of interconnected transmission lines and substations to fulfill the objectives of the New York energy highway initiative, which is a proposal to install up to 3,200 MW of new electric generation and transmission capacity in order to deliver more power generated from upstate New York power plants to downstate New York. In 2016, Networks has increased its equity method investment in the New York TransCo by approximately \$21 million (included in “Other investments and equity method investments, net” of investing activities in the consolidated statements of cash flows) for a total equity method investment of \$22 million. Additionally, in 2016, Networks received approximately \$67 million from the New York TransCo in the form of \$43 million for assets constructed and transferred to the New York TransCo (included in “Proceeds from sale of property,

plant and equipment” of investing activities in the consolidated statements of cash flows), \$22 million in contributions in aid of construction and approximately \$2 million in advanced lease payments for a 99 year lease of land and attachment rights. As of December 31, 2017 and 2016, the amount receivable from New York TransCo was \$6 million and \$11 million, respectively.

AVANGRID manages its overall liquidity position as part of the broader Iberdrola Group and is a party to a liquidity agreement with a financial institution, along with certain members of the Iberdrola Group. Cash surpluses remaining after meeting the liquidity requirements of AVANGRID and its subsidiaries may be deposited at the financial institution. Deposits, or credit balances, serve as collateral against the debit balances of other parties to the liquidity agreement. The balance at both December 31, 2017 and 2016, was zero.

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Note 24. Stock-Based Compensation

Under the Avangrid, Inc. Omnibus Incentive Plan 1,298,683 performance stock units (PSUs) were granted to certain officers and employees of AVANGRID in July 2016. In March and October 2017 an additional 85,759 PSUs were granted to officers and employees of AVANGRID under this plan. The PSUs will vest upon achievement of certain performance and market-based metrics related to the 2016 through 2019 plan and will be payable in three equal installments in 2020, 2021 and 2022. As of December 31, 2017, the total number of shares authorized for stock-based compensation plans was 2,500,000.

The fair value of the PSUs on the grant date was \$31.80 per share, which is expensed on a straight-line basis over the requisite service period of approximately seven years based on expected achievement. The fair value of the PSUs was determined using valuation techniques to forecast possible future stock prices, applying a weighted average historical stock price volatility of AVANGRID and industry companies, a risk-free rate of interest that is equal, as of the grant date, to the yield of the zero-coupon U.S. Treasury bill and a reduction for the respective dividend yield calculated based on the most recent quarterly dividend payment and the stock price as of the grant date.

In connection with the acquisition of UIL, certain PSUs granted under the UIL 2008 Stock and Incentive Compensation Plan are outstanding, which are payable in our shares in 2018 and vest based upon the achievement of certain pre-determined performance objectives.

The total stock-based compensation expense, which is included in operations and maintenance of the consolidated statements of income for the years ended December 31, 2017, 2016 and 2015 was \$1.2 million, \$0.6 million and \$6.0, respectively. The total income tax benefit recognized for stock-based compensation arrangements for the years ended December 31, 2017, 2016 and 2015, was \$0.5 million, \$0.2 million and \$2.4 million, respectively.

Before 2016, AVANGRID's historical stock-based compensation expense and liabilities were based on shares of Iberdrola and not on shares of AVANGRID. These Iberdrola shares-based awards were early terminated at the end of 2015, and the remaining liability will be settled in March 30, 2018. The total liability relating to those awards, which is included in other current and non-current liabilities, was \$5.5 million and \$9.5 million as of December 31, 2017 and 2016, respectively.

A summary of the status of the AVANGRID's nonvested PSUs as of December 31, 2017, and changes during the fiscal year ended December 31, 2017, is presented below:

	Number of PSUs	Weighted Average Grant Date Fair Value
Nonvested Balance – December 31, 2016	1,523,981	\$ 33.01
Granted	94,509	\$ 32.89
Forfeited	(113,256)	\$ 31.91
Vested	(120,975)	\$ 40.07
Nonvested Balance – December 31, 2017	1,384,259	\$ 32.57

As of December 31, 2017, total unrecognized costs for non-vested PSUs were \$5.1 million. The weighted-average period over which the PSU costs will be recognized is approximately 4 years.

The weighted-average grant date fair value of PSUs granted during the year was \$32.89 per share for the year ended December 31, 2017.

Note 25. Assets Held For Sale

In December 2017, our management committed to a plan to sell the gas trading and storage businesses because they represent non-core businesses that are not aligned with our strategic objectives. As a result, we determined that the assets and liabilities associated with our gas trading and storage businesses met the criteria for classification as assets held for sale, but did not meet the criteria for classification as discontinued operations. The gas trading and storage businesses are being marketed for sale, and it is the Company's intention to complete the sales of these assets and liabilities within twelve months following their initial classification as held for sale. On March 1, 2018, the Company closed a transaction to sell Enstor Energy Services, LLC, which operated AVANGRID's gas trading business, to CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC (CCI) for \$64.5 million, subject to working capital, cash, and other adjustments. The transaction price does not differ materially from the estimated fair value of our gas trading business at December 31, 2017, subject to adjustment based on closing and other contract provisions, including certain transition services. On February 16, 2018, the Company entered into a definitive agreement to sell Enstor Gas, LLC, which operates AVANGRID's gas storage business, to Amphora Gas Storage USA, LLC for \$75 million, subject to working capital, cash, and other adjustments. The agreement to sell Enstor Gas, LLC contains, among other things, a transition services agreement which obligates ARHI to provide certain transition services for up to one year after the closing date and includes a guarantee that the Company will release certain obligations to Amphora Gas Storage USA, LLC, along with representations, warranties, and covenants customary for a transaction of this nature. The transaction, which is subject to the satisfaction of customary closing conditions, is expected to be completed during the second quarter of 2018. The transaction price differs from the estimated fair value of our gas storage business at December 31, 2017 by approximately \$11 million, in which we expect to recognize an additional after-tax loss of \$8.1 million in 2018, subject to additional adjustment based on closing and other contract provisions. In connection with the held for sale classification, we recorded a loss on held for sale measurement of \$642 million, which is included in "Impairment" in the consolidated statements of income. Loss before income tax, adjusted for corporate overhead, attributed to the gas businesses was \$715 million, \$58 million and \$108 million for the years ended December 31, 2017, 2016, and 2015, respectively. The current assets and current liabilities held for sale relating to our gas trading and storage businesses consisted of the following:

As of December 31, (Millions)	2017
Accounts receivable, net	\$ 137
Derivative assets	25
Fuel and gas in storage	77
Prepayments and other current assets	19
Property, plant and equipment	71
Intangible assets	28
Assets held for sale	\$ 357
Accounts payable and accrued liabilities	107
Derivative liabilities	14
Other liabilities	16
Liabilities held for sale	\$ 137

The fair values of the assets held for sale were determined using Level 3 inputs and were estimated based on recent market analysis studies, recent offers, and management has performed its own fair valuation modeling using discounted cash flows updated for market participant assumptions as completed by third party valuation firms. Unobservable inputs obtained from third parties were adjusted as necessary for the condition and attributes of the specific assets.

Note 26. Restructuring and Severance Related Expenses

In the second and third quarters of 2017, we announced targeted voluntary workforce reductions, predominantly within the Networks segment. Those actions primarily include: reducing our workforce through voluntary programs in various other areas to better align our people resources with business demands and priorities; reorganizing our human resources function to substantially consolidate in Connecticut, as well as related costs to vacate a lease and relocate employees; and reducing our information technology (IT) workforce to make increasing use of external services for operations, support, and development of systems. Those decisions and transactions resulted in restructuring charges recorded in the year ended December 31, 2017 for: severance expenses of \$15.2 million and lease termination expenses of \$4.0 million, which are included in "Operations and maintenance", and approximately \$1.2 million of accelerated amortization of leasehold improvements, which are included in "Depreciation and amortization" in the consolidated statements of income. The remaining costs for severance agreements are being accrued ratably over the service periods, which span

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

intermittent periods through December 2018. Accordingly, the Company expects additional costs to be incurred in 2018 related to the remaining employee service periods under the severance plans. For the year ended December 31, 2017, the severance and lease restructuring charges reserves, which are recorded in “Other current liabilities” and “Other liabilities”, consisted of:

Year Ended December 31,	2017 (Millions)
Beginning Balance	\$ —
Restructuring and severance related expenses	19
Payments	(14)
Ending Balance	<u>\$ 5</u>

Note 27. Quarterly financial data (unaudited)

Selected quarterly financial data for 2017 and 2016 are set forth below:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
(Millions, except per share data)				
2017				
Operating revenues	\$ 1,758	\$ 1,331	\$ 1,341	\$ 1,533
Operating Income	\$ 398	\$ 223	\$ 189	\$ (425)
Net Income	\$ 239	\$ 120	\$ 100	\$ (77)
Net Income attributable to Avangrid, Inc.	\$ 239	\$ 120	\$ 99	\$ (77)
Earnings Per Common Share, Basic and Diluted: (1)	\$ 0.77	\$ 0.39	\$ 0.32	\$ (0.25)
2016				
Operating revenues	\$ 1,670	\$ 1,439	\$ 1,418	\$ 1,491
Operating Income	\$ 349	\$ 322	\$ 217	\$ 306
Net Income	\$ 213	\$ 101	\$ 109	\$ 209
Net Income attributable to Avangrid, Inc.	\$ 213	\$ 101	\$ 109	\$ 209
Earnings Per Common Share, Basic and Diluted: (1)	\$ 0.69	\$ 0.33	\$ 0.35	\$ 0.67

- (1) Based on weighted average number of 309.5 million and 309.8 million shares outstanding each quarter in 2017 and 2016 for basic and diluted earnings per share, respectively.

The first quarter of 2017 includes an adjustment of \$14 million to unfunded future income tax to reflect the change from a flow through to normalization method, which was recorded as an increase to income tax expense and an offsetting increase to revenue. The third and fourth quarters of 2017 include severance and lease restructuring charges of, respectively, \$2.1 million and \$17.1 million. Additionally the fourth quarter includes a loss of \$642 million associated with measurement of held for sale assets of gas trading and storage business, \$463 million after income taxes, and an impact of \$328 million from measurement of deferred income tax balances as a result of the Tax Act enacted on December 22, 2017 by the U.S. federal government.

The first quarter of 2016 includes a \$19.0 million impact to net income from the sale of our interest in Iroquois to an unaffiliated third party for proceeds of \$53.8 million. The second quarter of 2016 includes an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method following the approval of the Joint Proposal by the NYPSC, which was recorded as an increase to income tax expense and an offsetting increase to revenue.

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Note 28. Subsequent events

On February 15, 2018, the board of directors of AVANGRID declared a quarterly dividend of \$0.432 per share on its common stock. This dividend is payable on April 2, 2018 to shareholders of record at the close of business on March 9, 2018.

On March 7, 2018, we issued 81,208 shares of common stock, each having a par value of \$0.01, which was approved by the board of directors of AVANGRID on February 15, 2018.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF INCOME
FOR THE YEARS ENDED DECEMBER 31, 2017, 2016, AND 2015
(Millions)

Years Ended December 31,	2017	2016	2015
Operating Revenues	\$ —	\$ —	\$ —
Operating Expenses			
Operating expense	3	5	38
Taxes other than income taxes	5	5	5
Total Operating Expenses	8	10	43
Operating Loss	(8)	(10)	(43)
Other Income and (expense)			
Other income and (expense)	58	68	10
Equity earnings of subsidiaries	312	567	50
Interest expense	(29)	(32)	(14)
Income Before Income Tax	333	593	3
Income tax benefit	(48)	(39)	(270)
Net Income	\$ 381	\$ 632	\$ 273

See accompanying notes to Schedule I.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2017, 2016, AND 2015
(Millions)

Years Ended December 31,	2017	2016	2015
Net Income	\$ 381	\$ 632	\$ 273
Other comprehensive income (loss) of subsidiaries	40	(34)	47
Comprehensive Income	\$ 421	\$ 598	\$ 320

See accompanying notes to Schedule I.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
BALANCE SHEETS
AS OF DECEMBER 31, 2017 AND 2016
(Millions)

As of December 31,	2017	2016
Assets		
Current Assets		
Cash and cash equivalents	\$ 8	\$ 67
Accounts receivable from subsidiaries	55	66
Notes receivable from subsidiaries	1,129	1,908
Prepayments and other current assets	—	11
Total current assets	1,192	2,052
Investments in subsidiaries	15,531	14,183
Other assets		
Deferred income taxes	285	220
Other	9	3
Total other assets	294	223
Total Assets	\$ 17,017	\$ 16,458
Liabilities		
Current Liabilities		
Current portion of debt	\$ 7	\$ 8
Notes payable	507	150
Notes payable to subsidiaries	208	454
Accounts payable and accrued liabilities	6	4
Accounts payable to subsidiaries	1	3
Interest accrued	8	6
Interest accrued subsidiaries	4	29
Dividends payable	134	134
Taxes accrued	8	2
Other current liabilities	—	3
Total current liabilities	883	793
Non-current debt	1,057	470
Total non-current liabilities	1,057	470
Total Liabilities	1,940	1,263
Equity		
Stockholders' Equity:		
Common stock	3	3
Additional paid-in capital	13,653	13,653
Treasury Stock	(8)	(5)
Retained earnings	1,475	1,630
Accumulated other comprehensive loss	(46)	(86)
Total Equity	15,077	15,195
Total Liabilities and Equity	\$ 17,017	\$ 16,458

See accompanying notes to Schedule I.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2017, 2016, AND 2015
(Millions)

Years Ended December 31,	2017	2016	2015
Net Cash (used in) provided by Operating Activities	\$ (1)	\$ 324	\$ (380)
Cash Flow from Investing Activities			
Notes receivable from subsidiaries	(532)	(627)	317
Acquisition of subsidiary	—	—	(595)
Investments in subsidiaries	—	(533)	—
Return of capital from investments in subsidiaries	308	420	1,111
Net Cash (used in) provided by Investing Activities	(224)	(740)	833
Cash Flow from Financing Activities			
Proceeds (repayments) of short-term notes payable from subsidiaries, net	(246)	133	(331)
Proceeds from short-term notes payable	357	150	—
Proceeds of non-current debt	594	483	—
Repurchase of common stock	(3)	(5)	—
Issuance of common stock	(1)	(2)	—
Dividends paid	(535)	(401)	—
Net Cash provided by (used in) Financing Activities	166	358	(331)
Net (Decrease) Increase in Cash and Cash Equivalents	(59)	(58)	122
Cash and Cash Equivalents, Beginning of Year	\$ 67	\$ 125	\$ 3
Cash and Cash Equivalents, End of Year	\$ 8	\$ 67	\$ 125
Supplemental Cash Flow Information			
Cash paid for interest	\$ 52	\$ 4	\$ 20
Cash (refund) payment for income taxes	(8)	71	—

See accompanying notes to Schedule I.

Note 1. Basis of Presentation

Avangrid, Inc. (AVANGRID), formerly Iberdrola USA, Inc., is a holding company and conducts substantially all of its business through its subsidiaries. Substantially all of its consolidated assets are held by such subsidiaries. Accordingly, its cash flow and its ability to meet its obligations are largely dependent upon the earnings of these subsidiaries and the distribution of other payment of such earnings to in the form of dividends, loans or advances or repayment of loans and advances from it. These condensed financial statements and related footnotes have been prepared in accordance with regulatory statute 210.12-04 of Regulation S-X. These statements should be read in conjunction with the consolidated financial statements and notes thereto of AVANGRID and subsidiaries (AVANGRID Group).

AVANGRID indirectly or directly owns all of the ownership interests of its significant subsidiaries. AVANGRID relies on dividends or loans from its subsidiaries to fund dividends to its primary shareholder.

AVANGRID's significant accounting policies are consistent with those of the AVANGRID Group. For the purposes of these condensed financial statements, AVANGRID's wholly owned and majority owned subsidiaries are recorded based upon its proportionate share of the subsidiaries net assets.

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2017 tax period. Each subsidiary company is treated as a member of the consolidated group and determines its current and deferred taxes separately and settles its current tax liability or benefit each year directly with AVANGRID pursuant to a tax sharing agreement between AVANGRID and its members.

Immaterial Corrections to Prior Periods

During the year ended December 31, 2017, a correction necessary to certain subsidiary's deferred income tax liabilities associated with tax equity financing arrangements that originated in prior periods was identified. AVANGRID assessed the materiality and determined that the cumulative impact of the amount was not material to the results of operation, financial position or cash flows in the previously issued financial statements and therefore, amendments of previously filed condensed financial information of AVANGRID are not required. However, management has determined to revise the prior periods included within these financial statements to reflect these updated amounts. Accordingly, the correction of these prior period amounts has been reflected in the periods in which they originated and the statements of income for the years ended December 31, 2016 and 2015 and the balance sheet as of December 31, 2016 have been revised. The correction resulted in a \$2 million and \$6 million increase in equity earnings and net income in the statements of income for the years ended December 31, 2016 and 2015, respectively, and an \$86 million increase in retained earnings and investments in subsidiaries in the balance sheet as of December 31, 2016. The revision had no net impact on the net cash provided by operating activities for the years ended December 31, 2016 and 2015.

Note 2. Acquisition of UIL and Issuance of Common Stock

On December 16, 2015 (acquisition date), UIL Holdings Corporation, a Connecticut corporation (UIL), became a wholly-owned subsidiary of AVANGRID as a result of the merger of Green Merger Sub, Inc., a Connecticut corporation and a wholly-owned subsidiary of AVANGRID (Merger Sub), with UIL, with Merger Sub surviving as a wholly-owned subsidiary of AVANGRID (the acquisition). The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among AVANGRID, Merger Sub, and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation." In connection with the acquisition, AVANGRID issued 309,490,839 shares of its common stock, out of which 252,234,989 shares were issued to Iberdrola through a stock dividend, accounted for as a stock split, with no change to par value, at par value of \$0.01 per share, and 57,255,850 shares (including held in trust as treasury stock) were issued to UIL shareowners in addition to payment of \$10.50 in cash per each share of the common stock of UIL issued and outstanding at the acquisition date. Following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID and Iberdrola owned the remaining shares.

AVANGRID had 485,810 and 491,459 shares of common stock held in trust and no convertible preferred shares outstanding as of December 31, 2017 and December 31, 2016, respectively. During the year ended December 31, 2017, AVANGRID issued 70,493 shares of common stock and released 5,649 shares of common stock held in trust each having a par value of \$0.01. During the year ended December 31, 2016, AVANGRID issued 109,357 shares of common stock and released 135,014 shares of common stock held in trust each having a par value of \$0.01.

On April 28, 2016, AVANGRID entered into a repurchase agreement with J.P. Morgan Securities, LLC. (JPM), pursuant to which JPM will, from time to time, acquire, on behalf of AVANGRID, shares of common stock of AVANGRID. The purpose of the stock repurchase program is to allow AVANGRID to maintain the relative ownership percentage of Iberdrola at 81.5%. The stock repurchase program may be suspended or discontinued at any time upon notice. Out of 179,850 treasury shares of common stock of AVANGRID as of December 31, 2017, 115,831 shares were repurchased during 2016 and 64,019 shares were repurchased in May 2017, all in the open market. The total cost of repurchase, including commissions, was \$8 million as of December 31, 2017.

On February 15, 2018, the board of directors of AVANGRID declared a quarterly dividend of \$0.432 per share on its common stock. This dividend is payable on April 2, 2018 to shareholders of record at the close of business on March 9, 2018.

Note 3. Non-current Debt

Supplemental Indenture

On December 19, 2016, AVANGRID, its subsidiary, UIL, and The Bank of New York Mellon, entered into a supplemental indenture, pursuant to which AVANGRID assumed from UIL all the obligations under the indenture dated as of October 7, 2010 between UIL and The Bank of New York Mellon and all obligations relating to \$450 million in aggregate principal amount of 4.625% notes due 2020 issued by the predecessor company to UIL in 2010. For the purpose of the supplemental indenture a capital contribution of \$483 million was made by AVANGRID to UIL in December 2016.

On November 21, 2017, AVANGRID issued \$600 million aggregate principal amount of its 3.150% notes maturing in 2024. Proceeds of the offering were used to reduce short-term debt incurred to fund capital expenditures associated with development of renewable energy generation facilities. Net proceeds of the offering after the price discount and issuance-related expenses were \$594 million.

Note 4. Cash Dividends Paid by Subsidiaries

Cash dividends paid by subsidiaries are as follows:

Years ended December 31, (In millions)	2017	2016	2015
AVANGRID Networks	\$ 308	\$ 220	\$ 59
AVANGRID Renewables	—	200	750
Other AVANGRID subsidiaries	—	—	302
	<u>\$ 308</u>	<u>\$ 420</u>	<u>\$ 1,111</u>

In December 2016, AVANGRID made a capital contribution of \$50 million to its subsidiary, CMP. During 2017 and 2016, AVANGRID recorded a net non-cash contribution and dividend of \$1,318 million and \$(827) million, respectively, to and from its subsidiaries to zero out their account balances of notes receivables and payables.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

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Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer, or CEO, and our Chief Financial Officer, or CFO, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, our CEO and CFO have concluded that as of such date, our disclosure controls and procedures were not effective, due to a material weakness in internal control over financial reporting described below.

To address the material weakness described below, management completed additional procedures prior to filing this Annual Report on Form 10-K. Based on these procedures, notwithstanding the 2017 material weakness, management believes that our consolidated financial statements included in this Annual Report on Form 10-K have been prepared in accordance with generally accepted accounting principles. Our CEO and CFO have certified that, based on such officer's knowledge, the financial statements, and other financial information included in this Annual Report on Form 10-K, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this Annual Report on Form 10-K.

Report of Management on Internal Control Over Financial Reporting

The management of AVANGRID is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. AVANGRID's internal control system over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. AVANGRID's internal control over financial reporting includes those policies and procedures that:

- (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in condition, or that the degree of compliance with the policies or procedures may deteriorate.

AVANGRID's management assessed the effectiveness of AVANGRID's internal control over financial reporting as of December 31, 2017. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) ("COSO") in Internal Control—Integrated Framework. Based upon that assessment and those criteria, management has identified certain deficiencies that rose to the level of a material weakness in controls related to the measurement and disclosure of income taxes, or the 2017 material weakness.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Control deficiencies that aggregated to a material weakness in 2016 contributed to immaterial corrections of prior period amounts as disclosed in the Company's Form 10-K in Note 2 of the Company's 2017 consolidated financial statements.

AVANGRID's independent registered public accounting firm, KPMG LLP, has expressed an adverse report on the effectiveness of AVANGRID's internal control over financial reporting as of December 31, 2017, which appears in Part II, Item 8, "Financial Statements and Supplementary Data – Report of Independent Registered Public Accounting Firm," of this Annual Report on Form 10-K.

Changes in Internal Control

Other than the control deficiencies discussed above in connection with the 2017 material weakness and the remediation efforts identified below to remediate the first and second of the 2016 material weaknesses disclosed in the 2016 Form 10-K, there were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) and 15d-15(d) of the Exchange Act during the period covered by this Annual Report on Form 10-K that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Remediation Efforts Related to the 2016 Material Weaknesses

As disclosed in Part II, Item 9A, Controls and Procedures in our Annual Report on Form 10-K for the year ended December 31, 2016, we identified three material weaknesses in internal control over financial reporting, or the 2016 material weaknesses, related to (1) the accounting for the change in the estimated useful life of certain elements of the wind farms at Renewables and other smaller deficiencies related to documentation of internal controls procedures, and enhancement of review controls at Renewables, (2) the preparation of the consolidated financial statements, specifically the classification and disclosure of financial information, and (3) the measurement and disclosure of income taxes.

Our management, with oversight from the Audit and Compliance Committee of the Board of Directors, conducted the following remediation efforts that effectively remediated items 1 and 2 of the 2016 material weaknesses as of December 31, 2017:

- Educated and re-trained internal control employees regarding internal control processes to mitigate identified risks and maintain adequate documentation to evidence the effective design and operation of such processes;
- Implemented and enhanced controls to monitor the effectiveness of the underlying business process controls that depend on the data and financial reports generated from the relevant information systems;
- Increased accounting personnel and internal control resources in order to devote additional time to accounting and reporting processes and controls;
- Implemented and enhanced additional management review controls for the Renewables business and in the preparation of the consolidated financial statements;
- Finalized implementation of controls previously designed during the third and fourth quarters of 2016 and further enhanced during 2017;
- Implemented specific enhanced review procedures in the property, plant and equipment area at Renewables, including the estimation of useful lives; and
- Identified and implemented internal control activities where control activities related to certain financial statement assertions could be performed at lower levels of management (e.g., completeness and accuracy of data) to allow senior management to focus their review on higher risk and technical areas.

Remediation Plans for the 2017 Material Weakness

Our management, with oversight from the Audit and Compliance Committee of the Board of Directors, is actively engaged in remediation efforts to address the 2017 material weakness. The remediation plans for the 2017 material weakness include the following:

- Further acceleration of the deadline of key activities to allow sufficient time for the execution of consolidated deferred income tax controls that were newly designed during the third and fourth quarter of 2017 that management has determined through testing are more precise;
- Further increase of capabilities of income tax accounting resources to devote additional time and internal control resources to consolidated income tax accounting and reporting processes and controls; and
- Enhancing the automation of income tax processes and controls to allow for the more timely completion and enhanced review of internal controls surrounding consolidated deferred income tax financial information and disclosures.

These improvements are targeted at strengthening the Company's internal control over financial reporting and remediating the material weakness. The remediation efforts that had been previously initiated were impacted by the required implementation of the Tax Cuts and Jobs Act of 2017 enacted by the U.S. federal government on December 22, 2017.

Nevertheless, the Company remediated a number of aspects of the material weakness for the measurement and disclosure of income taxes disclosed within Part II, Item 9A, Controls and Procedures in our Annual Report on Form 10-K for the year ended December 31, 2016 including the following:

- Implemented enhanced review procedures through the completion of a full risk assessment for income taxes and enhanced the design of controls for an increased level of precision;
- Accelerated all key activities within the income tax accounting and reporting process and controls;
- Educated and re-trained income tax employees regarding internal controls;
- Increased certain capabilities of income tax accounting resources to devote additional time and internal control resources; and

- Identified areas where income tax control activities could be performed at lower levels of management to allow senior management to focus their review on higher risk and technical areas.

The Company remains committed to an effective internal control environment and management believes that these actions, and the improvements management expects to achieve as a result, will remediate the material weakness. However, the material weakness in our internal control over financial reporting will not be considered remediated until the controls operate for a sufficient period of time and management has concluded, through testing that these controls operate effectively. We currently expect that the remediation of this material weakness will be completed by December 31, 2018.

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Item 9B. Other Information.

None.

PART III

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Item 10. *Directors, Executive Officers and Corporate Governance.*

For information regarding our executive officers, see Part I of this Annual Report on Form 10-K. Additional information required by this item is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2017.

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Item 11. *Executive Compensation.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2017.

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Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2017.

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Item 13. *Certain Relationships and Related Transactions, and Director Independence.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2017.

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Item 14. *Principal Accounting Fees and Services.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2017.

Part IV

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Item 15. Exhibits and Financial Statement Schedules.

a) The following documents are made a part of this Annual Report on Form 10-K:

1. Financial Statements—Our consolidated financial statements are set forth under Part II, Item 8 “Financial Statements and Supplementary Data.”
2. Financial Statement Schedules— Our financial statement schedules are set forth under Part II, Item 8 “Financial Statements and Supplementary Data.”
3. Exhibits—The following instruments and documents are included as exhibits to this report.

Exhibit Number	U	Exhibit Description
2.1		<u>Agreement and Plan of Merger, dated as of February 25, 2015, by and among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Green Merger Sub, Inc. and UIL Holdings Corporation (incorporated herein by reference to Annex A to the proxy statement/prospectus included as Exhibit 2.1 in our Registration Statement on Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
3.1		<u>Certificate of Incorporation of Avangrid, Inc. (incorporated herein by reference to Exhibit 3.2 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).</u>
3.2		<u>Amended and Restated Bylaws of Avangrid, Inc. (incorporated herein by reference to Exhibit 3.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017).</u>
4.1		<u>Specimen Common Stock Certificate (incorporated herein by reference to Exhibit 4.1 to Form S-4/A filed with the Securities and Exchange Commission on October 21, 2015).</u>
4.2		<u>Senior Indenture, dated as of October 7, 2010, between UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.1 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 7, 2010).</u>
4.3		<u>First Supplemental Indenture, dated as of October 7, 2010, between UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 7, 2010).</u>
4.4		<u>Second Supplemental Indenture, dated as of December 16, 2015, among UIL Holdings Corporation, Green Merger Sub, Inc. and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).</u>
4.5		<u>Third Supplemental Indenture, dated as of December 19, 2016, among Avangrid, Inc., UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.5 of AVANGRID's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2016).</u>
4.6		<u>Indenture, dated as of November 21, 2017, between the Company and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.1 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
4.7		<u>First Supplemental Indenture, dated November 21, 2017, between the Company and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
4.8		<u>Form of Global Note Representing the Notes (incorporated herein by reference to Exhibit 4.3 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
10.1		<u>Shareholder Agreement, dated as of December 16, 2015, by and between Avangrid, Inc. and Iberdrola, S.A. (incorporated herein by reference to Exhibit 4.1 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).</u>
10.2		<u>Service Agreement, dated January 1, 2014, between Iberdrola USA, Inc. Management Corporation and Avangrid, Inc. (formerly Iberdrola USA, Inc.) (incorporated herein by reference to Exhibit 10.2 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.3		<u>Accession Agreement, dated September 16, 2011, between Iberdrola Renewables Holdings, Inc. and Bank Mendes Gans N.V. (incorporated herein by reference to Exhibit 10.14 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.4		<u>Guarantee and Support Agreement, dated April 3, 2008, between Iberdrola, S.A. and ScottishPower Holdings, Inc. (incorporated herein by reference to Exhibit 10.15 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.5		<u>Amendment No. 1 to Guarantee and Support Agreement, dated May 27, 2010, between Iberdrola, S.A. and Iberdrola Renewables Holdings, Inc. (formerly known as ScottishPower Holdings, Inc.) (incorporated herein by reference to Exhibit 10.16 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>

Exhibit Number	U	Exhibit Description
10.6		<u>English Translation of Regulations for the “2014-2016 Strategic Bonus” for Senior Officers and Officers of Iberdrola, S.A. and Its Group of Companies (incorporated herein by reference to Exhibit 10.19 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.7		<u>Provisions to be Applied to U.S. Participants in Relation to the Regulations for the “2014-2016 Strategic Bonus” for Senior Officers and Officers of Iberdrola, S.A. and Its Group of Companies (incorporated herein by reference to Exhibit 10.20 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.8		<u>Iberdrola USA Networks, Inc. Annual Incentive Plan, amended and restated January 1, 2014 (incorporated herein by reference to Exhibit 10.21 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.9		<u>Iberdrola USA, Inc. Performance Share Plan effective as of January 1, 2009 (incorporated herein by reference to Exhibit 10.22 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.10		<u>Employment Agreement dated October 1, 2010 among Robert Daniel Kump, Iberdrola USA Networks, Inc. (formerly Iberdrola USA, Inc.) and Iberdrola USA Management Corporation (incorporated herein by reference to Exhibit 10.23 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.11		<u>Service Contract dated January 16, 2014 between Robert Daniel Kump and Avangrid, Inc. (incorporated herein by reference to Exhibit 10.24 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.12		<u>Employment Agreement dated March 1, 2008 between R. Scott Mahoney and Iberdrola USA Management Corporation (formerly Energy East Management Corporation) (incorporated herein by reference to Exhibit 10.27 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.13		<u>Framework Agreement for the Provision of Corporate Services for Iberdrola and the Companies of its Group, and the Declaration of Acceptance, dated July 16, 2015 (incorporated herein by reference to Exhibit 10.28 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).</u>
10.14		<u>Equipment Supply Agreement dated December 28, 2014 between Iberdrola Renewables, LLC and Gamesa Wind US, LLC (incorporated herein by reference to Exhibit 10.29 to Form S-4/A filed with the Securities and Exchange Commission on November 6, 2015).</u>
10.15		<u>Agreement and Release dated September 25, 2009 between Robert Daniel Kump and Iberdrola USA Management Corporation (formerly Energy East Management Corporation) (incorporated herein by reference to Exhibit 10.31 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).</u> [†]
10.16		<u>Form of Indemnification Agreement between Avangrid, Inc. (formerly Iberdrola USA, Inc.) and its directors and officers (incorporated herein by reference to Exhibit 10.32 to Form S-4/A filed with the Securities and Exchange Commission on October 21, 2015).</u> [†]
10.17		<u>UIL Holdings Corporation 2008 Stock and Incentive Compensation Plan as Amended and Restated May 14, 2013 (incorporated herein by reference to Exhibit 99.1 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015).</u> [†]
10.18		<u>UIL Holdings Corporation Deferred Compensation Plan Grandfathered Benefits Provisions, dated August 4, 2008 (incorporated herein by reference to Exhibit 99.2 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015).</u> [†]
10.19		<u>UIL Holdings Corporation Deferred Compensation Plan Non-Grandfathered Benefits Provisions, as amended and restated effective dated January 1, 2013 (incorporated herein by reference to Exhibit 99.3 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015).</u> [†]
10.20		<u>Employment Agreement, dated as of July 8, 2005, between The United Illuminating Company and Richard J. Nicholas (incorporated herein by reference to Exhibit 10.4 of UIL Holdings Corporation’s Current Report on Form 8-K filed with the Securities and Exchange Commission on July 11, 2005).</u> [†]
10.21		<u>First Amendment, dated August 4, 2008, to Employment Agreement, dated as of July 8, 2005, between The United Illuminating Company and Richard J. Nicholas (incorporated herein by reference to Exhibit 10.14a of UIL Holdings Corporation’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2008).</u> [†]

Exhibit Number	U	Exhibit Description
10.22		<u>Amended and Restated UIL Holdings Corporation Change In Control Severance Plan II, dated August 4, 2008 (incorporated herein by reference to Exhibit 10.28a of UIL Holdings Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008).</u> [‡]
10.23		<u>Employment Agreement, dated as of January 1, 2016, among Avangrid, Inc., Avangrid Service Company and James P. Torgerson (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on April 22, 2016).</u> [‡]
10.24		<u>Amended and Restated Employment Agreement, dated as of June 14, 1999, among Avangrid, Inc. (formerly Energy East Corporation), Central Maine Power Company and Sara J. Burns (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).</u> [‡]
10.25		<u>Employment Agreement, dated as of January 1, 2012, among Central Maine Power Company, Avangrid, Inc. (formerly Iberdrola USA, Inc.) and Sara J. Burns (incorporated herein by reference to Exhibit 10.3 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).</u> [‡]
10.26		<u>Agreement and Release, dated as of November 25, 2009, between Central Maine Power Company and Sara J. Burns (incorporated herein by reference to Exhibit 10.4 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).</u> [‡]
10.27		<u>Revolving Credit Agreement, dated April 5, 2016, among Avangrid, Inc., New York State Electric & Gas Corporation, Rochester Gas and Electric Corporation, Central Maine Power Company, The United Illuminating Company, Connecticut Natural Gas Corporation, The Southern Connecticut Gas Company and The Berkshire Gas Company, as Borrowers, the Lenders, JPMorgan Chase Bank N.A., as Administrative Agent, Bank of America, N.A., as Syndication Agent, and J.P. Morgan Chase Bank, N.A. Merrill Lynch, Pierce, Fenner & Smith Incorporated, The Bank of Tokyo-Mitsubishi UFI, Ltd. and Santander Bank, N.A. as Joint Lead Arrangers and Joint Bookrunners (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on April 5, 2016).</u>
10.28		<u>Commercial Paper/Certificates of Deposit Issuing and Paying Agent Agreement dated May 13, 2016 among Avangrid, Inc., as Issuer, and Bank of America, National Association, as Issuing and paying Agent (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016).</u>
10.29		<u>Form of Commercial Paper Dealer Agreement among Avangrid, Inc., as Issuer, and various Dealers (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016).</u>
10.30		<u>Form of Performance Stock Unit Grant Agreement (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on July 19, 2016).</u> [‡]
10.31		<u>Avangrid, Inc. Omnibus Incentive Plan (incorporated herein by reference to Form S-8 filed with the SEC on July 21, 2016).</u> [‡]
10.32		<u>Uncommitted Line of Credit for Standby Letters of Credit Agreement, dated as of December 2, 2016, between Avangrid, Inc. and Crédit Agricole Corporate (incorporated herein by reference to Exhibit 10.44 of AVANGRID's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2016).</u>
10.33		<u>Substitution Agreement, dated as of December 19, 2016, between UIL Holdings Corporation and Avangrid, Inc. (incorporated herein by reference to Exhibit 10.45 of AVANGRID's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2016).</u>
10.34		<u>Avangrid, Inc. Executive Annual Incentive Plan (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on February 23, 2017).</u> [‡]
10.35		<u>Amended and Restated Avangrid, Inc. Omnibus Incentive Plan (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017).</u> [‡]
10.36		<u>Offer Letter, dated March 5, 2015, between Sheila Duncan and Avangrid Management Company (as assignee of Avangrid Service Company, which was formerly known as Iberdrola USA Management Corporation) (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017).</u> [‡]
10.37		<u>Customer Liquidity Agreement, dated December 1, 2017, between Avangrid, Inc., Bank of America, National Association, Iberdrola, S.A., Iberdrola Mexico, S.A. de C.V., and Scottish Power Ltd.*</u>

Exhibit Number	U	Exhibit Description
10.38		<u>Underwriting Agreement, dated November 16, 2017, by and among the Avangrid, Inc., BBVA Securities Inc., BNP Paribas Securities Corp., Citigroup Global Markets Inc., and Wells Fargo Securities, LLC (incorporated herein by reference to Exhibit 1.1 to Form 8-K filed with the Securities and Exchange Commission on November 21, 2017).</u>
21.1		<u>Significant subsidiaries of the Registrant.*</u>
23.1		<u>Consent of KPMG LLP, independent registered public accounting firm of Avangrid, Inc.*</u>
23.2		<u>Consent of Ernst & Young LLP, independent registered public accounting firm of Avangrid, Inc.*</u>
31.1		<u>Chief Executive Officer Certification Pursuant to Rule 13a-14(a) and 15d-14(a), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*</u>
31.2		<u>Chief Financial Officer Certification Pursuant to Rule 13a-14(a) and 15d-14(a), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*</u>
32		<u>Chief Executive Officer and Chief Financial Officer Certification Pursuant to 18 United States Code Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*</u>
101.INS		XBRL Instance Document.*
101.SCH		XBRL Taxonomy Extension Schema Document.*
101.CAL		XBRL Taxonomy Extension Calculation Linkbase Document.*
101.DEF		XBRL Taxonomy Extension Definition Linkbase Document.*
101.LAB		XBRL Taxonomy Extension Label Linkbase Document.*
101.PRE		XBRL Taxonomy Extension Presentation Linkbase Document.*

* Filed herewith.

† Compensatory plan or agreement.

0 Confidential treatment has been requested for portions of this document. The omitted portions of this document have been submitted separately to the Securities and Exchange Commission.

The foregoing list of exhibits does not include instruments defining the rights of the holders of certain long-term debt of Avangrid, Inc. and its subsidiaries where the total amount of securities authorized to be issued under the instrument does not exceed ten percent (10%) of the total assets of Avangrid, Inc. and its subsidiaries on a consolidated basis; and Avangrid, Inc. hereby agrees to furnish a copy of each such instrument to the SEC on request.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Avangrid, Inc.

Date: March 26, 2018

By: /s/ James P. Torgerson
James P. Torgerson
Director and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	U	Title	U	Date
<u>/s/ James P. Torgerson</u> James P. Torgerson		Director and Chief Executive Officer (Principal Executive Officer)		March 26, 2018
<u>/s/ Richard J. Nicholas</u> Richard J. Nicholas		Chief Financial Officer (Principal Financial Officer)		March 26, 2018
<u>/s/ Daniel Alcain</u> Daniel Alcain		Controller (Principal Accounting Officer)		March 26, 2018
<u>/s/ Ignacio Sánchez Galán</u> Ignacio Sánchez Galán		Chairman of the Board		March 26, 2018
<u>/s/ John E. Baldacci</u> John E. Baldacci		Director		March 26, 2018
<u>/s/ Pedro Azagra Blázquez</u> Pedro Azagra Blázquez		Director		March 26, 2018
<u>/s/ Arnold L. Chase</u> Arnold L. Chase		Director		March 26, 2018
<u>/s/ Alfredo Elías Ayub</u> Alfredo Elías Ayub		Director		March 26, 2018
<u>/s/ Carol L. Folt</u> Carol L. Folt		Director		March 26, 2018
<u>/s/ John L. Lahey</u> John L. Lahey		Director		March 26, 2018
<u>/s/ Santiago Martinez Garrido</u> Santiago Martinez Garrido		Director		March 26, 2018
<u>/s/ Juan Carlos Rebollo Liceaga</u> Juan Carlos Rebollo Liceaga		Director		March 26, 2018
<u>/s/ José Sáinz Armada</u> José Sáinz Armada		Director		March 26, 2018
<u>/s/ Alan D. Solomont</u> Alan D. Solomont		Director		March 26, 2018
<u>/s/ Elizabeth Timm</u> Elizabeth Timm		Director		March 26, 2018
<u>/s/ Felipe de Jesús Calderón Hinojosa</u> Felipe de Jesús Calderón Hinojosa		Director		March 26, 2018

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CUSTOMER LIQUIDITY AGREEMENT

PART 1

Customer Details

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Full Customer Name Iberdrola SA

Address Plaza Euskadi.....

U No 5 Bilbao (Vizcaya).....

U Spain.....

Postal Code 48009.....

Facsimile Number (+34) 94 466 54 93.....

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Services Required

Please tick as appropriate.

- ☐ Physical Cash Concentration Service
- ☐ Multi Bank Cash Concentration Service
- ☐ Single Party Notional Cash Pooling Service
- ☒ Multi Party Notional Cash Pooling Service
- ☒ Pool Benefit Distribution Service
- ☐ Interest Reallocation Service

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Iberdrola

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Customer Liquidity Agreement/OCT2017

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Signatures

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"This Agreement is made on 1st of December, 2017 (Date to be completed by the Bank or Affiliate Bank)"

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Each of the Customer and the Companies hereby agrees to the terms of this Agreement.

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If it is incorporated in Italy, each of the Customer and the Companies hereby further declares that it is fully aware of the contents of this Agreement and specifically confirms and approves Clauses 4.1 and 4.2 (Representations, warranties and undertakings), Clause 5 (Additional Companies) and Clause 18 (Governing law and jurisdiction) of this Agreement and, if applicable to it, Clause 2 (Guarantee and indemnity), Clause 3 (Set-off) and Clause 4 (Account operation) of the Service Terms relating to the Multi Party Notional Cash Pooling Service.

The Customer (as Customer and Company)

Iberdrola SA

By: /s/Vanessa Edesa Verde
(signature verified seal)
Name: Vanessa Edesa Verde
Title: Attorney-in-fact
Date: 11/10/2017

By: /s/José Ángel Omaechevaría Legarra
(signature verified seal)
Name: José Ángel Omaechevaría Legarra
Title: Attorney-in-fact
Date: 11/10/2017

The Companies:

Iberdrola Mexico SA De CV

By: /s/Alexander Goyeneche Toriles
(signature verified seal)
Name: Alexander Goyeneche Toriles
Title: Attorney-in-fact
Date: 10/30/2017

By: /s/Fabiola Hormigo Martinez
(signature verified seal)
Name: Fabiola Hormigo Martinez
Title: Attorney-in-fact
Date: 10/30/2017

By: /s/Donald Wright
(signature verified seal)

Name: Donald Wright
Title: Treasurer
Date 11/15/2017

By: /s/Robert McDonald
(signature verified seal)
Name: Robert McDonald
Title: Corporate Tax Accounting Manager
Date 11/15/2017

By: /s/Howard Coon
(signature verified seal)
Name: Howard Coon
Vice President – Treasurer
Title: Avangrid Management Company
Date 6/11/2017

By: /s/Daniel Alcain
(signature verified seal)

Name: Daniel Alcain
Senior Vice President – Controller Avangrid, Inc.

Title:

Date 6/11/2017

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PART 2

Master Terms and Conditions

1. Introduction

- 1.1 This Agreement, including these Master Terms and Conditions and the relevant Service Terms and Conditions, governs the Services between the Customer, each Company (if any), the Bank and each Affiliate Bank, as those Services may be added to, terminated or amended from time to time in accordance with this Agreement.
- 1.2 These Master Terms and Conditions are supplemented by the Service Terms and Conditions applicable to each Service provided to the Customer and the Companies and, in the event of any conflict between these Master Terms and Conditions and those Service Terms and Conditions, those Service Terms and Conditions shall prevail over the Master Terms and Conditions to the extent of that inconsistency. Each party acknowledges that the Master Terms and Conditions and the applicable Service Terms and Conditions must be read together and shall constitute a single agreement between the Customer, the Companies, the Bank and each Affiliate Bank.
- 1.3 The parties agree that (i) the Service Terms and Conditions for each Service are written in terms of a single arrangement between the relevant parties, (ii) more than one arrangement may be entered into between the Bank and/or any Affiliate Bank and all or some of the other parties wishing to use that Service and (iii) the relevant Service Terms and Conditions shall govern the relationship between the parties with respect to each such arrangement. Each such arrangement shall be incorporated into and form part of this Agreement, but need not be disclosed to a Company which is not a party to such arrangement.
- 1.4 Each Company authorises the Customer to negotiate and agree and enter into any Set Up Form, any additional Service or any change in or termination of any Service provided by the Bank and/or any Affiliate Bank or any amendment to this Agreement or any Set Up Form, and to agree to the accession or withdrawal and release of any Company or Account to or from this Agreement or any Service, and to execute any document setting out such agreement for itself and on behalf of each Company.
- 1.5 Notwithstanding Clause 1.4 and subject to any applicable law, the Bank and/or any Affiliate Bank may on 30 days' notice change any Service provided by the Bank and/or any Affiliate Bank or amend any terms of this Agreement or a Set Up Form, and such change or amendment shall take effect as between (i) the Customer and the Companies and (ii) the Bank and each Affiliate Bank by the Bank and/or any Affiliate Bank giving notice of such change by notice sent to the Customer by post and/or e-mail (the "Amendment Notice"), in which case:
- (a) any change or amendment notified by the Amendment Notice which is required for any legislative, legal or regulatory reason or which affects all of the Bank's or any Affiliate Bank's account holding customers from time to time or all of the Bank's or any Affiliate Bank's customers from time to time using any Service or any other cash concentration, interest optimization service, notional cash pooling or related liquidity product service provided by the Bank and/or any Affiliate Bank, will take effect as notified by the Amendment Notice. By continuing to operate the Accounts and use the Service(s) after the Amendment Notice, the Customer and the Companies are also deemed to have accepted such change or amendment; and
- (b) any change or amendment notified by the Amendment Notice which is not of a type referred to in (a) above, will take effect as notified by the Amendment Notice. By continuing to operate the Accounts and use the Service(s), after the Amendment Notice, the Customer

and the Companies are also deemed to have accepted such change or amendments. If the Customer objects in writing (the "**Objection Notice**") within 30 days of receiving the Amendment Notice, the Amendment Notice will not take effect as notified, and the Bank or any Affiliate Bank (as the case may be) shall, in good faith negotiate the proposed change or amendment as notified in the Amendment Notice for a further period of thirty (30) days, or such other time period as may be agreed, commencing on the date that the Bank or any Affiliate Bank (as the case may be) receives the Objection Notice (the "**Negotiation Period**"). Any mutually acceptable changes resulting from the conclusion of these negotiations will take effect when agreed by the parties in writing, and in any event by no later than the expiry of the Negotiation Period. In the event that the parties are not able to achieve a satisfactory agreement in writing by the expiry of the Negotiation Period, then the arrangements contemplated by this Agreement may be terminated by the Bank or the Affiliate Bank (as the case may be) in accordance with Clause 8.1.

2. Interpretation

2.1 In this Agreement, the following definitions have the following meanings:

"Acceding Company" means a company or other registered trading entity accepted by the Bank and/or any Affiliate Bank which, in accordance with the provisions of Clause 5, is to become a Company.

"Accession Instrument" means an accession instrument in, or substantially in, the form of, Schedule 2 or in such form as may be approved by the Bank and/or any Affiliate Bank for an Acceding Company.

"Account" means, in relation to a Company, each of the accounts (including the balances on those accounts and whether in debit or credit) maintained by that Company with the Bank or any Affiliate Bank at any of its Bank Units.

"Account Operating Terms" means the relevant written agreement(s) between the Bank and/or any Affiliate Bank and a Company governing the terms and conditions of operation of such Company's Accounts.

"Affiliate Bank" means Bank of America Merrill Lynch International Limited and any other subsidiary bank of Bank of America Corporation which provides any of the Services from time to time.

"Bank Unit" means the branch of the Bank and/or any Affiliate Bank (as applicable), or a sub-division of that branch, as determined by the Bank and/or any Affiliate Bank (as applicable).

"Company" means the Customer and each other party identified as such in Part 1 of this Agreement and each other company which hereafter becomes a party to this Agreement as a Company in the manner set forth in Clause 5 or, for the purposes of each Service Terms and Conditions, each such party or company whose Accounts are subject to the relevant Service.

"Customer" means the Customer which is identified as such in Part 1 of this Agreement.

"Customer Affiliate" means, in relation to the Customer, any entity controlled, directly or indirectly, by the Customer, any entity that controls, directly or indirectly, the Customer or any entity directly or indirectly under common control with the Customer. For this purpose,

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"control" of any entity or the Customer means ownership of a majority of the voting power of that entity or the Customer.

"Damages" means any liability, expense, claim, loss, damage or cost of any nature.

"Service" means each of the services that is selected in Part 1 of this Agreement under "Services Required" (as added to, terminated or amended from time to time in accordance with this Agreement) or selected pursuant to the terms of those Services.

"Service Terms and Conditions" means the relevant terms and conditions (including any schedules or other attachments to them) set out in an Annex to this Agreement which govern the provision of a specific Service.

"Set Up Form" means, in relation to a Service, the set up form, workbook or other document or spreadsheet, completed in agreement from time to time between (i) the Bank and/or any Affiliate Bank (as applicable) and (ii) the Customer, which identifies or describes the nature of that Service.

"Tax" means all present and future income and other taxes and any levies, assessments, imposts, deductions, charges, compulsory loans and withholdings in the nature of tax together with any interest and penalties and fines thereon, and any payments made on or in respect thereof.

2.2 Unless otherwise expressly stated or the context otherwise requires:

- (i) headings are for convenience of reference only;
- (ii) references in these Master Terms and Conditions to Clauses, Schedules and Annexes are references to Clauses of and Schedules and Annexes to these Master Terms and Conditions and references in Service Terms and Conditions to Clauses, Schedules and Annexes are references to Clauses of and Schedules and Annexes to those Service Terms and Conditions;
- (iii) references to a provision of law is a reference to that provision as may be amended or re-enacted from time to time;
- (iv) references to this Agreement, a Set Up Form or any other agreement or document, include any amendments, supplements or novations thereto; and
- (v) references to a person includes references to its successors and permitted assigns.

3. Conditions precedent

Any obligation of the Bank and/or any Affiliate Bank under this Agreement are conditional upon it having received, or waived the requirement for, the documents listed in Schedule 1 from each of the Companies (all in form and substance satisfactory to the Bank or any Affiliate Bank (as applicable)).

4. Representations, warranties and undertakings

4.1 Each Company warrants on each date on which it is a party to this Agreement that:

- (i) this Agreement constitutes legal, valid and binding obligations of the Company in accordance with its terms;

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- (ii) this Agreement is within the powers of the Company;
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- (iii) this Agreement has been duly authorised by the Company;
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- (iv) this Agreement does not breach the constitutional documents of the Company, any deed or agreement by which the Company is bound or any law or regulation applicable to the Company; and
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- (v) all necessary consents and authorisations in relation to this Agreement have been obtained and are in force.

4.2 Each Company:

- (i) represents and warrants to the Bank and each Affiliate Bank that it is solely and absolutely entitled to its Accounts which are now subject to, or which at any time after the date of this Agreement may become subject to, this Agreement free from any mortgage, charge, lien, assignment, encumbrance or other security interest and free of interests, rights or claims of third parties of any kind whatsoever (except for, in each case, those arising by operation of law or the rights of the Bank and any Affiliate Bank under this Agreement);
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- (ii) undertakes not to create or permit to subsist any mortgage, charge, lien, assignment, encumbrance or other security interest or any interest, right or claim of third parties of any kind whatsoever on, over, with respect to or otherwise affecting the whole or any part of its Accounts (except for, in each case, those arising by operation of law or the rights of the Bank and any Affiliate Bank under this Agreement); and
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- (iii) undertakes not to assign or transfer all or any of its right, title or interest in or to the Accounts to any other person except to the extent that such transfer represents a permitted withdrawal from its Accounts in the normal course of business of the Company.

5. Additional Companies

- 5.1 Any Customer Affiliate which is not a Company may, with the Customer's consent and the Bank's and the Affiliate Bank's agreement, become a Company by executing and delivering to the Bank and the Affiliate Banks an Accession Instrument together with the documents referred to in Schedule 1, all in form and substance satisfactory to the Bank or an Affiliate Bank.
- 5.2 Upon such execution and delivery to the Bank and the Affiliate Banks by such Customer Affiliate referred to in Clause 5.1 and execution of that Accession Instrument by the Bank and the Affiliate Banks and by the Customer (for itself and on behalf of the Companies), the Customer Affiliate will become a Company and the Accounts detailed by such Customer Affiliate in that Accession Instrument to be included as Accounts within the applicable Services shall become such Accounts and the applicable Service Term and Conditions shall be deemed to be amended accordingly.
- 5.3 Subject to Clause 5.1, the consent of the existing Companies for the accession by a Customer Affiliate as a Company to this Agreement shall not be required.

6. Exclusions and limitations of liability

- 6.1 Neither the Bank nor any Affiliate Bank will be liable for any Damages arising out of or relating to its performance under this Agreement other than those Damages actually incurred

by a Company or the Customer which result directly from the Bank's or the relevant Affiliate Bank's negligence or wilful misconduct.

- 6.2 Under or in connection with this Agreement, neither the Bank and the Affiliate Banks nor the Customer and the Companies shall be liable for any Damages arising from or in relation to economic loss, loss of business, profits, revenue, goodwill and anticipated savings, special damages, loss of or corruption to data, loss of operation time, loss of contracts or any indirect, consequential, exemplary or punitive loss.
- 6.3 The Bank and the Affiliate Banks will not be responsible for the acts or omissions of any of the Companies or the Customer or their respective officers, employees or agents (including, but not limited to, the amount, accuracy, timeliness of delivery or due authorisation of any instructions from any of the Companies or the Customer) or the acts or omissions of any other person or entity, including, but not limited to, any clearing house association or processor, any funds transfer system, any jurisdiction's central reserve bank or any other financial institution, and no such person or entity will be deemed the Bank's or any Affiliate Bank's agent.
- 6.4 The Bank and the Affiliate Banks will not be liable for and will be excused from any failure or delay in performing their respective obligations under this Agreement if:
- (i) such failure or delay is caused by circumstances beyond the Bank's or the Affiliate Bank's reasonable control (including, without limitation, any legal constraint, emergency conditions, action or inaction of governmental, civil or military authority, fire, labour dispute, war, riot, natural disaster or act, omission, negligence or fault of any of the Companies or the Customer); or
 - (ii) the Bank or the Affiliate Bank believed that its actions would have violated any law, guideline, rule or regulation of any governmental authority.

No such failure or delay will constitute a breach of this Agreement.

- 6.5 Neither the Bank nor any Affiliate Bank shall be under any obligation to comply with a request or instruction under any Service if to do so would or might infringe or be contrary to its policy (being a policy generally applicable to the Bank's or any Affiliate Bank's account holding customers from time to time), any law or regulation (which shall include any direction or request, whether or not having the force of law) of any regulatory authority or any court order to which any part of the Bank or any Affiliate Bank is subject, or if to do so would result in the balance on an Account falling below zero, or, if applicable, exceeding the limit of any borrowing limit separately agreed between the Bank or any Affiliate Bank and the Customer or any Company.

7. Protection from third parties

With respect to each arrangement entered into between one or more Companies (each a "**Participating Company**") and the Bank and/or any Affiliate Bank under a Service, that Participating Company hereby indemnifies (or, if there is more than one Participating Company in the arrangement, each of the Participating Companies hereby jointly and severally indemnifies) the Bank and the Affiliate Banks against and shall hold each of them harmless from any and all direct and documented Damages (including without limitation reasonable legal fees, allocated costs of staff counsel, reasonably incurred and documented expenses of litigation and any fees and expenses incurred in enforcing this Clause) arising out of or relating to disputes or legal actions with respect to the relevant arrangement brought by parties other than the Participating Company/ies. This Clause does not apply to any Damages attributable to the negligence or intentional misconduct of the Bank or any Affiliate

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Bank. The obligations of the Companies under this Clause shall survive the termination of this Agreement for a period of eight (8) years from such termination or, if longer, until the expiration of the applicable statute of limitations.

8. Termination

8.1 Unless provided otherwise by this Agreement, the arrangements contemplated by this Agreement may be terminated by the Bank and/or any Affiliate Bank, in whole or in part, in relation to any of the Customer or the Companies or any of their respective Accounts, in its absolute discretion at any time upon giving not less than 30 days' written notice to the Customer.

8.2 The arrangements contemplated by this Agreement may be terminated by the Bank and/or any Affiliate Bank, in whole or in part, in relation to any of the Customer or the Companies, or any of their respective Accounts, in its absolute discretion at any time upon notice given to the Customer following the occurrence of any of the following events:

(i) the Customer or any of the Companies are dissolved, become insolvent or are unable to pay their debts, or admit any inability to pay their debts, as they become due;

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(ii) the Customer or any of the Companies make an assignment, compromise, arrangement or composition with or for the benefit of their creditors;

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(iii) the Customer or any of the Companies institute or have instituted against any of them a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented to the Customer or any of the Companies for winding—up or liquidation or administration;

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(iv) a judgment or order of insolvency or bankruptcy or any other relief under any other bankruptcy or insolvency law or other similar law affecting creditors' rights is made against the Customer or any of the Companies, or an order is made for their winding-up, liquidation or administration;

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(v) a resolution is passed for winding up, official management, administration or liquidation of the Customer or any of the Companies;

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(vi) the Customer or any of the Companies become subject to the appointment of an administrator, liquidator, provisional liquidator, conservator, receiver, administrative receiver, compulsory manager, trustee, custodian or other similar officer for all or any part of their assets;

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(vii) a moratorium is declared in respect of any of the indebtedness of the Customer or any of the Companies;

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(viii) any corporate action, legal proceedings or other procedure or step is taken in relation to:

(a) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration or reorganisation (by way of voluntary arrangement, scheme of arrangement or otherwise) of the Customer or any of the Companies;

(b) a composition, compromise, assignment or arrangement with any of the creditors of the Customer or any of the Companies;

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- (c) the appointment of a liquidator, provisional liquidator, receiver, administrative receiver, administrator, compulsory manager, conservator, trustee, custodian or other similar officer in respect of the Customer or any of the Companies, or all or any of their assets;

or any analogous procedure or step is taken in any jurisdiction;

- (ix) the Customer or any of the Companies cause or are subject to any event which under the applicable laws of any jurisdiction has an analogous effect to any of the events specified in sub clauses (i) to (viii) (inclusive) above;

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- (x) the Customer or the Companies breach any provision of this Agreement, or any other agreement they have with the Bank or any Affiliate Bank (including but not limited to any non-payment)

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- (xi) the Bank and/or any Affiliate Bank terminates the Account Operating Terms relating to the Accounts;

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- (xii) the Bank and/or any Affiliate Bank exercises its right of set-off pursuant to Clause 13 of this Agreement, Clause 2 of the Single Party Notional Cash Pooling Service Terms and Conditions and/or Clause 3 of the Multi Party Notional Cash Pooling Service Terms and Conditions;

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- (xiii) it is or becomes unlawful for the Customer or any of the Companies to perform any of their obligations under this Agreement; or

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- (xiv) the Bank or any Affiliate Bank determines in its sole discretion that continuing to provide any or all of the Accounts or the services set out in this Agreement would cause it to violate any law, guideline, decree, rule or regulation of any governmental authority or its policy (such policy being a policy generally applicable to its account holding customers from time to time) or to, in its opinion, suffer or incur reputational damage or loss.

8.3 The arrangements contemplated by this Agreement may be terminated in whole or in part by the Customer at any time upon giving not less than 10 days' notice to the Bank and/or any Affiliate Bank, subject to the Bank's and/or any Affiliate Bank's receipt of notice from the Customer, signed by duly authorised signatories.

8.4 The Bank and/or any Affiliate Bank shall at the request of a Company with the consent of the Customer release any Company or its Accounts from this Agreement and/or any of the Services and, in the event that any Account is closed, the Bank and/or the relevant Affiliate Bank shall remit the relevant Company's Credit Balances in accordance with that Company's instructions and the provisions of the Account Operating Terms relevant to that Company's Accounts.

8.5 Any termination of any of the arrangements contemplated by this Agreement shall be without prejudice to any accrued rights and obligations of the parties existing as at the effective date of the termination. Clauses 6, 7, 10, 11, 12, 13, 14, 15, 17 and 18 shall continue to apply notwithstanding any such termination.

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9. Illegality and invalidity

- 9.1 Notwithstanding anything contained in this Agreement, where the introduction, imposition or variation of any law, rule, regulation or accounting policy ("Law") or any change in the interpretation or application of any Law makes it unlawful or impractical, in the Bank's or any Affiliate Bank's reasonable opinion, without breaching that Law for the Bank or the relevant Affiliate Bank to continue to perform its obligations under this Agreement, then at the Bank's or Affiliate Bank's discretion and without liability on the part of the Bank or the relevant Affiliate Bank to the Companies, the Bank or the relevant Affiliate Bank may at any time and without prior notice suspend its performance under, and/or terminate, this Agreement.
- 9.2 Subject to the provisions of Clause 9.1, if at any time any provision of this Agreement is or becomes illegal, invalid or unenforceable in any respect under the law of any jurisdiction, that shall not affect or impair (i) the legality, validity or enforceability in that jurisdiction of any other provision of this Agreement; or (ii) the legality, validity or enforceability under the law of any other jurisdiction of that or any other provision of this Agreement.

10. Notices

10.1 Any notice or other communication under, or in connection with, this Agreement:

- (i) shall be given in writing or by e-mail in the English language;
- (ii) in the case of the Companies, or any of them, need only be sent to the Customer; and
- (iii) shall be sent to the address or e-mail address of the Customer or the Bank and/or any Affiliate Bank, as the case may be, set out on the first page of this Agreement or such other address or e-mail address as may be notified to the Bank and/or any Affiliate Bank or the Customer (as the case may be) from time to time in writing.

10.2 Any such notice or such communication is deemed to be effective as follows:

- (i) if in writing, when delivered;
- (ii) if by e-mail, when sent.

However, a notice given in accordance with the above but received on a non-working day or after business hours in the place of receipt is deemed to be given on the next working day in that place.

11. Fees, costs and expenses

- 11.1 Each Company shall pay and the Bank and each Affiliate Bank is authorised to debit from any of such Company's Accounts all the Bank's and each Affiliate Bank's fees, charges, costs (including for non-receipt of monies advised to be receivable by the Bank and the Affiliate Bank), out of pocket expenses and commissions at the rates and in accordance with the arrangements agreed between the Bank or the Affiliate Bank (as applicable), and such Company or the Customer (as applicable), from time to time and in the absence of express agreement at the rates and in accordance with the arrangements generally applied by the Bank or the Affiliate Bank in the relevant jurisdiction as notified to each Company or the Customer from time to time.
- 11.2 Each Company and the Customer hereby jointly and severally agree to pay all reasonably incurred and documented costs and expenses (including all legal fees) incurred by the Bank

and each Affiliate Bank in connection with the protection, preservation and enforcement of the Bank's and the Affiliate Bank's rights under this Agreement.

- 11.3 Each Company and the Customer hereby jointly and severally agree to pay all present and future stamp, documentary and other like duties and taxes to which this Agreement and the arrangements contemplated hereby give rise.

12. Disclosure

Each Company hereby consents to and authorises the Bank and each Affiliate Bank, and their respective officials, employees and agents, at any time and from time to time to release and disclose, subject to the confidentiality obligations in the Account Operating Terms, to the head office of the Bank or the relevant Affiliate Bank, its branches, offices, subsidiaries, affiliates and any related corporations and their respective employees and agents or any governmental body or any other third party for any of the following purposes including but not limited to:

- (i) internal management reporting function;
- (ii) account servicing and related functions;
- (iii) data processing;
- (iv) generally for carrying on, protecting or furthering of the Companies', the Bank's or the Affiliate Banks' business and interests; and
- (v) to comply with the laws, government rules and regulations applicable from time to time and for audit purposes,

any and all information concerning it and its accounts and relationship with the Bank and the Affiliate Banks in all respects (including without limitation, particulars of its Account(s)) and the status and account balance thereof and its transactions and relationship with the Bank and the Affiliate Banks) as the Bank and each Affiliate Bank, and their officials, employees and agents may in their absolute discretion think fit.

13. Set-off

- 13.1 In addition to any other right of set-off or general right of combination of accounts to which the Bank and/or the Affiliate Banks may be entitled, the Bank and/or any Affiliate Bank may without prior notice to or demand of any Company set off any obligation owed by a Company to the Bank and/or any Affiliate Bank under this Agreement against any credit balances standing to the credit of any account of such Company with the Bank and/or any Affiliate Bank at any branch of the Bank and/or any Affiliate Bank, in each case regardless of the currency, place of payment or booking office of those obligations.

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Customer Liquidity Agreement/OCT2017

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- 13.2 For the purpose of cross-currency set-off, the Bank and/or any Affiliate Bank may convert any obligation at a market rate determined by the Bank and/or any Affiliate Bank. If any obligation is unascertained, the Bank and/or any Affiliate Bank may in good faith estimate that obligation and set off in respect of the estimate, subject to the relevant party accounting to the other when the obligation is ascertained.

14. Currency indemnity

If the Bank or an Affiliate Bank receives an amount in respect of a sum owing to it by a Company or if any amount owing by a Company is converted into a claim, proof, judgment or order in a currency other than the currency (the "**contractual currency**") in which the amount is expressed to be payable:

- (i) that Company will indemnify the Bank or that Affiliate Bank (as applicable) as an independent obligation against any loss arising out of or as a result of such conversion;
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- (ii) if the amount received by the Bank or Affiliate Bank, when converted into the contractual currency, at a prevailing market rate determined by the Bank or that Affiliate Bank is less than the amount owed in the contractual currency, that Company will, forthwith on demand, pay to the Bank or that Affiliate Bank (as applicable) an amount in the contractual currency equal to the deficit; and
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- (iii) that Company will pay to the Bank or that Affiliate Bank (as applicable) on demand any exchange costs and taxes payable in connection with any such conversion.

15. Remedies and waivers

- 15.1 No delay or omission on the part of the Bank or an Affiliate Bank in exercising any right, power or remedy provided by law or under this agreement shall impair or operate as a waiver of such right, power or remedy.
- 15.2 The single or partial exercise of any right, power or remedy provided by law or under this agreement shall not preclude any other or further exercise thereof or the exercise of any other right, power or remedy.

16. Further assurance

Each of the Customer and the Companies undertakes to do all acts as required by the Bank and/or any Affiliate Bank at any time in order to give full effect to this Agreement and to secure to the Bank and each Affiliate Bank the full benefit of the rights, powers and remedies conferred upon the Bank and each Affiliate Bank in this Agreement.

17. Assignment

Neither the Customer nor any Company shall assign all or any part of its rights or benefits of or under this Agreement, except with the prior written consent of the Bank and/or any Affiliate Bank.

18. Governing law and jurisdiction

- 18.1 This Agreement, and any non-contractual obligations arising out of or in connection with it, shall be governed by and construed in accordance with English law.

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18.2 For the exclusive benefit of the Bank and the Affiliate Banks, each of the Customer and the Companies irrevocably agrees that the courts of England are to have jurisdiction to settle any disputes which may arise out of, or in connection with, this Agreement (including a dispute relating to any non-contractual obligations arising out of or in connection with this Agreement) and that accordingly any proceeding, suit or action arising out of, or in connection with, this Agreement ("**Proceedings**") may be brought in such courts. Nothing contained in this Clause shall limit the right of the Bank or the Affiliate Banks to take Proceedings against the Customer or a Company in any other court of competent jurisdiction, nor shall the taking of Proceedings in one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction, whether concurrently or not, to the extent permitted by the law of such other jurisdiction.

18.3 Each of the Customer and the Companies:

- (i) irrevocably waives (and irrevocably agrees not to cause) any objection to the English courts and any claim *of forwn non conveniens*; and
- (ii) further irrevocably agrees that a judgment or order of an English court in any Proceedings shall be conclusive and binding on it and may be enforced against it in the courts of any other jurisdiction.

18.4 If requested to do so by the Bank and/or any Affiliate Bank, each of the Customer and the Companies shall immediately appoint, and notify to the Bank or the relevant Affiliate Bank the name and address of, an agent for service of process for documents and proceedings in any jurisdiction and thereafter it shall undertake to maintain at all times an agent for services of process in such jurisdiction.

19. Counterparts

19.1 This Agreement may be executed in any number of counterparts, and by the parties on separate counterparts, but shall not be effective until each party has executed at least one counterpart.

19.2 Each counterpart shall constitute an original of this Agreement but all the counterparts shall together constitute but one and the same instrument.

20. Third parties

A person who is not a party to this Agreement has no right under the Contracts (Rights of Third Parties) Act 1999 or otherwise to enforce or to enjoy the benefit of any term of this Agreement.

21. Currency Event

If a new currency is introduced and/or substituted in place of an existing currency as the lawful currency of any country relevant from time to time to the arrangements provided under this Agreement, (including without limitation any country of incorporation, organisation or place of business of the Bank, any Bank Units, any Affiliate Banks or any agent of the Bank through which the Services are provided, or the country where any Account is held, or any country in which any Company is incorporated or organised or has a place of business), or if the government of any such relevant country announces such an introduction and/or substitution (any such event, the "**Currency Event**"), then:

- (i) the Bank and the Affiliate Banks may, at their respective sole and absolute discretion, make such operational changes to the Services, modify, delay or suspend

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the performance of the Services, and the operation of the Accounts, as they think fit in order to comply with any applicable New Currency Law, or other law and protect themselves against any Damages which may arise in relation to the Currency Event;

- (ii) the Bank and the Affiliate Banks shall not be liable to any Company or any other person for any action or inaction taken in accordance with sub clause (i) above, or for any Damages, which may arise to any Company out of or in relation to the Currency Event;

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- (iii) each Company shall indemnify the Bank and the Affiliate Banks, on demand against, and hold the Bank and the Affiliate Banks, harmless against, any Damages which may arise to the Bank and the Affiliate Banks and any of their directors, agents, employees or officers, out of or in relation to the Currency Event related to the Services and the arrangements contemplated by this Agreement (including, but not limited to, any conversion costs or shortfall on conversion arising out of any amounts being tendered for payment or recovered following any judgment or court order other than that in which such amounts were contractually payable) and, if demanded, place the Bank and the Affiliate Banks in freely transferable funds in advance of any action or determination in relation to the Services and the arrangements contemplated by this Agreement;

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- (iv) each Company shall be responsible for the payment on demand (and in the currency demanded) of any increased costs arising to the Bank and the Affiliate Banks in relation to the continued performance of the Services, whether or not modified, delayed or suspended in accordance with sub clause (i) above as a result of the Currency Event;

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- (v) the Bank and the Affiliate Banks may, at their respective sole and absolute discretion, make any currency conversions deemed to be necessary as a result of the Currency Event, in relation to any payments to be made or received under this Agreement, such currency conversions to be made at the prevailing spot rate at the relevant time as determined by the Bank (or the relevant Affiliate Bank) in its sole and absolute discretion, and may debit or credit any account of any Company maintained by them in order to effect such currency conversion; and

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- (vi) the Bank and the Affiliate Banks may, at their respective sole and absolute discretion, modify any of the terms of this Agreement, apply any right of set-off or combination of accounts or similar right to the maximum extent permitted by any applicable law and/or terminate the Services by notice in order to adjust for and/or minimise the impact of the Currency Event.

For the purposes of this clause "**New Currency Law**" means any law, regulation, rule, official or central bank pronouncement or statement of guidance introduced in order to effect or in connection with the introduction of a new currency and/or the substitution of an existing currency in any jurisdiction.

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SCHEDULE 1

Condition Precedent Documents

Each of the following documents must be certified by an officer of the applicable Company or acceding Company to be a true copy of the original and provided to the Bank and/or any Affiliate Bank:

- (i) the Company's Certificate of Incorporation or Certificate of Registration (as appropriate to the relevant jurisdiction of incorporation), stating that the Company is entitled to commence business;
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- (ii) the Company's Memorandum and Articles of Association or By Laws (as appropriate to the relevant jurisdiction of incorporation);
- (iii) such document(s) as may be reasonably required under the relevant Service; and
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- (iv) such other document(s) in such form and substance as the Bank and/or any Affiliate Bank may reasonably specify.
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SCHEDULE 2

Form of Accession Instrument

To: Bank and the Affiliate Banks (as defined in the Agreement)

From:

Customer Liquidity Agreement dated [(the "Agreement")

Reference is hereby made to Clause 5 of the Agreement. Terms defined in the Agreement shall, unless otherwise defined herein, have the same meaning in this Accession Instrument.

We, *[Name of the Acceding Company]* incorporated in *[Country of Incorporation]* with a *[Registered Office/Principal Office]* located at ("**we**" or the "**Acceding Company**") agree to become a Company and to be bound by the terms of the Agreement as a Company in accordance with Clause 5 of the Agreement.

We hereby irrevocably appoint:

- (a) the Customer (as defined in the Agreement) as our agent for the purposes of the Agreement; and
- (b) the same Process Agent (as defined in any applicable Service Terms and Conditions) for service of process in England and Wales.

We wish to accede to the following Services: [Physical Cash Concentration Service/Multi Bank Cash Concentration Service/Single Party Notional Cash Pooling Service/Multi Party Notional Cash Pooling Service Pool Benefit Distribution Service/Interest Reallocation Service].

This Accession Instrument, and any non-contractual obligations arising out of or in connection with it, shall be governed by and construed in accordance with English law.

If it is incorporated in Italy, the Acceding Company further declares hereby that it is fully aware of the contents of the Agreement and specifically confirms and approves Clauses 4.1 and 4.2 (Representations, warranties and undertakings), Clause 5 (Additional Companies) and Clause 18 (Governing law and jurisdiction) of the Agreement and, if applicable to it, Clause 2 (Guarantee and indemnity), Clause 3 (Set-off) and Clause 4 (Account operation) of the Service Terms relating to the Multi Party Notional Cash Pooling Service.

IN WITNESS of which this Accession Instrument has been executed and entered into on _____ 20_____.

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Iberdrola 19 Customer Liquidity Agreement/OCT2017

[Name of Acceding Company]

By:

By:

Name:

Name:

Title:

Title:

Date

Date

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[Name of Customer]

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By:

By:

Name:

Name:

Title:

Title:

Date

Date

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Agreed and accepted as of the _____ day of _____

On behalf of the Bank and the Affiliate Banks (as defined in the Agreement)

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By:

Name:

Title:

Date

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ANNEX TO CUSTOMER LIQUIDITY AGREEMENT

Multi Party Notional Cash Pooling Service Terms and Conditions

1. MP Pooling Service

1 .1 These terms and conditions (the "**MP Pooling Terms**") apply where more than one Company wishes the credit and debit balances on its Accounts specified in the applicable Set Up Form (the "**MP Pooled Accounts**") to be notionally combined with each other, so that the Companies overall will earn more interest and pay less overdraft charges (the "**MP Pooling Service**"). The MP Pooling Service may be used in relation to MP Pooled Accounts denominated in a single

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currency (the "**MPSC Pooling Service**") or in relation to MP Pooled Accounts denominated in more than one currency (the "**MPCC Pooling Service**").

- 1.2 Certain terms defined in Clause 7 are used in this Annex. Where a Company falls within a category identified in Schedule 2 to this Annex, this Annex shall apply to that Company as amended or supplemented by the relevant provision(s) of that Schedule 2.
- 1.3 For the purpose of paragraph (iii) of Schedule 1 to the Master Terms and Conditions, each Company using the MP Pooling Service is required to provide a board resolution substantially in the form of Schedule 1 to this Annex (as appropriate to the relevant jurisdiction of incorporation and the circumstances of the Company's participation in the MP Pooling Service), with English translation:
- (i) approving the terms of the Agreement (and the Accession Instrument, if applicable);
 - (ii) resolving that it execute the Agreement (or the Accession Instrument, if applicable);
 - (iii) stating that corporate benefit accrues to the Company from the provision by it of the guarantee in these MP Pooling Terms; and
 - (iv) appointing the Customer its agent for purposes of the MP Pooling Service.

2. Guarantee and indemnity

- 2.1 In consideration of the Bank making financial accommodation available to, for or for the account of any one or more of the Companies or for other sufficient consideration (receipt whereof each Company hereby acknowledges), including the Bank's allocation of interest to the MP Pooled Accounts of each Company from time to time in accordance with Clause 4, each Company hereby jointly and severally, irrevocably and unconditionally:
- (i) guarantees to the Bank, as principal obligor and not merely as surety, payment by each other Company of all such other Company's Liabilities and of sums payable now or in the future to the Bank by that other Company in connection with that Company's Liabilities when and as the same shall become due; and
 - (ii) undertakes with the Bank that if and each time that any other Company shall be in default in the payment of any of such other Company's Liabilities or of any sum in connection with that Company's Liabilities the Company will make good the default and pay such Liabilities or sums as if the Company instead of the other Company were expressed to be the primary obligor, together with interest thereon at the rate per annum from time to time payable by the other Company on such Liabilities or sums from the date when such Liabilities or sums become payable by the Company hereunder until payment of such Liabilities or sums in full.
- 2.2 This is a guarantee and indemnity granted by each Company in respect of all the Liabilities of each other Company but the maximum amount for which each Company shall be liable under this guarantee and indemnity in respect of the Liabilities of each other Company shall not at any time exceed the aggregate of the Credit Balances on all of its MP Pooled Accounts with the Bank at that time.
- 2.3 Neither the illegality, invalidity or unenforceability of any provision of this Agreement nor the winding-up, liquidation, dissolution or any other disability or circumstance whatsoever and howsoever arising in relation to any Company shall affect, determine the guarantee, indemnity and undertakings granted by each Company under this Clause 2.

- 2.4 This guarantee and indemnity is and will remain the property of the Bank.
- 2.5 The guarantee and indemnity set forth in this Clause 2 shall be a continuing guarantee and indemnity, shall extend to the ultimate balance of the Total Liabilities and shall continue in force notwithstanding any intermediate payment in whole or in part of the Total Liabilities. If for any reason the guarantee and indemnity ceases to be a continuing guarantee and indemnity in respect of any Company, the Bank may open a new account with or continue any existing account with that Company and the liability of the Companies in respect of the Liabilities at the date of such cessation shall remain regardless of any payments in or out of any such account.
- 2.6 Where any discharge (whether in respect of the Total Liabilities, this guarantee and indemnity, or any other security therefor or otherwise) is made in whole or in part or any arrangement is made on the faith of any payment, security or other disposition which is avoided or must be repaid on bankruptcy, liquidation or otherwise without limitation, the liability of each Company under the guarantee and indemnity set forth in this Clause 2 shall continue as if there had been no such discharge or arrangement. The Bank shall be entitled to concede or compromise any claim that any such payment, security or other disposition is liable to avoidance or repayment.
- 2.7 The liability of each Company hereunder and the right of set-off conferred on the Bank under Clause 3:
- (i) shall continue to apply to each Company until such time as the Bank consents in writing to the Company ceasing to be a party to this Agreement;
 - (ii) shall apply, on the same basis, to any Customer Affiliate, upon it becoming a party to this Agreement; and
 - (iii) shall not be prejudiced, affected or diminished by any act, omission, circumstance, matter or thing which but for this provision might operate to release or otherwise exonerate it from its obligations hereunder in whole or in part, including without limitation and whether or not known to it or the Bank:
 - (a) any time or waiver granted to or composition with any other Company or any other person;
 - (b) any failure by any Company named herein to execute properly this Agreement;
 - (c) the taking, variation, compromise, renewal or release or refusal of or neglect to perfect or enforce any rights, remedies or securities against any other Company, another guarantor or any other person;
 - (d) any legal limitation, disability, incapacity or other circumstances relating to any other Company or the liquidation or change in the name or constitution of any other Company, another guarantor or any other person;
 - (e) the accession or removal of any Company to or from this Agreement;
 - (f) any variation of, or extension of the due date for performance of any of the Total Liabilities or any term of any agreement between any other Company and the Bank or any other document or security so that references to such documents in this guarantee shall include each such variation or extension or any increase, exchange, acceleration, renewal, surrender, release or loss of or

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failure to perfect any security or of any non-presentment or non-observance of any formality in respect of any instruments; and

- (g) any irregularity, unenforceability, invalidity or frustration of any of the Total Liabilities or any obligations of any other Company or any other person under any document or security, to the intent that the Company's obligations hereunder shall remain in full force and the guarantee and indemnity set forth in Clause 2 be construed accordingly as if there were no such irregularity, unenforceability, invalidity or frustration.

- 2.8 As between each of the Companies and the Bank, each of the Companies shall be liable under this Agreement as if it were the sole principal debtor and not merely a guarantor. Accordingly, it shall not be discharged, nor shall its liability be affected, by anything which would not discharge it or affect its liability if it were the sole principal debtor, including without limitation and whether or not known to it or the Bank anything referred to in sub-Clauses 2.7(iii)(a)-(g) above.
- 2.9 Each Company waives any right it may have of first requiring the Bank to proceed against or enforce any other rights or security of or claim payment from any other Company or any other person before claiming from the Company hereunder and any right it may have of requiring the Liabilities to be apportioned between any of the other Companies.
- 2.10 The guarantee and indemnity set forth in this Clause 2 shall be in addition to and shall not in any way be prejudiced by any other security now or hereafter held by the Bank as security for the obligations of the Companies. The Bank's rights, powers and remedies hereunder are cumulative and not exclusive of any rights, powers and remedies provided by law.

3. Set-off

- 3.1 All of the MP Pooled Accounts of each Company, irrespective of their nature, type, currency or terms, or the location of the branch of the Bank where the MP Pooled Accounts are held, will constitute accounting sub-divisions of a single, indivisible account with the Bank, the Debit Balances and Credit Balances of which are liable to mutual set-off. In any event, the Bank and each Company agree that their mutual debits and credits shall be debited and credited on each side of the MP Pooled Accounts on a daily basis. The gross amounts corresponding to the mutual debits and to the mutual credits between them shall be replaced with the single debit or credit arising from the net balance of the corresponding MP Pooled Account. The Bank is hereby at all times authorised to effect the necessary accounting entries so as to combine the distinct Credit Balances and Debit Balances into a single net balance. In addition to the foregoing and to any general right of combination of accounts to which the Bank may be entitled by the general banking conditions of the relevant branch of the Bank and/or by law, the Bank may without prior notice to or demand of the Companies or any of them:

- (i) set-off the Liabilities of each Company to the Bank against any obligation owed by the Bank to that Company (whether or not matured) including against the Credit Balances, regardless of the currency, place of payment or booking office of those Liabilities or those obligations; and/or
- (ii) combine or consolidate any MP Pooled Account in the name of each Company (whether sole or joint) in any currency with any Credit Balance or any other MP Pooled Account of that Company; and/or
- (iii) apply or appropriate any Credit Balance of a Company in or towards the payment or discharge of the Liabilities of that Company in such order as the Bank sees fit.

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- 3.2 For the purpose of cross-currency set-off, the Bank may convert either the relevant Liabilities or the obligation of the Bank at a market rate determined by the Bank.
- 3.3 If any part of the Liabilities or an obligation is unascertained, the Bank may in good faith estimate in accordance with its usual practice that Liability or obligation and set-off in respect of the estimate, subject to the relevant party accounting to the other when the Liability or obligation is ascertained.
- 3.4 For the purposes of Clause 3.1, the Bank shall be entitled to break or determine each Credit Balance of each Company in whole or in part and notwithstanding any other term or condition applying to such MP Pooled Account, any costs incurred by the Bank in connection with such breaking or determination shall form part of the Liabilities owing by that Company.

4. Account operation

- 4.1 Each Company may withdraw amounts from any of its MP Pooled Accounts, provided that the sum of the Pooled Balance following such withdrawal, should not go below zero or (if applicable) exceed any overdraft limit made available by the Bank.
- 4.2 Unless otherwise agreed in writing, all facilities extended to the Companies by the Bank under these MP Account Pooling Terms are not committed facilities and are immediately repayable by the Companies on demand from the Bank.
- 4.3 At the request of the Companies, which request is hereby made, and in consideration of each of the Companies giving the guarantee and indemnity set forth in Clause 2, the Bank will, unless and until notice of release or notice of termination for the respective purposes of Clause 1.4 or Clause 8 of this Agreement has been given, determine interest and charges payable on the MP Pooled Accounts in accordance with Clause 4.4.
- 4.4 With respect to each period of a duration agreed between the Bank and the Agent in the applicable Set-Up Form, for each group of MP Pooled Accounts domiciled with the same Bank Unit (the **"Pooled Accounts"**), the Bank will:
- (i) for each day of that period, calculate the pool benefit in accordance with the applicable Set-Up Form (the **"Pool Benefit"**);
 - (ii) if the applicable Set-Up Form indicates that the Offset Ratio is "On", at the end of that period post to the Pooled Account specified by the Agent an amount equal to (A) 100% of the Pool Benefit for any day on which the Offset Ratio was equal to or greater than 100%; and (B) the Offset Ratio multiplied by the Pool Benefit for any day on which the Offset Ratio was below 100%; and
 - (iii) if the applicable Set-Up Form indicates that the Offset Ratio is "Off", at the end of that period post to the Pooled Account specified by the Agent the aggregate of the Pool Benefit for each day of that period (in the case of the MPCC Pooling Service, in the Base Currency).
- 4.5 Without prejudice to any other limits and restrictions that may be agreed between any of the Companies and the Bank from time to time, and without prejudice to the Bank's other rights under this Agreement, the Customer shall ensure that:
- (i) the Pooled Balance will not be continuously overdrawn; and

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- (ii) No MP Pooled Account shall be overdrawn for any period of time in excess of the period notified by the Bank to the Customer from time to time, and upon request by the Bank from time to time and in any event at least once in each calendar month, each MP Pooled Account shall be funded to completely remove and eliminate all overdrawn amounts.

5. Release

A Company may only be released from this Agreement if:

- (i) the Liabilities of the Companies then remaining, in aggregate, to the Bank would not exceed the aggregate of the remaining Credit Balances and (if applicable) any limit made available by the Bank (whether or not advised to any Company) in respect of the relevant MP Pooled Accounts as a result of or following any such release; and
- (ii) the creditworthiness of the Companies then remaining, in aggregate, is satisfactory to the Bank.

6. Process agent

Without prejudice to any other mode of service, each of the Companies (unless incorporated in England and Wales):

- (i) irrevocably appoints the Process Agent as its agent for service of process relating to any Proceedings in England and Wales in connection with this Agreement or such other agent in England as has been notified to the Bank;
- (ii) agrees that failure by the Process Agent to notify the Company of the process shall not invalidate the Proceedings concerned; and
- (iii) consents to the service of process relating to any such Proceedings by prepaid posting of a copy of the process to its address for the time being applying under Clause 9 of this Agreement.

7. Definitions

In this Annex and unless the context otherwise requires:

"Agent" means the Company specified as such in the applicable Set Up Form, acting for itself and in its capacity as agent for and on behalf of each of the other Companies who use the MP Pooling Service;

"Base Currency" means, in relation to the MPCC Pooling Service, the currency specified as the Base Currency by the Agent to the Bank which currency must be a currency in which an MP Pooled Account specified by the Agent is denominated and, in the absence of such specification, United States dollars;

"Base Currency Equivalent" means, as at the time calculated, (i) for any amount denominated in the Base Currency, that amount, and (ii) for any amount denominated in any other currency, such amount notionally converted into the Base Currency at a market rate determined by the Bank on a daily basis;

"Credit Balance" means, in relation to each Company, the aggregate of all sums which are from time to time deposited in and standing to the credit of any MP Pooled Account in the

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name of, or on behalf of the Company together with all interest accruing from time to time in respect of such sums;

"Debit Balance" means, in relation to each Company, the debit balance, if any, shown in any of its MP Pooled Accounts;

"Liabilities" means, in relation to each Company, all present and future obligations and liabilities of that Company to the Bank arising in connection with the MP Pooled Accounts, whether:

- (i) arising under or on account of any overdraft facility provided by the Bank to that Company including all Debit Balances on that Company's MP Pooled Accounts; or
- (ii) arising under this Agreement, including in particular (without limitation) the guarantee and indemnity obligations contemplated in Clause 2,

and all expenses incurred by the Bank in connection with seeking to recover any of the above on a full indemnity basis;

"Offset Ratio" means, in respect of each group of MP Pooled Accounts domiciled with the same Bank Unit (i) with respect to the Pooled Balance on any day in the case of the MPSC Pooling Service, the aggregate Credit Balances domiciled with the Bank Unit as a percentage of the aggregate Debit Balances domiciled with the Bank Unit at the end of that day; and (ii) with respect to the Pooled Balance on any day in the case of the MPCC Pooling Service, the aggregate Credit Balances domiciled with the Bank Unit (as notionally converted by the Bank into its Base Currency Equivalent) as a percentage of the aggregate Debit Balances domiciled with the Bank Unit (as notionally converted by the Bank into its Base Currency Equivalent) at the end of that day;

"Pooled Balance" means, in respect of each group of MP Pooled Accounts domiciled with the same Bank Unit (i) in the case of the MPSC Pooling Service, the notional net balance obtained by adding together the Credit Balances and the Debit Balances on MP Pooled Accounts denominated in the same currency and domiciled with the Bank Unit, and (ii) in the case of the MPCC Pooling Service, the notional net balance expressed in the Base Currency obtained by adding together the Base Currency Equivalents of the Credit Balances and the Debit Balances on MP Pooled Accounts denominated in different currencies and domiciled with the Bank Unit;

"Process Agent" means the Process Agent which is identified as such in the applicable Set Up Form; and

"Total Liabilities" means the aggregate Liabilities of all the Companies.

SCHEDULE 1 TO MULTI PARTY NOTIONAL CASH POOLING

SERVICE TERMS AND CONDITIONS ANNEX

Form of Board Resolution for Company

[On the notepaper of [•] (the "Company") - delete as applicable]

Minutes of a meeting of the directors of the Company held at [] on [],

Present: [] (in the chair)

1. [] was appointed chairman of the meeting. The chairman reported that notice of the meeting had been given to all the directors in accordance with the Company's constitution and that the meeting had been duly convened.
2. [The chairman reported on the proposal that the Company accede to a Customer Liquidity Agreement dated 20 between Bank of America, N.A. (the "**Bank**") and various companies within the Company's trading group pursuant to which certain liquidity services (the "Services") are or will be provided by the Bank to all or some of those companies (the "Agreement"), including the Multi Party Notional Cash Pooling Service (as defined in the Agreement).]/[The chairman reported on the proposal that the Company, a party to a Customer Liquidity Agreement dated 20 between Bank of America, N.A. (the "**Bank**") and various companies within the Company's trading group pursuant to which certain liquidity services (the "Services") are or will be provided by the Bank to all or some of those companies (the "Agreement"), including the Multi Party Notional Cash Pooling Service (as defined therein) participates in such Multi Party Notional Cash Pooling Service.] — **delete as applicable**
3. There were produced to the meeting [:
(1)] a copy of the Agreement [; and
(2)] a draft accession deed (the "Accession Instrument")].
4. The Chairman explained to the meeting [the fact that the Company is to act as the Customer under the Agreement and therefore have responsibility in acting as agent for other group companies,] the Services in which the Company proposes to participate and the purpose of the Company's proposed participation in the Services. He further explained the nature of the guarantee obligations of the Company as a party to the Multi Party Notional Cash Pooling Service.
5. It was resolved that, having had regard to all matters the directors considered relevant (including those set out in Section 172 Companies Act 2006), they consider that entry into the Agreement would promote the success of the Company for the benefit of its members as a whole.
6. It was resolved that the Company [enter into/accede to] the Agreement [by executing the Accession Instrument].
7. It was resolved that the Company appoint the Customer to act as its agent in accordance with the Agreement.

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8. It was resolved that each of [•],[•] and [•] be authorised severally and/or jointly to execute the [Agreement/Accession Instrument] and to undertake any further arrangements or executions required in connection with the Agreement.
9. The meeting then ended.

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[Chairman]

SCHEDULE 2 TO MULTI PARTY NOTIONAL CASH POOLING

SERVICE TERMS AND CONDITIONS ANNEX

Country specific provisions

1. Each Company that is a limited liability company registered in Norway further undertakes to the Bank and each of the Affiliate Banks that:
 - (a) it shall during the tenor of this Agreement take reasonable steps in order to ascertain its compliance with the Norwegian Company Acts section 8-7-4, specifically concerning the requirement that it belongs to the group in accordance with such Acts section 1-3, and that the funds in its Accounts are solely employed for group operations;
 - (b) if it becomes aware that the requirements of the said section 8-7-4 are no longer being complied with, then it will notify the Bank in writing without delay, and if possible try to cure any such non-compliance; and
 - (c) it shall indemnify the Bank and each of the Affiliate Banks against and hold them harmless from any Damages incurred or suffered by the Bank or that Affiliate Bank arising out of or relating to any breach by it of its above undertakings in this paragraph 1.
2. Each Company that is incorporated or established under Swiss law further undertakes to the Bank and each of the Affiliate Banks that:
 - (a) it shall ensure that the aggregate of all sums which are from time to time deposited in and standing to the credit of any of its Accounts (together with all interest accruing from time to time in respect of such sums) will not at any time exceed the amount of the profits and reserves of the Company available for distribution (in each case in accordance with the Swiss Code of Obligations) at that time; and
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 - (b) it shall indemnify the Bank and each of the Affiliate Banks against and hold them harmless from any Damages incurred or suffered by the Bank or that Affiliate Bank arising out of or relating to any breach by such Company of its undertaking in subparagraph (a) above.
3. Notwithstanding the terms of Clause 2.2 of this Annex, the maximum amount for which each Company registered in Italy shall be liable under that Clause in respect of the Liabilities of each other Company shall not at any time exceed an amount equal to the lower of (i) the aggregate of the Credit Balances on all of its Accounts with the Bank at that time; and (ii) USD Dollars ten billion (USD \$10,000,000,000). Each such Company registered in Italy further undertakes to the Bank and each of the Affiliate Banks that:
 - (a) it shall ensure at all times during the tenor of this Agreement that its Credit Balances are less than the amount designated in sub-paragraph (ii) above; and
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 - (b) it shall indemnify the Bank and each of the Affiliate Banks against and hold them harmless from any Damages incurred or suffered by the Bank arising out of or relating to any breach by it of its undertaking in sub-paragraph (a) above.

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4. Each Company that is incorporated or established under Hungarian law further undertakes to the Bank and each of the Affiliate Banks that:
- (a) it shall ensure that the aggregate of all sums which are from time to time deposited in and standing to the credit of any of its Accounts (together with all interest accruing from time to time in respect of such sums) will not at any time exceed the amount of the profits and reserves of the Company available for distribution (in each case in accordance with the applicable Hungarian laws and regulations) at that time; and
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 - (b) it is a Customer Affiliate and undertakes to inform the Bank through the Customer if it ceases to exist being a Customer Affiliate; and
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 - (c) it has not instigated any insolvency related proceedings, nor have any insolvency related proceedings been taken, started or threatened against it; and
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 - (d) it shall indemnify the Bank and each of the Affiliate Banks against and hold them harmless from any Damages incurred or suffered by the Bank or that Affiliate Bank arising out of or relating to any breach by such Company of its undertaking in this clause 4.
5. Each Company that is incorporated or established under Slovakian law further undertakes to the Bank and each of the Affiliate Banks that:
- (a) it shall ensure that its Liabilities, in addition to all its other liabilities, are limited to the value of its net assets;
 - (b) it has not instigated any insolvency related proceedings, nor have any insolvency related proceedings been taken, started or threatened against it, and it is not insolvent (*platobne neschopna*) or indebted (*predlzena*) as these terms are defined in the Slovak Bankruptcy Act; and
 - (c) it shall indemnify the Bank and each of the Affiliate Banks against and hold them harmless from any Damages incurred or suffered by the Bank or that Affiliate Bank arising out of or relating to any breach by such Company of its undertaking in this clause 5.

Pool Benefit Distribution Service Terms and Conditions

These terms and conditions (the **"Pool Benefit Distribution Terms"**) relate to each pool benefit distribution arrangement (each, as may from time to time be amended, a **"Pool Benefit Distribution Arrangement"**) which the Bank may from time to time agree with the Customer in connection with the Account specified in the applicable Set Up Form (each, a **"Pool Benefit Distribution Account"**) which are maintained with the Bank by the relevant Company/ies specified in the applicable Set Up Form.

The Bank will distribute the pool benefit calculated at a notional pool level to the Pool Benefit Distribution Accounts in accordance with the applicable Set Up Form.

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Customer Liquidity Agreement/OC12017

[illegible]

MULTI-CUURENCY NOTIONAL POOL SET UP FORM

(FORM ATTACHED)

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Iberdrola SA

Agent *(if applicable)*

Process Agent Details

Name:

Scottish Power Ltd

Address:

320 ST VINCENT STREET

GLASGOW SCOTLAND

Postal Code

G25AD

SIGNATORIES:

In witness OF WHICH THIS Set Up Form has been executed on 11/3/2017

The Customer

FULL NAME OF SIGNATORY *(in block letters)*

U

U

VANESSA EDESA VERDE

U

U

TITLE *(in block letters)*

U

ATTORNEY-IN-FACT

SIGNATURE

/s/Vanessa Edesa Verde

(signature verified seal)

The Bank of America, N.A.

FULL NAME OF SIGNATORY *(in block letters)*

MBRUCK

U

TITLE *(in block letters)*

VICE-PRESIDENT

12/1/2017

U

FULL NAME OF SIGNATORY *(in block letters)*

JAVIER JULIO PASTOR ZUAZAGA

U

TITLE *(in block letters)*

ATTORNEY-IN-FACT

SIGNATURE

/s/ Javier Julio Pastor Zuazaga

(signature verified seal)

SIGNATURE

/s/ MBRUCK

LIST OF SUBSIDIARIES OF Avangrid, Inc.

Name of Subsidiary	U	State or Jurisdiction of Incorporation Or Organization
Avangrid Networks, Inc.(1)*	U	Maine
New York State Electric & Gas Corporation(2)	U	New York
Rochester Gas and Electric Corporation (2)	U	New York
Central Maine Power Company(2)	U	Maine
Maine Natural Gas Corporation(2)	U	Maine
UIL Holdings Corporation.(2)	U	Connecticut
The United Illuminating Company(5)	U	Connecticut
The Southern Connecticut Gas Company(5)	U	Connecticut
Connecticut Natural Gas Corporation(5)	U	Connecticut
The Berkshire Gas Company(5)	U	Massachusetts
Avangrid Renewables Holdings, Inc.(1)*	U	Delaware
Avangrid Renewables, LLC(3)	U	Oregon
Enstor Gas, LLC(3)*	U	Delaware
Enstor Energy Services, LLC(4)	U	Delaware
Enstor, Inc.(4)	U	Oregon

(1) Subsidiary of Avangrid, Inc.

(2) Subsidiary of Avangrid Networks, Inc.

(3) Subsidiary of Avangrid Renewables Holdings, Inc. On February 16, 2018, Avangrid, Inc. entered into a definitive agreement to sell Enstor Gas, LLC. Closing is expected to be completed during the second quarter of 2018.

(4) Subsidiary of Enstor Gas, LLC. On March 1, 2018, Avangrid, Inc. closed a transaction to sell Enstor Energy Services, LLC.

(5) Subsidiary of UIL Holdings Corporation

* Holding Company

Consent of Independent Registered Public Accounting Firm

The Board of Directors

Avangrid, Inc.:

We consent to the incorporation by reference in the registration statement (No. 333-221502) on Form S-3 and registration statements (No. 333-212606 and No. 333-208571) on Form S-8 of Avangrid, Inc. of our reports dated March 26, 2018, with respect to the consolidated balance sheet of Avangrid, Inc. as of December 31, 2017, and the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year ended December 31, 2017, and the related notes and financial statement schedule I (collectively, the “consolidated financial statements”), and the effectiveness of internal control over financial reporting as of December 31, 2017, which reports appear in the December 31, 2017 annual report on Form 10-K of Avangrid, Inc.

Our report dated March 26, 2018, on the effectiveness of internal control over financial reporting as of December 31, 2017, expresses our opinion that Avangrid, Inc. did not maintain effective internal control over financial reporting as of December 31, 2017 because of the effect of a material weakness on the achievement of the objectives of the control criteria and contains an explanatory paragraph that states that management has identified certain deficiencies that rose to the level of a material weakness in controls related to the measurement and disclosure of income taxes.

/s/ KPMG LLP

New York, New York
March 26, 2018

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-3 No. 333-221502) and in the related Prospectus of Avangrid, Inc. pertaining to Avangrid, Inc.'s registration of common stock, debt securities, warrants, purchase contracts and units,
- (2) Registration Statement (Form S-8 No. 333-212616) pertaining to Avangrid, Inc.'s common stock to be available for issuance under the Avangrid, Inc. Omnibus Incentive Plan, and
- (3) Registration Statement (Form S-8 No. 333-208571) pertaining to Avangrid, Inc.'s common stock to be available for issuance under the UIL Holdings Corporation 2008 Stock and Incentive Compensation Plan and the UIL Holdings Corporation Deferred Compensation Plan;

of our report dated March 10, 2017 (except Note 2, as to which the date is March 26, 2018), with respect to Avangrid, Inc.'s consolidated financial statements and schedule as of December 31, 2016 and for each of the two years in the period ended December 31, 2016, included in its Annual Report (Form 10-K) for the year ended December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

New York, NY
March 26, 2018

CERTIFICATION

I, James P. Torgerson, certify that:

1. I have reviewed this annual report on Form 10-K of Avangrid, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 26, 2018

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U/s/ James P. Torgerson

UJames P. Torgerson
UDirector and Chief Executive Officer

CERTIFICATION

I, Richard J. Nicholas, certify that:

1. I have reviewed this annual report on Form 10-K of Avangrid, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 26, 2018

/s/ Richard J. Nicholas
Richard J. Nicholas
Chief Financial Officer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. 1350, the undersigned, James P. Torgerson and Richard J. Nicholas, the Chief Executive Officer and Chief Financial Officer, respectively, of Avangrid, Inc. (the "issuer"), do each hereby certify that the report on Form 10-K to which this certification is attached as an exhibit (the "report") fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and that information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

/s/ James P. Torgerson

James P. Torgerson
Director and Chief Executive Officer
Avangrid, Inc.
March 26, 2018

/s/ Richard J. Nicholas

Richard J. Nicholas
Chief Financial Officer
Avangrid, Inc.
March 26, 2018



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.6-13 Avangrid Renewables Accounts 2016

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2016

Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____
Commission File No. 001-37660



Avangrid, Inc.

(Exact name of registrant as specified in its charter)

New York
(State or other jurisdiction of
incorporation or organization)
157 Church Street
New Haven, Connecticut
(Address of principal executive offices)

U 4911 U
U (Primary Standard Industrial
Classification Code Number)

14-1798693
(I.R.S. Employer
Identification No.)

06506
(Zip Code)

Telephone: (207) 688-6000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>U</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$0.01 par value per share par value		New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for shorter period that the registrant was required to submit and post such files).
Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐
Non-accelerated filer ☐ (Do not check if a smaller reporting company) Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the Avangrid, Inc.'s voting stock held by non-affiliates, computed by reference to the price at which the common equity was last sold as of the last business day of Avangrid, Inc.'s most recently completed second fiscal quarter (June 30, 2016) was \$2,576 million based on a closing sales price of \$46.06 per share.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 309,068,730 shares of common stock, par value \$0.01, were outstanding as of March 9, 2017.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the documents listed below have been incorporated by reference into the indicated parts of this report, as specified in the responses to the item numbers involved.

Designated portions of the Proxy Statement relating to the 2017 Annual Meeting of the Shareholders are incorporated by reference into Part III to the extent described therein.

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GLOSSARY OF TERMS AND ABBREVIATIONS

Unless the context indicates otherwise, the terms “we,” and “our” are used to refer to AVANGRID and its subsidiaries.

Consent order refers to the partial consent order issued by DEEP in August 2016.

English station site refers to the former generation site on the Mill River in New Haven, Connecticut.

GenConn Devon refers to GenConn’s peaking generating plant in Devon, Connecticut.

GenConn Middletown refers to GenConn’s peaking generating plant in Middletown, Connecticut.

Ginna refers to the Ginna Nuclear Power Plant, LLC and the R.E. Ginna Nuclear Power Plant.

Iberdrola Group refers to the group of companies controlled by Iberdrola, S.A.

Iberdrola refers to Iberdrola, S.A., which owns 81.5% of the outstanding shares of Avangrid, Inc.

Installed capacity refers to the production capacity of a power plant or wind farm based either on its rated (nameplate) capacity or actual capacity.

Joint Proposal refers to the proposal, filed with the NYPSC on February 19, 2016 by NYSEG, RG&E and other signatory parties for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016.

Klamath Plant refers to the Klamath gas-fired cogeneration facility located in the city of Klamath, Oregon.

Merger Agreement refers to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among Avangrid, Inc., Green Merger Sub, Inc. and UIL Holdings Corporation.

NED pipeline refers to TGP’s proposed Northeast Energy Direct project.

Non-GAAP refers to the financial measures that are not prepared in accordance with U.S. GAAP, including adjusted gross margin, adjusted EBITDA, adjusted net income and adjusted earnings per share.

Yankee Companies refers to the Maine Yankee Atomic Power Company, the Connecticut Yankee Power Corporation, and the Yankee Atomic Energy Corporation.

AMI	Automated Metering Infrastructure
AOCI	Accumulated other comprehensive income
ARHI	Avangrid Renewables Holdings, Inc.
ASC	Accounting Standards Codification
Asnat	Asnat Realty, LLC
Army Corps	U.S. Army Corps of Engineers
ARO	Asset retirement obligation
AVANGRID	Avangrid, Inc.
Bcf	One billion cubic feet
BGC	The Berkshire Gas Company
BGEPA	Bald and Golden Eagle Protection Act
BLM	U.S. Bureau of Land Management
BMG	Bank Mendes Gans, N.V.
Cayuga	Cayuga Operating Company, LLC

^U CENG	Constellation Energy Nuclear Group, LLC
CfDs	Contracts for Differences
CFTC	Commodity Futures Trading Commission
CL&P	The Connecticut Light and Power Company
CMP	Central Maine Power Company
CNG	Connecticut Natural Gas Corporation
^U CNG	Connecticut Natural Gas Corporation
^U DCF	Discounted cash flow
DEEP	Connecticut Department of Energy and Environmental Protection
DER	Distributed energy resources
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act
DOE	Department of Energy
DOJ	Department of Justice
DPA	Deferred Payment Arrangements
DPU	Massachusetts Department of Public Utilities
DSIP	Distributed System Implementation Plan
DSP	Distributed System Platform
DTh	Dekatherm
EAMs	Earnings adjustment mechanisms
EBITDA	Earnings before interest, taxes, depreciation and amortization
EPA	Environmental Protection Agency
EPAct 2005	Energy Policy Act of 2005
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
ESC	Earnings Smart Community
ESM	Earnings sharing mechanism
Evergreen Power	Evergreen Power III, LLC
Exchange Act	The Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
FirstEnergy	FirstEnergy Corp.
FPA	Federal Power Act
Gas	Enstor Gas, LLC
GenConn	GenConn Energy LLC
^U Ginna Facility	R.E. Ginna Nuclear Power Plant
^U GNPP	Ginna Nuclear Power Plant, LLC.
^U GSRP	Greater Springfield Reliability Project

HLP	Hazardous Liquids Pipeline Safety Act of 1979
IRP	Interstate Reliability Project
IRS	Internal Revenue Service
ISO	Independent system operator
ISO-NE	ISO New England, Inc.
Kinder Morgan	Kinder Morgan, Inc.
kV	Kilovolts
kWh	Kilowatt-hour
LIBOR	London Interbank Offer Rate
LNG	Liquefied natural gas
LNS	Local Network Service
U	
MBTA	Migratory Bird Treaty Act
Mcf	One thousand cubic feet
Merger Sub	Green Merger Sub, Inc.
MEPCO	Maine Electric Power Corporation
U	
MGP	Manufactured gas plants
MISO	Midcontinent Independent System Operator, Inc.
U	
MHI	Mitsubishi Heavy Industries
MNG	Maine Natural Gas Corporation
U	
MPRP	Maine Reliability Power Program
U	
MPUC	Maine Public Utilities Commission
U	
MtM	Mark-to-market
U	
MW	Megawatts
U	
MWh	Megawatt-hours
U	
NAV	Net asset value
U	
NEEWS	New England East West Solution
U	
NEPA	National Environmental Policy Act
U	
NERC	North American Electric Reliability Corporation
U	
NETOs	New England Transmission Owners
U	
Networks	Avangrid Networks, Inc.
U	
New York TransCo	New York TransCo, LLC.
U	
NIPSCO	Northern Indiana Public Service Company
U	
NGA	Natural Gas Act of 1938
U	
NGPSA	Natural Gas Pipeline Safety Act of 1968
U	
NOL	Net operating loss
U	
NPNS	Normal purchases and normal sales

^U	
NYISO	New York Independent System Operator, Inc.
^U	
NYPA	New York Power Authority
^U	
NYPSC	New York State Public Service Commission
^U	
NYSE	New York Stock Exchange
^U	
NYSEG	New York State Electric & Gas Corporation
^U	
OATT	Open Access Transmission Tariiff
^U	
OCC	Office of Consumer Counsel
^U	
OCI	Other comprehensive income
^U	
OSHA	Occupational Safety and Health Act, as amended
^U	
PCB	Polychlorinated Biphenyls
^U	
PHMSA	Pipeline and Hazardous Materials Safety Administration
^U	
PPA	Power purchase agreement
^U	
PTF	Pool Transmission Facilities
^U	
PUCT	Public Utility Commission of Texas
^U	
PUHCA 2005	Public Utility Holding Company Act of 2005
^U	
PURA	Connecticut Public Utilities Regulatory Authority
^U	
RAM	Rate Adjustment Mechanism
^U	
RCRA	Resource Conservation and Recovery Act
^U	
RDM	Revenue decoupling mechanism
^U	
REC	Renewable Energy Certificate
^U	
RFP	Request for Proposals
^U	
Renewables	Avangrid Renewables, LLC
^U	
REV	Reforming the Energy Vision
^U	
RG&E	Rochester Gas and Electric Corporation
^U	
ROE	Return on equity
^U	
RNS	Regional Network Service
^U	
RPS	Renewable Portfolio Standards
^U	
RSSA	Reliability Support Services Agreement
^U	
RTO	Regional transmission organizations
^U	
SCG	The Southern Connecticut Gas Company
^U	
Scottish Power	Scottish Power Ltd.
^U	
SEC	United States Securities and Exchange Commission
^U	
SPHI	Scottish Power Holdings, Inc.
^U	
TEF	Tax equity financing arrangements
^U	
TGP	Tennessee Gas Pipeline Company LLC
^U	
TOTS	Transmission Owner Transmission Solutions
^U	
UI	The United Illuminating Company

UIL	UIL Holdings Corporation
U.S. GAAP	Generally accepted accounting principles for financial reporting in the United States.
U VaR	Value-at-risk
U VIEs	Variable interest entities
U WECC	Western Electricity Coordinating Council

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

References in this Annual Report on Form 10-K to "AVANGRID," "the Company," "we," "our," and "us" refer to Avangrid, Inc. and its consolidated subsidiaries. This Annual Report on Form 10-K contains a number of forward-looking statements. Forward-looking statements may be identified by the use of forward-looking terms such as "may," "will," "should," "can," "expects," "believes," "anticipates," "intends," "plans," "estimates," "projects," "assumes," "guides," "targets," "forecasts," "is confident that" and "seeks" or the negative of such terms or other variations on such terms or comparable terminology. Such forward-looking statements include, but are not limited to, statements about our plans, objectives and intentions, outlooks or expectations for earnings, revenues, expenses or other future financial or business performance, strategies or expectations, or the impact of legal or regulatory matters on business, results of operations or financial condition of the business and other statements that are not historical facts. Such statements are based upon the current beliefs and expectations of our management and are subject to significant risks and uncertainties that could cause actual outcomes and results to differ materially. Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, without limitation:

- the future financial performance, anticipated liquidity and capital expenditures of the Company;
- actions or inactions of local, state or federal regulatory agencies;
- success in retaining or recruiting, our officers, key employees or directors;
- changes in levels or timing of capital expenditures;
- adverse developments in general market, business, economic, labor, regulatory and political conditions;
- fluctuations in weather patterns;
- technological developments;
- the impact of any cyber-breaches, grid disturbances, acts of war or terrorism or natural disasters; and
- the impact of any change to applicable laws and regulations affecting operations, including those relating to environmental and climate change, taxes, price controls, regulatory approval and permitting; and
- other presently unknown unforeseen factors.

Additional risks and uncertainties are set forth under Part I, Item 1A, "Risk Factors" in this report. Should one or more of these risks or uncertainties materialize, or should any of the underlying assumptions prove incorrect, actual results may vary in material respects from those expressed or implied by these forward-looking statements. You should not place undue reliance on these forward-looking statements. We do not undertake any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this report, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. Other risk factors are detailed from time to time in our reports filed with the Securities and Exchange Commission, or SEC, and we encourage you to consult such disclosures.

PART I

Item 1. Business

Overview

Avangrid, Inc., or AVANGRID, formerly Iberdrola USA, Inc., is a New York corporation headquartered in New Haven, Connecticut. AVANGRID is a diversified energy and utility company with more than \$30 billion in assets and operations in 26 states. The company operates regulated utilities and electricity generation through two primary lines of business. Avangrid Networks includes eight electric and natural gas utilities, serving 3.1 million customers in New York and New England. Avangrid Renewables operates 6.5 gigawatts of electricity capacity, primarily through wind power, in states across the United States. AVANGRID employs approximately 7,000 people. The company was formed by a merger between Iberdrola USA, Inc. and UIL Holdings Corporation, or UIL, in 2015. Iberdrola S.A., a corporation (*sociedad anónima*) organized under the laws of the Kingdom of Spain, a worldwide leader in the energy industry, directly owns 81.5% of outstanding shares of AVANGRID common stock. Our primary business is ownership of our operating businesses, which are described below.

Our direct, wholly-owned subsidiaries include Avangrid Networks, Inc., or Networks, and Avangrid Renewables Holdings, Inc., or ARHI. ARHI in turn holds subsidiaries including Avangrid Renewables LLC, or Renewables. Networks, owns and operates our regulated utility businesses through its subsidiaries, including electric transmission and distribution and natural gas distribution, transportation and sales. Renewables operates a portfolio of renewable energy generation facilities primarily using onshore wind power and also solar, biomass and thermal power. The following chart depicts our current organizational structure.



Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 992,000 natural gas public utility customers as of December 31, 2016. The interstate transmission and wholesale sale of electricity by these regulated utilities is regulated by the Federal Energy Regulatory Commission, or FERC, under the Federal Power Act, or FPA, including with respect to transmission rates. Further, Networks' electric and gas distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the New York State Public Service Commission, or NYPSC, the Maine Public Utilities Commission, or MPUC, the Connecticut Public Utilities Regulatory Authority, or PURA, and the Massachusetts Department of Public Utilities, or DPU, respectively. Networks strives to be a leader in safety, reliability and quality of service to its utility customers.

Through Renewables, we had a combined wind, solar and thermal installed capacity of 6,538 megawatts, or MW, as of December 31, 2016, including Renewables' share of joint projects, of which 5,852 MW was installed wind capacity. Approximately 62% of the capacity was contracted as of December 31, 2016, for an average period of 9.5 years. As the second largest wind operator in the United States based on installed capacity as of December 31, 2016, Renewables strives to lead the transformation of the U.S. energy industry to a competitive, clean energy future. Renewables currently operates 54 wind farms in 19 states across the United States.

ARHI also holds a subsidiary, Enstor Gas, LLC, or Gas, which owns non-core natural gas storage and gas trading businesses (Gas) through Enstor Energy Services LLC (gas trading) and Enstor Inc. (gas storage). Through Gas, as of December 31, 2016, we own approximately 67.5 billion cubic feet, or Bcf, of net working gas storage capacity. Gas operates 52.4 Bcf of contracted or managed natural gas storage capacity in North America through Enstor Energy Services, LLC, as of December 31, 2016.

Further information regarding the amount of revenues from external customers, including revenues by products and services, a measure of profit or loss and total assets for each segment for each of the last three fiscal years is provided in Note 23 to our audited consolidated financial statements contained in this Annual Report on Form 10-K.

History

We were incorporated in 1997 as a New York corporation under the name NGE Resources, Inc. and subsequently changed our name to Energy East Corporation. The stock of Energy East Corporation was publicly traded on the New York Stock Exchange, or the NYSE. In 2007, Iberdrola, S.A. acquired Scottish Power Ltd., or Scottish Power, including ScottishPower Holdings, Inc., or SPHI, the parent company of Scottish Power's U.S. subsidiaries. Through this acquisition, Iberdrola, S.A. acquired PPM Energy, a subsidiary that operated SPHI's U.S. wind business, thermal generation operations and the gas storage and energy management businesses and changed PPM Energy's name to Renewables. In 2008, Iberdrola, S.A. acquired Energy East Corporation and we changed our name to Iberdrola USA, Inc. in December 2009. In 2013, we completed an internal corporate reorganization to create a unified corporate presence for the Iberdrola brand in the United States, bringing all of its U.S. energy companies under one single holding company, Iberdrola USA, Inc. The internal reorganization, completed in November 2013, resulted in the concentration of our principal businesses in two major subsidiaries: Networks, which holds all of our regulated utilities; and Renewables, which holds our renewable and thermal generation businesses, and gas storage and marketing businesses.

We were the corporate parent of The Southern Connecticut Gas Company, or SCG, Connecticut Natural Gas Corporation, or CNG and The Berkshire Gas Company, or BGC, prior to UIL acquiring those companies in 2010.

On December 16, 2015, we completed an acquisition of UIL, pursuant to which UIL merged with and into our wholly-owned subsidiary, Green Merger Sub, Inc., or Merger Sub, with Merger Sub surviving as our wholly-owned subsidiary. The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, or the Merger Agreement, by and among us, Merger Sub, and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation" and we were renamed Avangrid, Inc. Immediately following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola owned the remaining shares. Effective as of April 30, 2016, UIL and its subsidiaries were transferred to a wholly-owned subsidiary of Networks.

Networks

Overview

Networks, holds our regulated utility businesses, including electric generation, transmission and distribution and natural gas distribution, transportation and sales. Networks serves as a super-regional energy services and delivery company through eight regulated utilities it owns directly:

- New York State Electric & Gas Corporation, or NYSEG, which serves electric and natural gas customers across more than 40% of the upstate New York geographic area;
- Rochester Gas and Electric, or RG&E, which serves electric and natural gas customers within a nine-county region in western New York, centered around Rochester;
- The United Illuminating Company, or UI, which serves electric customers in southwestern Connecticut;
- Central Maine Power Company, or CMP, which serves electric customers in central and southern Maine;
- SCG, which serves natural gas customers in Connecticut;
- CNG, which serves natural gas customers in Connecticut;
- BGC, which serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation, or MNG, which serves natural gas customers in several communities in central and southern Maine.

For the year ended December 31, 2016, Networks distributed approximately 37,027,000 megawatt-hours, or MWh, of electricity. As of December 31, 2016, Networks provided electric service to its approximately 2.2 million customers in the states of New York, Maine and Connecticut. In total, the electric system of Networks' regulated utilities consisted of 8,482 miles of transmission lines, 70,916 miles of distribution lines and 826 substations as of December 31, 2016. Furthermore, for the year ended December 31, 2016, Networks delivered approximately 182 million dekatherms, or DTh, of natural gas, to approximately 992,000 customers, providing service in the states of New York, Maine, Connecticut and Massachusetts.

The demand for electric power and natural gas is affected by seasonal differences in the weather. Demand for electricity in each of the states in which Networks operates tends to increase during the summer months to meet cooling load or in winter months for heating load while statewide demand for natural gas tends to increase during the winter to meet heating load.

The following table sets forth certain information relating to the, rate base, number of customers and the amount of electricity or natural gas provided by each of Networks' regulated utilities for the year ended December 31, 2016:

Utility	Rate Base ⁽¹⁾ (in billions)	Electricity Customers	Electricity Delivered (in MWh)	Natural Gas Customers	Natural Gas Delivered (in DTh)
	December 31, 2016	December 31, 2016	For the year ended December 31, 2016	December 31, 2016	For the year ended December 31, 2016
NYSEG	\$ 2.3	890,258	15,461,000	264,825	53,446,000
RG&E	\$ 1.5	375,912	7,187,000	310,621	49,373,000
CMP	\$ 2.2	619,312	9,045,000	—	—
MNG	\$ 0.1	—	—	4,456	1,204,000
UI	\$ 1.5	332,998	5,334,000	—	—
SCG	\$ 0.5	—	—	196,232	33,146,000
CNG	\$ 0.4	—	—	176,420	35,673,000
BGC	\$ 0.1	—	—	39,813	9,528,000

(1) "Rate base" means the net assets upon which a utility can receive a specified return, based on the value of such assets. The rate base is set by the relevant regulatory authority and typically represents the value of specified property, such as plants, facilities and other investments of the utility. These rate base values have been calculated using the best estimates as of December 31, 2016.

During the last five years, Networks has invested nearly \$5.8 billion in creating a delivery network with greater capacity and improved reliability, environmental security and sustainability, efficiency and automation. Networks continuously improves its grid to accommodate new requirements for advanced metering, demand response and enhanced outage management, while improving its flexibility for the integration and management of distributed energy resources, or DER.

New York

As of December 31, 2016, NYSEG served approximately 890,000 electricity customers and 265,000 natural gas customers across more than 40% of upstate New York's geographic area, while RG&E served approximately 375,000 electricity customers and 310,000 natural gas customers in a nine-county region centered around Rochester, in western New York.

In 2016, nine hydroelectric plants owned by NYSEG and RG&E generated nearly 327 million kilowatt-hours, or kWh, of clean hydropower, which is enough energy to power 45,000 homes across New York State, assuming an average electricity consumption of 600 kWh per month per customer. See "— Properties—Networks" for more information regarding Networks' electric generation plants.

Networks also holds an approximate 20% ownership interest in the regulated New York TransCo, LLC, or New York TransCo. Through New York TransCo, Networks has formed a partnership with Central Hudson Gas and Electric Corporation, Consolidated Edison, Inc., National Grid, plc, and Orange and Rockland Utilities, Inc. to develop a portfolio of interconnected transmission lines and substations to fulfill the objectives of the New York energy highway initiative, a proposal to install up to 3,200 MW of new electric generation and transmission capacity in order to deliver more power generated from upstate New York power plants to downstate New York.

Maine

As of December 31, 2016, CMP delivered electricity to more than 619,000 customers in an 11,000 square-mile service area in central and southern Maine. CMP completed a \$1.4 billion investment plan for the construction of upgrades to the bulk power transmission grid in Maine, the largest transmission investment in the history of Maine, which includes the construction of five new

345-kilovolt, or kV, substations and related facilities linked by approximately 440 miles of new transmission lines (refers to the Maine Power Reliability Program, or MPRP).

CMP also owns 78% of the Maine Electric Power Corporation, or MEPCO, a single-asset 182 mile 345kV electric transmission line from the Maine/New Brunswick border to Wiscasset, Maine.

MNG delivers natural gas to 4,456 customers in central and southern Maine. MNG continues to build out in 12 communities.

Connecticut

As of December 31, 2016, UI served more than 332,000 residential, commercial and industrial customers in a service area of approximately 335 square miles in the southwestern part of Connecticut. The service area includes Bridgeport and New Haven and is home to a diverse array of business sectors including aerospace manufacturing, healthcare, biotech, financial services, precision manufacturing, retail and education. UI's retail electric revenues vary by season, with the highest revenues typically in the third quarter of the year reflecting seasonal rates, hotter weather and air conditioning use.

UI is also a party to a joint venture with certain affiliates of NRG Energy, Inc., pursuant to which UI holds 50% of the membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC, or GenConn, operates peaking generation plants in Devon, Connecticut, or GenConn Devon, and Middletown, Connecticut, or GenConn Middletown.

As of December 31, 2016, SCG and CNG provided local gas distribution services to approximately 373,000 customers in the greater Hartford-New Britain area, Greenwich and the southern Connecticut coast from Westport to Old Saybrook, including the cities of Bridgeport and New Haven.

Massachusetts

As of December 31, 2016, BGC provided local gas distribution services to approximately 40,000 customers in a service area in western Massachusetts, which includes the cities of Pittsfield, North Adams and Greenfield.

Rate Base

These rate base values have been calculated using the best estimates as of December 31, 2016. The rate base of Networks' regulated utilities for the years indicated below have been as follows:

Rate base	2014	2015	2016
	<i>(in millions)</i>		
NYSEG Electric	\$ 1,796	\$ 1,825	\$ 1,828
NYSEG Gas	508	531	490
RG&E Electric	1,111	1,175	1,061
RG&E Gas	444	446	407
Subtotal New York	<u>3,859</u>	<u>3,977</u>	<u>3,786</u>
CMP Dist	739	781	790
CMP Trans	1,467	1,472	1,447
MNG	64	60	69
Subtotal Maine	<u>2,270</u>	<u>2,313</u>	<u>2,306</u>
UI Dist	823	942	972
UI Trans	500	508	544
SCG	461	477	510
CNG	382	396	429
Subtotal Connecticut	<u>2,166</u>	<u>2,323</u>	<u>2,456</u>
BGC	<u>72</u>	<u>91</u>	<u>91</u>
Total	<u>\$ 8,367</u>	<u>\$ 8,704</u>	<u>\$ 8,638</u>

Earnings Sharing Mechanisms

The regulated utilities' rate plans approved by State regulators often include earnings sharing mechanisms, or ESM, that are intended to encourage regulated utilities to operate efficiently. Pursuant to ESMs, if certain of the regulated utilities of Networks earn more than certain threshold amounts, they must share with customers a specified percentage of these earnings. Below is a history of ESMs over the past three years:

	2014	2015	2016
NYSEG Electric	50% / 50%: 10.90% - 11.65% 85% / 15%: over 11.65%; Based on Actual Equity Ratio up to 50%	50% / 50%: 10.90% - 11.65% 85% / 15%: over 11.65%; Based on Actual Equity Ratio up to 50%	50% / 50%: 9.50% - 10.00% 75% / 25%: 10.00% - 10.50% 90% / 10%: over 10.50%; Based on Actual Equity Ratio up to 50% *
NYSEG Gas	Same as above	Same as above	Same as above
RG&E Electric	Same as above	Same as above	Same as above
RG&E Gas	Same as above	Same as above	Same as above
CMP Dist.	No ESM	No ESM	No ESM
CMP Trans.	No ESM	No ESM	No ESM
MNG	No ESM	No ESM	No ESM
UI	50% / 50% over 9.15%	50% / 50% over 9.15%	50% / 50% over 9.15%
SCG	No ESM	No ESM	No ESM
CNG	50% / 50% over 9.18%	50% / 50% over 9.18%	50% / 50% over 9.18%
BGC	No ESM	No ESM	No ESM

*No ESM from January through April 2016.

Merger Settlement Agreement – Connecticut and Massachusetts

As part of the process of seeking and obtaining regulatory approval of the acquisition of UIL in Connecticut and Massachusetts, AVANGRID and UIL reached settlement agreements with the Office of Consumer Counsel, or OCC, in Connecticut and with the Attorney General of the Commonwealth of Massachusetts and the Department of Energy Resources in Massachusetts, which included commitments of certain actions to be taken after the transaction closed. See Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations – Networks" for more information.

In connection with the acquisition proceeding, UI signed a proposed partial consent order, or the consent order, that was issued by the Connecticut Department of Energy and Environmental Protection, or DEEP, in August 2016. The consent order requires UI to investigate and remediate certain environmental conditions within the perimeter of a former generation site on the Mill River in New Haven, the English Station site, that UI sold to Quinnipiac Energy in 2000 and which is currently owned by Evergreen Power, LLC and Asnat Realty LLC. Under the terms of the consent order, to the extent that costs of the investigation and remediation are less than \$30 million, UI is required to remit to the State of Connecticut the difference between such costs and \$30 million, to be applied to a public purpose as determined in the discretion of the Governor, the Attorney General of Connecticut and the Commissioner of DEEP. However, UI is obligated to comply with the consent order, even if the cost of such compliance exceeds \$30 million. See Part I, Item 1, "Business – Environmental, Health and Safety - Management, Disposal and Remediation of Hazardous Substances" for more information.

Renewables

The Renewables business, based in Portland Oregon, is engaged primarily in the design, development, construction, management and operation of generation plants that produce electricity using renewable resources and, with more than 50 renewable energy projects, is one of the leaders in renewable energy production in the United States based on installed capacity. Renewables' primary business is onshore wind energy generation, which represents approximately 90% of Renewables' combined installed capacity as of December 31, 2016. For the year ended December 31, 2016, Renewables produced approximately 14,167,000 MWh of energy through wind power generation. Renewables had a pipeline of approximately 5,900 MW of future renewable energy projects in various stages of development as of December 31, 2016.

Typically, Renewables enters into long-term lease agreements with property owners who lease their land for renewable projects. Electricity generated at a wind project is then transmitted to customers through long-term agreements with purchasers. There are a limited number of turbine suppliers in the market. Renewables' largest turbine suppliers, Gamesa Wind US and GE Wind, in the aggregate supplied turbines which accounted for 70% of its installed wind capacity as of December 31, 2016. In June 2016, Siemens

AG and Gamesa Corporación Tecnológica, S.A. signed a binding agreement to merge their wind power businesses. After completion of the merger, which is expected in the first quarter of 2017, Iberdrola will have 8.1% ownership of the new combined company.

Renewables currently operates 54 wind farms in 19 states across the United States. To monetize the tax benefits resulting from production tax credits and accelerated tax depreciation available to qualifying wind energy projects, Renewables has entered into “tax equity” financing structures with third party investors for a portion of its wind farms. Renewables holds 12 operating wind farms under these structures through limited liability companies jointly owned by one or more third party investors. These investors generally provide an up-front investment or, in some cases, enter into fixed and contingent notes for their membership interests in the financing structures. In return, the investors receive substantially all of the cash flows and tax benefits generated by the wind farms until such benefits achieve a negotiated return on their investment. Upon attainment of this target return, the sharing of the cash flows and tax benefits flip, with Renewables receiving substantially all of these amounts thereafter. We also have an option to repurchase the investor’s interest within a certain timeframe after the target return is met. Renewables maintains operational and management control over the wind farm businesses, subject to investor approval of certain major decisions. See “—Properties—Renewables” for more information regarding Renewables’ wind power generation properties.

Additionally, as part of the Renewables portfolio, Renewables operates two thermal generation facilities in the United States, with 636 MW of combined capacity as of December 31, 2016. Renewables worked closely with the City of Klamath Falls, Oregon to develop the Klamath Plant, which has a current capacity of 536 MW. The Klamath Plant operates by creating two useful forms of energy, electricity and process steam, from a single fuel source of natural gas. In addition, Renewables operates a highly flexible 100 MW Klamath Peaking Plant adjacent to the Klamath Plant, providing customers of Renewables additional capability to meet their peak summer and winter power needs.

In addition to its wind assets, Renewables operates two solar photovoltaic facilities with an installed capacity of 50 MW. The solar photovoltaic facilities produced over 132,000MWh of renewable energy for the year ended December 31, 2016. Solar accounted for 0.9% of the total renewable energy generation from Renewables in these same periods.

Renewables is pursuing the continued development of a large pipeline of wind energy projects in various regions across the United States. Each site features a range of different atmospheric characteristics that ultimately drive the selection of turbine technology for the proposed project. As part of Renewables’ wind resource assessment investigation, critical atmospheric parameters such as mean wind speed, extreme wind speed, turbulence intensity, and mean air density are characterized to represent long-term conditions, for over 20 years. The summary wind characteristics are then combined with a terrain, or orography, analysis to assess siting risks in order to mitigate any future operations and maintenance concerns that may arise due to improper turbine siting.

Renewables maintains close relationships with key turbine suppliers, including Gamesa, GE, Vestas, Siemens, and others in order to identify the turbine technology that safely delivers the lowest cost of energy for each candidate project in its portfolio. Renewables has deployed the following mix of turbines under this strategy. See “—Properties—Renewables” for more information regarding Renewables’ turbine technology.

MFG	Model	Rating	Turbines	MW
Gamesa	G83	2.0	61	122
Gamesa	G87	2.0	643	1,286
Gamesa	G90	2.0	237	474
Gamesa	G97	2.0	101	202
Gamesa	G114	2.0	104	208
GE	1.5s	1.5	133	200
GE	1.5sle	1.5	1,072	1,608
MHI	MWT62/1.0	1.0	45	45
MHI	MWT92/2.4	2.4	168	403
MHI	MWT95/2.4	2.4	125	300
MHI	MWT102/2.4	2.4	1	2
NEG	NM48	0.7	3	2
Siemens	SWT2.3-93	2.3	44	101
Suzlon	S88	2.1	341	716
Vestas	V47	0.7	34	22
Vestas	V82	1.7	97	160
Total			3,209	5,852

The Renewables meteorology team supports the commercial development of wind energy projects in Renewables’ pipeline by performing a wide variety of detailed investigations to characterize the expected wind energy production from a proposed wind farm in its pre-construction phase of development. These investigations include measuring the wind resource with several well-equipped meteorological masts, utilizing state of the art laser-based and acoustic-based remote sensing equipment, computational fluid

dynamics modeling software, and energy modeling software packages that characterize wake losses from any upwind turbines that may be present. The Renewables fleet of measurement masts consists of over 160 towers that are currently in operation. Additionally, a total of 8 light detecting and ranging, and 5 sonic detecting and ranging, remote sensing devices are deployed at sites across the United States. These remote sensing devices allow hub-height wind speed measurement from a ground-based sensor that can be rapidly deployed and moved as the project matures or changes in nature. The resulting pre-construction energy production estimates that utilize these measurements have been shown to be accurate in a multi-year internal study that compares results to actual, operational data in a benchmarking analysis. This study provides a critical feedback loop that is used to define methodology requirements for future pre-construction energy production estimates to ensure confidence in project investment. Renewables' commitment to obtaining robust atmospheric measurement is driven by a company culture that values business case confidence and understands the role that accurate meteorological data play in the pursuit of this goal.

Gas

The Gas business, based in Houston, Texas, operates a natural gas storage and natural gas trading business through its wholly-owned direct subsidiaries, Enstor, Inc., an Oregon corporation (natural gas storage) and Enstor Energy Services, LLC, a Delaware limited liability company (natural gas trading). Gas owns and operates four natural gas storage facilities, with a total storage capacity of 88.5 Bcf and a net working gas storage capacity of 67.5 Bcf. Enstor Operating Company, LLC, a Texas limited liability company and wholly-owned direct subsidiary of Enstor, Inc., manages all four natural gas storage facilities. The demand for natural gas storage is dependent upon the seasonal differences in the weather. Since market prices and temporal price spreads for natural gas reflect the demand for these products and their availability at a given time, the overall operating results of Gas' business may fluctuate substantially on a seasonal basis. Severe weather, such as ice and snow storms, hurricanes and other natural disasters may cause outages, bodily injury or property damage, which may require Gas to incur additional costs, such as operation and maintenance expenses, which may not be recoverable from customers. See "—Properties—Gas" for more information regarding Gas' natural gas storage facilities. Enstor Energy Services, LLC also contracts and manages natural gas storage and pipeline capacity throughout the United States and parts of Canada. Gas operates 52.4 Bcf of contracted or managed natural gas storage capacity in North America through Enstor Energy Services, LLC, as of December 31, 2016.

Regulatory Environment and Principal Markets

Federal Energy Regulatory Commission

Among other things, the FERC regulates the transmission and wholesale sales of electricity in interstate commerce and the transmission and sale of natural gas for resale in interstate commerce. Certain aspects of Networks' businesses, Renewables' competitive generation and Gas' natural gas storage and energy trading businesses are subject to regulation by the FERC.

Pursuant to the FPA, electric utilities must maintain tariffs and rate schedules on file with the FERC, which govern the rates, terms and conditions for the provision of the FERC-jurisdictional wholesale power and transmission services. Unless otherwise exempt, any person that owns or operates facilities used for the wholesale sale or transmission of power in interstate commerce is a public utility subject to the FERC's jurisdiction. The FERC regulates, among other things, the disposition of certain utility property, the issuance of securities by public utilities, the rates, the terms and conditions for the transmission or wholesale sale of power in interstate commerce, interlocking officer and director positions, and the uniform system of accounts and reporting requirements for public utilities.

With respect to Networks' regulated electric utilities in Maine, New York and Connecticut, the FERC governs the return on equity, or ROE, on all transmission assets in Maine and Connecticut and certain Transco assets in New York; FERC also oversees the rates, terms and conditions of transmission of electric energy in interstate commerce, interconnection service in interstate commerce (which applies to independent power generators, for example), and the rates, terms and conditions of wholesale sales of electric energy in interstate commerce, which includes cost-based rates, market-based rates and the operations of regional capacity and electric energy markets in New England administered by an independent entity, ISO New England, Inc., or ISO-NE, and in New York, administered by another independent entity, the New York Independent System Operator, Inc., or NYISO. The FERC approves CMP, UI and NY Transco regulated electric utilities' transmission revenue requirements. Wholesale electric transmission revenues are recovered through formula rates that are approved by the FERC. CMP's, MEPCO's and UI's electric transmission revenues are recovered from New England customers through charges that recover costs of transmission and other transmission-related services provided by all regional transmission owners. NYSEG's and RG&E's electric transmission revenues are recovered from New York customers through charges that recover the costs of transmission, and other transmission-related services provided by all transmission owners in New York. Several of our affiliates have been granted authority to engage in sales at market-based rates and blanket authority to issue securities, and have also been granted certain waivers of the FERC reporting and accounting regulations available to non-traditional public utilities; however, we cannot be assured that such authorizations or waivers will not be revoked for these affiliates or will be granted in the future to other affiliates.

Pursuant to a series of orders involving the ROE for regionally planned New England electric transmission projects, the FERC established a base-level transmission ROE of 11.14%, as well as providing a 50 basis point ROE adder on Pool Transmission Facilities, or PTF, for participation in the RTO for New England and a 100 basis point ROE incentive for projects included in the ISO-NE Regional System Plan that were completed and on line as of December 31, 2008. Certain other transmission projects received authorization for incentives up to 125 basis points.

Since 2011, several parties have filed four separate complaints with the FERC against ISO-NE and several New England transmission owners, including UI and CMP, claiming that the current approved base ROE of 11.14% was not just and reasonable, seeking a reduction of the base ROE and a refund to customers for the 15-month refund periods beginning October 1, 2011, December 27, 2012, July 31, 2014 and April 29, 2016, respectively.

In 2014, the FERC determined that the base ROE should be set at 10.57% for the first complaint refund period and that a utility's total or maximum ROE should not exceed 11.74%. The FERC issued an order consolidating the second and third complaints and establishing hearing procedures. The administrative law judge issued an initial decision in the second and third complaints on March 22, 2016. The initial decision determined that: (1) for the 15 month refund period in the second complaint, the base ROE should be 9.59% and the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and (2) for the 15 month refund period in the third complaint and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The initial decision in the second and third complaints is the administrative law judge's recommendation to the FERC Commissioners. The FERC is expected to make its final decision on the second and third complaints in mid-2017. The FERC has set the fourth complaint for settlement proceedings and hearing, with a final decision expected in 2018.

On March 3, 2015, the FERC issued an Order on Rehearing in the first complaint denying all rehearing requests from the complainants and the New England transmission owners. Appeals of the FERC's decisions on the first complaint are currently pending before the United States Court of Appeals for the D.C. Circuit.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC instituted proceedings because it found that ISO-NE Transmission, Markets, and Services Tariff is unjust, unreasonable, and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE Participating Transmission Owners, including UI, MEPCO and CMP. The FERC also found that the current Regional Network Service, or RNS and Local Network Service, or LNS, formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates. A settlement judge has been appointed and a settlement conference has convened. We are unable to predict the outcome of this proceeding at this time.

The FERC has the right to review books and records of "holding companies," as defined in the Public Utility Holding Company Act of 2005, or PUHCA 2005, that are determined by FERC to be relevant to the companies' respective FERC-jurisdictional rates. We are a holding company, as defined in PUHCA 2005.

The FERC has civil penalty authority over violations of any provision of Part II of the FPA, as well as any rule or order issued thereunder. FERC is authorized to assess a maximum civil penalty of \$1.0 million per violation for each day that the violation continues. The FPA also provides for the assessment of criminal fines and imprisonment for violations under Part II of the FPA. Pursuant to the Energy Policy Act of 2005, or EPCA 2005, the North American Electric Reliability Corporation, or NERC, has been certified by the FERC as the Electric Reliability Organization for North America responsible for developing and overseeing the enforcement of electric system reliability standards applicable throughout the United States. FERC-approved reliability standards may be enforced by the FERC independently, or, alternatively, by NERC and the regional reliability organizations with frontline responsibility for auditing, investigating and otherwise ensuring compliance with reliability standards, subject to the FERC oversight.

Gas' current natural gas storage operations in the United States are subject to the jurisdiction of the FERC under the Natural Gas Act of 1938, or NGA, as a Section 7(c) natural gas storage provider and by providing interstate storage and storage related services under Section 311 of the Natural Gas Policy Act of 1978, at market based rates. Gas' interstate and intrastate high-deliverability multi-cycle natural gas storage service projects and operations are subject to FERC regulation under the NGA for rates and terms of service.

The gas distribution operations of NYSEG, RG&E, SCG, CNG and BGC, similar to Gas, are also subject to the FERC regulation with respect to their gas purchases/sales and contracted transportation/storage capacity. FERC has civil penalty authority under the NGA to impose penalties for certain violations of up to \$1.0 million per day for violations. FERC also has the authority to order the disgorgement of profits from transactions deemed to violate the NGA and EPCA 2005.

Market Anti-Manipulation Regulation

The FERC and the Commodity Futures Trading Commission, or CFTC, monitor certain segments of the physical and futures energy commodities market pursuant to the FPA and the Commodity Exchange Act, including our businesses' energy transactions and operations in the United States. In July 2010, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, which incorporated an expansion of the authority of the CFTC to prohibit market manipulation in the markets regulated by the CFTC. With regard to the physical purchases and sales of electricity and natural gas, the gathering storage, transmission and delivery of these energy commodities and any related trading or hedging transactions that some of our operating subsidiaries undertake, our operating subsidiaries are required to observe these anti-market manipulation laws and related regulations enforced by the FERC and CFTC. The FERC and CFTC hold substantial enforcement authority, including the ability to assess civil penalties of up to \$1.0 million per day per violation, to order disgorgement of profits and to recommend criminal penalties.

State Regulation

Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the applicable state public utility commissions, including with regard to their rates, terms and conditions of service, issuance of securities, purchase or sale of utility assets and other accounting and operational matters. NYSEG and RG&E are subject to regulation by the NYPSC; CMP and MNG are subject to regulation by the MPUC; UI, SCG and CNG are subject to regulation by the PURA; and BGC is subject to regulation by the DPU. The NYPSC, MPUC and the Connecticut Siting Council, or CSC, exercise jurisdiction over the siting of electric transmission lines in their respective states, and each of the NYPSC, MPUC, PURA and DPU exercise jurisdiction over the approval of certain mergers or other business combinations involving Networks' regulated utilities. In addition, each of the utility commissions has the authority to impose penalties on these regulated utilities, which could be substantial, for violating state utility laws and regulations and their orders.

Networks' regulated distribution utilities deliver electricity and/or natural gas to all customers in their service territory at rates established under cost of service regulation. Under this regulatory structure, Networks' regulated distribution utilities recover the cost of providing distribution service to their customers based on its costs, and earn a return on their capital investment in utility assets.

The following provides a summary of Networks regulated utilities' most recent rate cases:

- *New York.* On May 20, 2015 NYSEG and RG&E initiated a distribution rate case to ensure that the companies are able to continue to provide safe, adequate and reliable service, continue to make investments to modernize infrastructure, enhance low income programs and improve both gas and electric reliability, while maintaining the Companies' financial integrity. On February 19, 2016, NYSEG, RG&E and other signatory parties filed a joint proposal, or the proposal, with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016. The proposal was approved on June 15, 2016 by the NYPSC. The proposal balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The proposal reflects many customer benefits including acceleration of the companies' natural gas leak prone main replacement programs and increased funding for electric vegetation management to provide continued safe and reliable service. The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%. The proposal includes an ESM applicable to each company. The customer share of earnings would increase at higher ROE levels, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% of ROE, respectively, in the first rate year. Earnings are based on the lower of the actual equity ratio or 50%. Earnings thresholds increase in subsequent rate years. The proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million will be amortized over ten years and the remaining \$139 million will be amortized over five years. The proposal also continues reserve accounting for qualifying Major Storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided they meet certain thresholds.
- *Maine.* On May 1, 2013, CMP filed a distribution service rate case in order to recover past and future investments and provide safe and adequate service. On August 25, 2014, MPUC approved a stipulation agreement that provided for a distribution rate increase of approximately \$24.3 million, effective July 1, 2014, with an allowed ROE of 9.45% and an allowed equity ratio of 50%.

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service.

On May 3, 2016, all active parties to the case filed a stipulation that settled all matters at issue in the case and reflected a 10-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a 10-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge that increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation.

- *Connecticut.* In December 2016, PURA approved distribution rate schedules for UI for three years that became effective January 1, 2017 and which, among other things, provides for \$57 million of cumulative distribution rate increases, an allowed ROE of 9.10% based on 50% equity, continued UI's existing earnings sharing mechanism, continued the existing decoupling mechanism (under which the actual energy delivery revenues are compared on a periodic basis with the authorized delivery revenues and the difference accrued, for refund to or recovery from customers, as applicable), and approved the continuation of the requested storm reserve

The allowed ROEs established by PURA for CNG and SCG, are 9.18% and 9.36%, respectively. SCG and CNG each have purchased gas adjustment clauses that enable them to pass their reasonably incurred cost of gas purchases through to customers. These clauses allow utilities to recover costs associated with changes in the market price of purchased natural gas, substantially eliminating exposure to natural gas price risk.

On January 22, 2014, PURA approved base delivery rates for CNG, with an effective date of January 10, 2014, which, among other things, approved an allowed ROE of 9.18%, continued the purchased gas adjustment clause, instituted a revenue decoupling mechanism, established two separate ratemaking mechanisms that reconcile actual revenue requirements related to CNG's cast iron and bare steel replacement program and system expansion and an earnings sharing mechanism by which CNG and customers share on a 50/50 basis all earnings above the allowed ROE in a calendar year. In accordance with the approval by PURA of the acquisition, SCG and CNG agreed not to file rate cases for new rates effective before January 1, 2018.

- *Massachusetts.* BGC's rates are established by the DPU. BGC's 10-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan. In accordance with the approval by the DPU of the acquisition, BGC agreed not to file a rate case for new rates effective before June 1, 2018.

In addition, as a result of a restructuring of the utility industry in New York, Maine, Connecticut and Massachusetts, most of Networks' distribution utilities' customers have the opportunity to purchase their electricity or natural gas supplies from third-party energy supply vendors. Most customers in New York, however, continue to purchase such supplies through the distribution utilities under regulated energy rates and tariffs. In Maine, CMP customers can also purchase electric supply from competitive providers but the majority receives baseline standard offer service that is provided through a MPUC procurement process. Networks' regulated utilities in New York, Connecticut and Massachusetts and MNG purchase electricity or natural gas from unaffiliated wholesale suppliers and recover the actual approved costs of these supplies on a pass-through basis, as well as certain costs associated with industry restructuring, through reconciling rate mechanisms that are periodically adjusted.

In April 2014 the NYSPSC instituted its Reforming the Energy Visions, or REV, proceeding, the goals of which are to improve electric system efficiency and reliability, encourage renewable energy resources, support DER, and empower customer choice. In this proceeding, the NYSPSC is examining the establishment of a Distributed System Platform, or DSP, to manage and coordinate DER, and provide customers with market data and tools to manage their energy use. The NYSPSC has determined distribution utilities should be the DSP providers. The NYSPSC also is examining how its regulatory practices should be modified to incentivize utility practices to promote REV proceeding objectives. The REV proceeding involves a two-phased schedule with an initial order relating to policy determinations for DSP and related matters issued in February 2015 and an initial order for regulatory design and regulatory matters issued in May 2016. All electric utilities were ordered to file an initial Distributed System Implementation Plan, or DSIP, by June 30, 2016. The DSIP was filed by NYSEG and RG&E and included information regarding the potential deployment of Automated Metering Infrastructure, or AMI. A separate petition for the cost recovery associated with full deployment of AMI was filed by NYSEG and RG&E in December 2016.

State public utility commissions may also have jurisdiction over certain aspects of Renewables' competitive generation businesses. For example, in New York, certain Renewables' generation subsidiaries are electric corporations subject to "lightened" regulation by the NYSPSC. As such, the NYSPSC exercises its jurisdictional authority over certain non-rate aspects of the facilities,

including safety, retirements, and the issuance of debt secured by recourse to those generation assets located in New York. In Texas, Renewables' operations within the Electric Reliability Council of Texas, or ERCOT, footprint are not subject to regulation by FERC, as they are deemed to operate solely within the ERCOT market and not in interstate commerce. These operations are subject to regulation by the Public Utility Commission of Texas, or PUCT. In California, Renewables' generation subsidiaries are subject to regulation by the California Public Utilities Commission with regard to certain non-rate aspects of the facilities, including health and safety, outage reporting and other aspects of the facilities' operations. Furthermore, Gas' natural gas storage operations are subject to certain state regulations, such as the Railroad Commission of Texas for its facilities located in Texas.

RTOs and ISOs

Networks' regulated electric utilities in New York, Connecticut and Maine, as well as some of Renewables' generation fleet, operate in or have access to organized energy markets, known as regional transmission organizations, or RTOs, or independent system operators, or ISOs, particularly NYISO and ISO-NE. Each organized market administers centralized bid-based energy, capacity and ancillary services markets pursuant to tariffs approved by FERC, or in the case of ERCOT, market rules approved by the PUCT. These tariffs and rules dictate how the energy, capacity and ancillary service markets operate, how market participants bid, clear, are dispatched, make bilateral sales with one another, and how entities with market-based rates are compensated. Certain of these markets set prices, referred to as Locational Marginal Prices that reflect the value of energy, capacity or certain ancillary services, based upon geographic locations, transmission constraints, and other factors. Each market is subject to market mitigation measures designed to limit the exercise of market power. Some markets limit the prices of the bidder based upon some level of cost justification. These market structures impact the bidding, operation, dispatch and sale of energy, capacity and ancillary services.

The RTOs and ISOs are also responsible for transmission planning and operations within their respective regions. Each of Networks' transmission-owning subsidiaries in New York, Connecticut and Maine has transferred operational control over certain of its electric transmission facilities to its respective ISOs, such as ISO-NE and NYISO.

New Renewable Source Generation

Under Connecticut law Public Act 11-80, or PA 11-80, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I Renewable Energy Certificates, or RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over approximately 21 years. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, pursuant to which UI will develop up to 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for The Connecticut Light and Power Company, or CL&P, (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the project. UI expects the cost of this program, a planned 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, to be approximately \$47 million.

Pursuant to Section 8 of Connecticut Public Act 13-303, "An Act Concerning Connecticut's Clean Energy Goals," in January 2014, at DEEP's direction, UI entered into three contracts for the purchase of RECs associated with an aggregate of 5.7 MW of energy production from biomass plants in New England. The costs of these agreements will be fully recoverable through electric rates.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15 year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provides that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

Under Maine law 35-A.M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or RECs, from qualifying resources. The MPUC is further authorized to order Maine Transmission and Distribution Utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, on

March 31, 2010, to purchase capacity and energy from Evergreen's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Pursuant to Maine Law 35-A M.R.S.A §3604, the MPUC is authorized to direct Maine Transmission and Distribution Utilities to enter into long-term contracts to purchase capacity, energy and renewable energy credits from up to 50 MW of qualifying Community-Based Renewable Energy facilities. In accordance with §3604, on October 22, 2016, CMP commenced purchases from Athens Energy LLC for a contract term of three years. CMP purchase obligations under the Athens contract are approximately \$6 million per year. Under the provisions of §3604 and MPUC implementing orders, CMP will periodically auction the purchased products from Athens for resale to wholesale market purchasers and recover any differences between power purchase costs and resale revenues through a reconcilable component of its retail distribution rates. Although the MPUC has certified several additional Community - Based Renewable Energy generation projects under §3604 and authorized similar power purchase agreements between these sellers and CMP, no additional facilities have advanced to operational status.

Environmental, Health and Safety

Permitting and Other Regulatory Requirements

Networks. Similar to Renewables and Gas, Networks' distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to various federal, state and local laws and regulations in connection with the environmental, health and safety effects of its operations. The distribution utilities of Networks are subject to regulation by the applicable state public utility commission with respect to the siting and approval of electric transmission lines, with the exception of UI, the siting of whose transmission lines is subject to the jurisdiction of the CSC, and with respect to pipeline safety regulations for intrastate gas pipeline operators.

The National Environmental Policy Act, or NEPA, requires that detailed statements of the environmental effect of Networks' facilities be prepared in connection with the issuance of various federal permits and licenses. Federal agencies are required by NEPA to make an independent environmental evaluation of the facilities as part of their actions during proceedings with respect to these permits and licenses.

Under the federal Toxic Substances Control Act, the Environmental Protection Agency, or EPA, has issued regulations that control the use and disposal of Polychlorinated Biphenyls, or PCBs. PCBs were widely used as insulating fluids in many electric utility transformers and capacitors manufactured before the federal Toxic Substances Control Act prohibited any further manufacture of such PCB equipment. Fluids with a concentration of PCBs higher than 500 parts per million and materials (such as electrical capacitors) that contain such fluids must be disposed of through burning in high temperature incinerators approved by the EPA. For our gas distribution companies, PCBs are sometimes found in the distribution system. Networks tests any distribution piping being removed or repaired for the presence of PCBs and comply with relevant disposal procedures, as needed.

Under the federal Resource Conservation and Recovery Act, or RCRA, the generation, transportation, treatment, storage and disposal of hazardous wastes are subject to regulations adopted by the EPA. All of Networks' subsidiaries have complied with the notification and application requirements of present regulations, and the procedures by which the subsidiaries handle, store, treat and dispose of hazardous waste products comply with these regulations.

Prior to the last quarter of the 20th century, when environmental best practices laws and regulations were implemented, utility companies, including Networks' subsidiaries, often disposed of residues from operations by depositing or burying them on-site or disposing of them at off-site landfills or other facilities. Typical materials disposed of include coal gasification byproducts, fuel oils, ash, and other materials that might contain PCBs or that otherwise might be hazardous. In recent years it has been determined that such disposal practices, under certain circumstances, can cause groundwater contamination.

Renewables. Renewables' projects are subject to a variety of state environmental review and permitting requirements. Many states where Renewables' projects are located, or may be located in the future, have laws that require state agencies to evaluate a broad array of environmental impacts before granting state permits. Generally, State agencies evaluate similar issues as federal agencies, including the project's impact on wildlife, historic sites, aesthetics, wetlands and water resources, agricultural operations and scenic areas. States may impose different or additional monitoring or mitigation requirements than federal agencies. Additional approvals may be required for specific aspects of a project, such as stream or wetland crossings, impacts to designated significant

wildlife habitats, storm water management and highway department authorizations for oversize loads and state road closings during construction. Permitting requirements related to transmission lines may be required in certain cases.

Renewables' projects also are subject to local environmental and regulatory requirements, including county and municipal land use, zoning, building and transportation requirements. Permitting at the local municipal or county level often consists of obtaining a special use or conditional use permit under a land use ordinance or code, or, in some cases, rezoning is required for a project. Obtaining a permit usually requires that Renewables demonstrates that the project will conform to certain development standards specified under the ordinance so that the project is compatible with existing land uses and protects natural and human environments. Local or state regulatory agencies may require modeling and measurement of permissible sound levels in connection with the permitting and approval of Renewables' projects. Local or state agencies also may require Renewables to develop decommissioning plans for dismantling the project at the end of its functional life and establish financial assurances for carrying out the decommissioning plan.

In addition to permits required under state and local laws, Renewables' projects may be subject to permitting and other regulatory requirements arising under federal law. For example, if a project is located near wetlands, a permit may be required from the U.S. Army Corps of Engineers, or Army Corps, with respect to the discharge of dredged or fill material into the waters of the United States. The Army Corps may also require the mitigation of any loss of wetland functions and values that accompanies the project's activities. In addition, Renewables may be required to obtain permits under the federal Clean Water Act for water discharges, such as storm water runoff associated with construction activities, and to follow a variety of best management practices to ensure that water quality is protected and impacts are minimized. Renewables' projects also may be located, or partially located, on lands administered by the U.S. Bureau of Land Management, or BLM. Therefore, Renewables may be required to obtain and maintain BLM right-of-way grants for access to, or operations on, such lands. To obtain and maintain a grant, there must be environmental reviews conducted, a plan of development implemented and a demonstration that there has been compliance with the plan to protect the environment, including measures to protect biological, archeological and cultural resources encountered on the grant.

Renewables' projects may be subject to requirements pursuant to the Endangered Species Act, or ESA, and analogous state laws. For example, federal agencies granting permits for Renewables' projects consider the impact on endangered and threatened species and their habitat under the ESA, which prohibits and imposes stringent penalties for harming endangered or threatened species and their habitats. Renewables' projects also need to consider the Migratory Bird Treaty Act, or MBTA, and the Bald and Golden Eagle Protection Act, or BGEPA, which protect migratory birds and bald and golden eagles and are administered by the U.S. Fish and Wildlife Service. Criminal liability can result from violations of the MBTA and the BGEPA, even for incidental takings of migratory birds. For example, the U.S. Department of Justice, or DOJ, has recently entered into settlements with two large wind farm operators, pursuant to which those operators pled guilty to criminal violations of the MBTA and agreed to substantial penalties and mitigation measures.

In addition to regulations, voluntary wind turbine siting guidelines established by the U.S. Fish and Wildlife Service set forth siting, monitoring and coordination protocols that are designed to support wind development in the United States while also protecting both birds and bats and their habitats. These guidelines include provisions for specific monitoring and study conditions which need to be met in order for projects to be in adherence with these voluntary guidelines. Most states also have similar laws. Because the operation of wind turbines may result in injury or fatalities to birds and bats, federal and state agencies often recommend or require that Renewables conduct avian and bat risk assessments prior to issuing permits for its projects. They may also require ongoing monitoring or mitigation activities as a condition to approving a project.

Gas. Gas' natural gas storage operations are regulated by the U.S. Department of Transportation Office of Pipeline Safety through the Pipeline and Hazardous Materials Safety Administration, or PHMSA, under the Natural Gas Pipeline Safety Act of 1968, or NGPSA, as amended by Pipeline Safety Act of 1979, and the Hazardous Liquids Pipeline Safety Act of 1979, or HLPESA. PHMSA, through the NGPSA and HLPESA, regulates the design, installation, testing, construction, operation, maintenance, repair, inspection, replacement and management of interstate and certain intrastate natural gas pipeline facilities. PHMSA has also developed regulations that require transportation pipeline operators to implement integrity management programs to comprehensively evaluate certain high risk areas along Gas' natural gas pipelines and take additional measures to protect natural gas pipeline segments located in highly populated areas.

Gas' natural gas storage operations are also regulated by the EPA, and equivalent state environmental agencies, with respect to the environmental effects of its operations, including air and water quality control, solid and hazardous waste disposal, greenhouse gas emissions, noise and limitations on land use.

Global Climate Change and Greenhouse Gas Emission Issues

Global climate change and greenhouse gas emission issues continue to receive an increased focus from state governments and the federal government. In November 2010, the EPA published final rules for monitoring and reporting requirements for petroleum and natural gas systems that emit greenhouse gases under the authority of the Clean Air Act beginning in 2011. These regulations apply to facilities that emit greenhouse gases above the threshold level of 25,000 metric tons equivalent per year. SCG and CNG both exceed this threshold and are subject to reporting requirements. The LNG facilities owned and/or contracted by SCG and CNG are also subject to the monitoring and reporting requirements under the regulations. Similarly, Networks is subject to reporting requirements under provisions of the greenhouse gases regulations, which regulate electric transmission and distribution equipment that emit sulfur hexafluoride.

We are continuously evaluating the regulatory risks and regulatory uncertainty presented by climate change and greenhouse gas emission. Such concerns could potentially lead to additional rules and regulations that impact how we operate our business. We expect that any costs of these rules and regulations would be recovered from customers.

OSHA and Certain Other Federal Safety Laws

Our operating subsidiaries are subject to the requirements of the federal Occupational Safety and Health Act, as amended, or OSHA, and comparable state laws that regulate the protection of the health and safety of employees. In addition, OSHA's hazard communication standard and standards administered by other federal as well as state agencies, including the Emergency Planning and Community Right to Know Act and the related implementing regulations require that information be maintained about hazardous materials used or produced in operations of our subsidiaries and that this information be provided to employees, state and local government authorities and citizens.

Management, Disposal and Remediation of Hazardous Substances

Our operating subsidiaries own or lease real property and may be subject to federal, state and local requirements regarding the storage, use, transportation and disposal of petroleum products and toxic or hazardous substances, including spill prevention, control and counter-measure requirements. Project properties and materials stored or disposed thereon may be subject to the federal RCRA, the Toxic Substances Control Act, the Comprehensive Environmental Response, Compensation and Liability Act and analogous state laws. If any operating subsidiary's owned or leased properties are contaminated, whether during or prior to their ownership or operation, the operating subsidiary could be responsible for the costs of investigation and cleanup and for any related liabilities, including claims for damage to property, persons or natural resources. Such responsibility may arise even if the operating subsidiary was not at fault and did not cause the contamination. In addition, waste generated by our operating subsidiaries is at times sent to third party disposal facilities. If such facilities become contaminated, the operating subsidiary and any other persons who arranged for the disposal or treatment of hazardous substances at those sites may be jointly and severally responsible for the costs of investigation and remediation, as well as for any claims of damages to third parties, their property or natural resources.

On September 16, 2015, UI signed the consent order that was issued by DEEP in August 2016 related to the investigation and remediation of the English Station site. The consent order requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such cost and \$30 million to be applied to a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut, and the Commissioner of DEEP. However, UI is obligated to comply with the consent order even if the cost of such compliance exceeds \$30 million. The State may discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding.

Customers

Networks delivers natural gas and electricity to residential, commercial and institutional customers through its regulated utilities in New York, Maine, Connecticut and Massachusetts. Networks' customer payment terms are regulated by the states of New York, with respect to NYSEG and RG&E; Maine, with respect to CMP and MNG; Connecticut, with respect to UI, SCG and CNG; and Massachusetts, with respect to BGC, and each of the regulated utilities must provide extended payment arrangements to customers for past due balances. See "—Networks" for more information relating to the customers of Networks.

Renewables sells the majority of its output to large investor-owned utilities, public utilities and other credit-worthy entities. Additionally, Renewables generates and provides power, among other services, to federal and state agencies, institutional retail and joint action agencies. Offtakers typically purchase renewable energy from Renewables through long-term power purchase agreements,

or PPAs, allowing Renewables to limit its exposure to market volatility. Approximately 62% of Renewables' wind generating capacity is fully committed under PPAs as of December 31, 2016, with an average duration of 9.5 years. Renewables also delivers thermal output to wholesale customers in the Western United States.

Gas' natural gas storage and management services customers include a diversified mix of natural gas distribution companies, power generators, natural gas marketers and producers, utilities using gas as fuel, gas storage customers, financial institutions and energy marketers.

Competition

Networks' regulated public utilities in New York, Maine, Connecticut and Massachusetts do not generally face competition from other companies that transmit and distribute electricity and natural gas. However, demand for electricity and natural gas may be negatively impacted by federal and state legislation mandating that certain percentages of power delivered to end users be produced from renewable resources, such as wind, thermal and solar energy.

Networks faces competition from self-contained micro-grids that integrate renewable energy sources in the areas served by Networks. However, there has been limited development of these micro-grids in Networks' service areas to date, and Networks expects that growth in distributed generation of renewable energy will continue due to financial incentives being provided by federal and state legislation. Networks has experienced significant growth in alternative distribution sources of generation on its network over the past ten years, with approximately 90% of the growth coming from solar photovoltaic facilities.

Renewables has competitive advantages, including a robust development pipeline, a management team with extensive experience, strong relationships with suppliers and clients, expert regulatory knowledge and brand awareness. However, Renewables faces competition throughout the life cycles of its energy facilities, including during the development phase, in the identification and procurement of suitable sites with high wind resource availability, grid connection capacity and land availability. Renewables also competes with other suppliers in securing long-term PPAs with power purchasers and participates in competitive bilateral and organized energy markets with other energy sources for power that is not sold under PPAs. Competitive conditions may be substantially affected by various forms of energy legislation and regulation considered from time to time by federal, state and local legislatures and administrative agencies.

Gas, through its subsidiaries, Enstor, Inc. and Enstor Energy Services, LLC, faces competition from others in the natural gas market. Enstor, Inc. encounters regional competition, such as in the Gulf South region, from other independent natural gas storage providers, a combination of interstate and intrastate pipeline companies and local distribution companies. Furthermore, Enstor Energy Services, LLC competes with various entities, ranging from natural gas marketing companies, to financial institutions and producer/marketers.

Properties

Networks

The following table sets forth certain information relating to Networks' electricity generation facilities and their respective locations, type and installed capacity as of December 31, 2016. Unless noted otherwise, Networks owns each of these facilities.

Operating Company	Facility Location	Facility Type	Installed Capacity (in MW)	Year(s) Commissioned
NYSEG	Newcomb, NY	Diesel Turbine	1.7	1967
NYSEG	Auburn, NY(1)	Natural Gas Turbine	7.3	2000
NYSEG	Eastern New York (6 locations)	Hydroelectric	61.4	1921—1983
RG&E	Rochester, NY (3 locations)	Hydroelectric	57.1	1917—1960

(1) The Auburn, NY natural gas turbine generating unit is leased.

UI is also party to a 50-50 joint venture with certain affiliates of NRG Energy, Inc. in GCE Holding LLC, whose wholly owned subsidiary, GenConn, operates two 188 MW peaking generation plants, GenConn Devon and GenConn Middletown, in Connecticut.

The following table sets forth certain operating data relating to the electricity transmission and distribution activities of each of Networks' regulated utilities as of December 31, 2016.

Utility	State	Substations	Transmission Lines (in miles)	Overhead Distribution Lines (in pole miles)	Underground Lines (in miles)	Total Distribution (in miles)	Electricity Customers
NYSEG	New York	435	4,463	32,319	2,702	35,021	885,000
RG&E	New York	153	1,025	6,091	2,834	8,925	375,000
CMP	Maine	209	2,856	21,056	1,428	22,484	616,979
UI	Connecticut	29	138	3,284	202	3,486	331,216

The following table sets forth certain operating data relating to the natural gas transmission and distribution activities of each of Networks' regulated utilities, as of December 31, 2016.

Utility	State	Natural Gas Customers	Transmission Pipeline (in miles)	Distribution Pipeline (in miles)
NYSEG	New York	265,000	20	8,151
RG&E	New York	310,000	105	10,592
MNG	Maine	4,588	2	199
SCG	Connecticut	196,232	—	2,391
CNG	Connecticut	176,420	—	2,118
BGC	Massachusetts	39,813	—	763

CNG owns and operates a liquefied natural gas, or LNG, plant which can store up to 1.2 Bcf of natural gas and can vaporize up to 97,000 Mcf per day of LNG to meet peak demand. SCG has contract rights to and operates a similar plant with the same capabilities to store up to 1.2 Bcf of natural gas. SCG's LNG facilities can vaporize up to 82,500 Mcf per day of LNG to meet peak demand. SCG and CNG have also contracted for 21 Bcf of storage with a maximum peak day delivery capability of 209,000 Mcf per day.

Renewables

The following table sets forth Renewables' portfolio of wind projects as of December 31, 2016. Unless noted otherwise, Renewables wholly owns each of these facilities.

Location	Wind Project	Turbines	Total Installed Capacity (MW)	Commercial Operation Date	North American Electric Reliability Corporation ("NERC") Region
Arizona	Dry Lake I	30 (Suzlon S88, 2.1 MW)	63	2009	WECC
	Dry Lake II	31 (Suzlon, 2.1 MW)	65	2010	
California	Dillon	45 (Mitsubishi, 1 MW)	45	2008	WECC
	Manzana	126 (GE, 1.5 MW)	189	2011	WECC
	Mountain View III	34 (Vestas V47, 0.66 MW)	22	2003	WECC
	Phoenix Wind Power	3 (Neg Micon (Vestas), 0.66 MW)	2	1999	WECC
	Shiloh	100 (GE, 1.5 MW)	150	2006	
Colorado	Colorado Green(1)	54 (GE, 1.5 MW)	81	2003	WECC
	Twin Buttes	50 (GE, 1.5 MW)	75	2007	
Illinois	Providence Heights	36 (Gamesa G87, 2.0 MW)	72	2008	MRO
	Streator Cayuga Ridge South	150 (Gamesa, 2.0MW)	300	2010	
Iowa	Barton	80 (Gamesa, 2.0 MW)	160	2009	MRO
	Flying Cloud	29 (GE, 1.5 MW)	44	2004	MRO
	New Harvest	50 (Gamesa G87, 2.0W)	100	2012	MRO
	Top of Iowa II	40 (Gamesa G87, 2.0 MW)	80	2008	MRO
	Winnebago I	10 (Gamesa G83, 2.0 MW)	20	2008	MRO
Kansas	Elk River	100 (GE, 1.5 MW)	150	2005	MRO
Massachusetts	Hoosac	19 (GE, 1.5 MW)	29	2012	NPCC
Minnesota	Elm Creek	66 (GE, 1.5 MW)	99	2008	MRO
	MinnDakota	100 (GE, 1.5 MW)	150	2008	MRO
	Trimont	67 (GE, 1.5 MW)	100	2005	MRO
	Elm Creek II	62 (Mitsubishi, 2.4)	149	2010	MRO
	Moraine I	34 (GE, 1.5 MW)	51	2003	MRO
	Moraine II	33 (GE, 1.5 MW)	50	2009	MRO
Missouri	Farmers City	73 (Gamesa G87, 2.0 MW)	146	2009	MRO
New Hampshire	Groton	24 (Gamesa G87, 2.0 MW)	48	2012	NPCC
	Lempster	12 (Gamesa, 2 MW)	24	2008	NPCC
New York	Hardscrabble	37 (Gamesa G90, 2MW)	74	2011	NPCC
	Maple Ridge I(2)	70 (Vestas V82, 1.65 MW)	116	2006	NPCC
	Maple Ridge II(2)	27 (Vestas V82, 1.65 MW)	45	2006	NPCC
North Carolina	Amazon Wind Farm US - East	104 (Gamesa G114, 2.0 MW)	208	2016	SERC
North Dakota	Rugby	71 (Suzlon S88, 2.1 MW)	149	2009	MRO
Ohio	Blue Creek	152 (Gamesa G90 – 2.0 MW)	304	2012	RFC
Oregon	Hay Canyon	48 (Suzlon S88, 2.1 MW)	101	2009	WECC
	Klondike I	16 (GE, 1.5 S – 1.5 MW)	24	2001	WECC
	Klondike II	50 (GE, 1.5 S – 1.5 MW)	75	2005	WECC
		44 (Siemens, 2.3 MW); 80 (GE, 1.5 SLE, 1.5 MW); 1 (Mitsubishi, 2.4 MW)	224	2007	WECC
	Klondike III	51 (GE, 1.5 MW)	77	2008	WECC
	Leaning Juniper II	74 (GE, 1.5 MW); 43 (Suzlon, 2.1 MW)	201	2011	WECC
	Pebble Springs	47 (Suzlon S88/2100, 2.1 MW)	99	2009	WECC
	Star Point	47 (Suzlon, 2.1 MW)	99	2010	WECC
Pennsylvania	Casselman	23 (GE, 1.5 MW)	35	2008	RFC
	Locust Ridge I	13 (Gamesa G87, 2.0)	26	2006	RFC
	Locust Ridge II	51 (Gamesa G83, 2.0 MW)	102	2009	RFC
	South Chestnut	23 (Gamesa, 2.0 MW)	46	2012	RFC
South Dakota	Buffalo Ridge I	24 (Suzlon, 2.1 MW)	50	2009	MRO
	Buffalo Ridge II	105 (Gamesa G87, 2.0 MW)	210	2010	MRO
Texas	Baffin	101 (Gamesa G97, 2.0 MW)	202	2015	TRE
	Barton Chapel	60 (Gamesa, 2.0 MW)	120	2009	TRE
	Peñascal I	84 (Mitsubishi, 2.4 MW)	202	2009	TRE
	Peñascal II	84 (Mitsubishi, 2.4 MW)	202	2010	TRE
Washington	Big Horn I	133 (GE, 1.5 MW)	200	2006	WECC
	Big Horn II	25 (Gamesa, 2.0 MW)	50	2010	WECC
	Juniper Canyon	63 (Mitsubishi, 2.4 MW)	151	2011	WECC

(1) Jointly owned with Shell Wind Energy; capacity amounts represent only Renewables' share of the wind farm.

(2) Jointly owned with Horizon Wind Energy; capacity amounts represent only Renewables' share of the wind farm.

Additionally, set forth below are the solar and thermal facilities operated by Renewables as of December 31, 2016. Unless otherwise noted, Renewables owns each such facility.

Facility	Location	Type of Facility	Installed Capacity (MW)	Commercial Operation Date
Copper Crossing Solar Ranch	Pinal County, Arizona	Solar	20	2011
San Luis Valley Solar Ranch(1)	Alamosa County, Colorado	Solar	30	2012
Klamath Cogeneration	Klamath Falls, Oregon	Thermal	536	2001
Klamath Peakers	Klamath Falls, Oregon	Thermal	100	2009

(1) Operated pursuant to a sale-and-leaseback agreement.

Gas

Gas owns and operates four natural gas storage facilities, all near key trading hubs. The following table provides an overview of these storage facilities as of December 31, 2016. Unless noted otherwise, Enstor, Inc., a wholly-owned direct subsidiary of Gas, owns and operates each of these facilities.

Facility	Type of Facility	Storage capacity (Bcf)	Max Injection (MMcfd)/ Max Withdrawal (MMcfd)	Pipeline Connections	Commercial Operation Date
Caledonia Energy Partners, L.L.C., Mississippi	Depleted gas reservoir	18.5	558/550	Tennessee Gas Pipeline 500	2005
Freebird Gas Storage, LLC, Alabama(1)	Depleted gas reservoir	9.8	350/305	Tennessee Gas Pipeline 500	2001
Enstor Grama Ridge Storage and Transportation, LLC, New Mexico	Depleted gas reservoir	15.7	200/200	El Paso Natural Gas, Natural Gas Pipeline Company of America and the DCP Midstream Raptor Pipeline	1973
Enstor Katy Storage and Transportation, L.P., Texas	Depleted gas reservoir	23.5	750/700	Connected to 14 different pipelines	1992

(1) 13% owned by Northwest Alabama Gas District.

Infrastructure Protection and Cyber Security Measures

We have risk based security measures in place designed to protect our facilities, assets and cyber-infrastructure, such as our transmission and distribution system.

While we have not had any significant security breaches, a physical security intrusion could potentially lead to theft and the release of critical operating information. In addition to physical security intrusions, a cyber breach could potentially lead to theft and the release of critical operating information or confidential customer information.

To manage these operational risks, pursuant to the AVANGRID Cybersecurity Risk Policy approved by the AVANGRID board and the Corporate Security Policy of Iberdrola, S.A. adopted by our board, we have implemented cyber and physical security measures and continue to strengthen our security posture by improving and expanding our physical and cyber security capabilities to protect critical assets.

In an effort to reduce our vulnerability to cyber attacks, we have appointed an officer responsible for Security and established a dedicated Corporate Security Office, responsible for improving and coordinating security and NERC Compliance across the company. We have adopted a comprehensive company-wide physical and cyber security program, which is supported by a governance program to manage, oversee and assist us in meeting our corporate, legal, and regulatory responsibilities with regard to the protection of our cyber, physical and information assets.

However, as threats evolve and grow increasingly more sophisticated, we cannot ensure that a potential security breach may not occur or quantify the potential impact of such an event. We continue to invest in technology, processes, security measures and services to predict, detect, mitigate and protect our assets, both physical and cyber. These investments include upgrades to our cyber-

infrastructure assets, network architecture and physical security measures, and compliance with emerging industry best practice and regulation.

Employees

As of December 31, 2016, we had 6,801 employees excluding 15 international assignees. Of these 6,801 employees, 47.6% are represented by a union. The following table provides an overview of the number of employees at each business segment as of December 31, 2016:

Business Segment	Number of Employees (excluding International Assignees)	% of Union Workforce Subject to Collective Bargaining Agreement
Networks	5,737	56.4%
Renewables	731	—
Gas	107	—
Corporate	226	—
Total	6,801	47.6%

We have not experienced any work stoppages in the last five years and enjoy good relations with our labor unions. Virtually all of our employees work full-time.

Available Information

Copies of our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to these reports filed with the SEC may be requested, viewed, or downloaded on-line, free of charge, on our website www.avangrid.com. Printed copies of these reports may be obtained free of charge by writing to our Investor Relations Department at 157 Church Street, New Haven, Connecticut, 06506.

Item 1A. Risk Factors

Risks Relating to Our Regulatory Environment

Our businesses are subject to substantial regulation by federal, state and local regulatory agencies and our businesses, results of operations and prospects may be materially adversely affected by legislative or regulatory changes, as well as liability under, or any future inability to comply with, existing or future regulations or requirements.

The operations of our businesses are subject to, and influenced by, complex and comprehensive federal, state and local regulation and legislation, including regulations promulgated by state utility commissions and the FERC. This extensive regulatory and legislative framework, portions of which are more specifically identified in the following risk factors, regulates, among other things and to varying degrees, the industries in which our subsidiaries operate, our business segments, rates for our products and services, financings, capital structures, cost structures, construction, environmental obligations (including in respect of, among others, air emissions, water consumption, water discharge, protections for wildlife and humans, nuisance prohibitions and allowances, and regulation of gas infrastructure operations, and associated environmental and facility permitting), development and operation of electric generation facilities and electric and gas transmission and distribution facilities, natural gas transportation, processing and storage facilities, acquisition, disposal, depreciation and amortization of facilities and other assets, service reliability, hedging, derivatives transactions and commodities trading.

In our business planning and in the management of our subsidiaries' operations, we must address the effects of regulation on our businesses, including the significant and increasing compliance costs imposed on our operations as a result of such regulation, and any inability or failure to do so timely and adequately could have a material adverse effect on our businesses, results of operations, financial condition and cash flows. The federal, state and local political and economic environment has had, and may in the future have, an adverse effect on regulatory decisions with negative consequences for our businesses. These decisions may require, for example, our businesses to cancel or delay planned development activities, to reduce or delay other planned capital expenditures or investments or otherwise incur costs that we may not be able to recover through rates, any of which could have a material adverse effect on the business, results of operations, financial condition and cash flows of our businesses. In addition, changes in the nature of the regulation of our business could have a material adverse effect on our business, results of operations, financial condition and cash flows. We are unable to predict future legislative or regulatory changes, initiatives or interpretations, and there can be no assurance that we will be able to respond adequately or sufficiently quickly to such changes, although any such changes, initiatives or interpretations may increase costs and competitive pressures on us, which could have a material adverse effect on our business, results of operations, financial condition and cash flows. There can be no assurance that we will be able to respond adequately or sufficiently quickly to such rules and developments, or to any other changes that reverse or restrict the competitive restructuring of the energy industry in those jurisdictions in which such restructuring has occurred. Any of these events could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our businesses are subject to the jurisdiction of various federal, state and local regulatory agencies including, but not limited to, the FERC, the CFTC, the DOE, and the EPA. Further, Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to the jurisdiction of the NYPSC, the MPUC, the New York State Department of Environmental Conservation, the Maine Department of Environmental Protection, the PURA, the CSC, the DEEP, and the DPU. These regulatory agencies cover a wide range of business activities, including, among other items, the retail and wholesale rates for electric energy, capacity and ancillary services, and for the transmission and distribution of these products, the costs charged to Networks' customers through tariffs including cost recovery clauses, the terms and conditions of Networks' services, procurement of electricity for Networks' customers, issuances of securities, the provision of services by affiliates and the allocation of those service costs, certain accounting matters, and certain aspects of the siting, construction and transmission and distribution systems. The FERC has the authority to impose penalties, which could be substantial, for violations of the FPA, the NGA, or related rules, including reliability and cyber security rules as described in further detail below. The Financial Accounting Standards Board, or FASB, or the SEC, may enact new accounting standards that could impact the way we are required to record revenue, expenses, assets and liabilities. Certain regulatory agencies have the authority to review and disallow recovery of costs that they consider excessive or imprudently incurred and to determine the level of return that our businesses are permitted to earn on invested capital.

The regulatory process, which may be adversely affected by the political, regulatory and economic environment in New York, Maine, Connecticut and Massachusetts, as applicable, may limit our ability to increase earnings and does not provide any assurance as to achievement of authorized or other earnings levels. The disallowance of the recovery of costs incurred by us or a decrease in the rate of return that we are permitted to earn on our invested capital could have a material adverse effect on our business, results of operation, financial condition and cash flows. Certain of these regulatory agencies also have the authority to audit the management and operations of our businesses in New York, Maine, Connecticut and Massachusetts and require or recommend operational changes. Such audits and post-audit work requires the attention of our management and employees and may divert their attention from other regulatory, operational or financial matters. The last management audit of UI by PURA was completed in 2015. This audit resulted in 64 recommendations. The last management audit of CNG and SCG was completed in 2016. This audit resulted in approximately 94 recommendations. The

NYPSC completed an operations staffing audit of all NY utilities in January 2017. The audit is under review and we expect it will result in approximately 17 specific recommendations for NYSEG and RG&E and one general recommendation for all NY utilities. The NYPSC plans to conduct a management audit of NYSEG and RG&E in 2017. The audit is expected to be completed in early 2018. We cannot predict the outcome of these audits.

As previously described, we are subject to a variety of federal, state, local laws and regulations. The introduction of new laws or regulations or changes in existing laws or regulations, or the interpretation thereof, may alter the environment in which we do business and could increase the costs of doing business for us or restrict our actions and adversely affect our financial condition, operating results and cash flows.

Any failure to meet the reliability standards mandated by NERC could have a material adverse effect on our business, results of operation, financial condition and cash flows.

As a result of the EAct 2005, owners, operators and users of bulk electric systems are subject to mandatory reliability standards developed by NERC and are subject to oversight by the FERC in the U.S. and governmental authorities in Canada. The standards are based on the functions that need to be performed to ensure that the bulk electric system operates reliably. Networks' and Renewables' businesses have been, and will continue to be, subject to routine audits and monitoring with respect to compliance with applicable NERC reliability standards, including standards approved by the FERC that could result in an increase in the number of assets (including cyber-security assets) designated as "critical assets," which would subject such assets to NERC cyber-security standards. NERC and the FERC can be expected to continue to refine existing reliability standards as well as develop and adopt new reliability standards. Compliance with modified or new reliability standards may subject Networks' and/or Renewables' businesses to new requirements resulting in higher operating costs and/or increased capital expenditures. If Networks' and/or Renewables' businesses were found not to be in compliance with the mandatory reliability standards, it could be subject to penalties of up to \$1.0 million per day per violation. Both the costs of regulatory compliance and the costs that may be imposed as a result of any actual or alleged compliance failures could have a material adverse effect on our business, results of operation, financial condition and prospects. NYSEG and RG&E will have onsite NERC operational audit and NYSEG, RG&E and CMP will have onsite CIP audit in 2017. We cannot predict the outcome of these audits.

The NYPSC has initiated a proceeding that may result in the alteration of the public utility model in New York State and could materially and adversely impact our business and operations in New York State.

In April 2014, the NYPSC commenced a proceeding titled REV, which is an initiative to reform New York State's energy industry and regulatory practices. REV has followed several simultaneous paths, including a formal Track 1 dealing with market design and platform technology and Track 2 dealing with regulatory reform. REV's objectives include the promotion of more efficient use of energy, increased utilization of renewable energy resources such as wind and solar in support of New York State's renewable energy goals, and wider deployment of "distributed" energy resources, such as micro grids, on-site power supplies, and storage. Track 1 of the REV initiative involves the examination of the role that distribution utilities will have in the enablement of market-based deployment of DER to promote load management, system efficiency, and peak load reductions. NYSEG and RG&E are participating in all aspects of the REV initiative with other New York utilities as well as providing their unique perspective. PSC staff has conducted public statement hearings across New York State regarding REV.

Various other REV-related proceedings have also been initiated by the PSC, each of which is following its own schedule. These proceedings include the Clean Energy Fund, Demand Response Tariffs, Community Choice Aggregation, Large Scale Renewables, and Community Distributed Generation. As part of this initiative, NYSEG and RG&E entered into agreements with NYSEDA for Renewable Energy Credits (RECs) and Zero-Emission Credits (ZECs) in 2017 and have prepared updated tariffs for collection and payment.

Track 2 of the REV initiative is also underway, and through a NYPSC Staff Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York State and NYPSC policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for Earnings adjustment mechanisms (EAMs), platform service revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of system efficiency, energy efficiency, interconnections, and clean air. A collaborative process to review the companies' petition is expected to begin in the first quarter of 2017.

We are not able to predict the outcome of the REV proceeding or its impact on our business, results of operations, financial condition and cash flows. While the end result of the REV process at the NYPSC remains unclear, it could alter the utility model in New York in a manner that could create material adverse impacts on our businesses and operations in New York.

Changes in regulatory and/or legislative policy could negatively impact Networks' transmission planning and cost allocation.

The existing FERC-approved ISO-NE, transmission tariff allocates the costs of transmission facilities that provide regional benefits to all customers of participating transmission-owning utilities in New England. As new investment in regional transmission infrastructure occurs in any one state, its cost is shared across New England in accordance with a FERC-approved formula found in the transmission tariff. Participating New England transmission owners' agreement to this regional cost allocation is set forth in the transmission operating agreement. This agreement can be modified with the approval of a majority of the transmission-owning utilities and approval by the FERC. In addition, other parties, such as state regulators, may seek certain changes to the regional cost allocation formula, which could have adverse effects on the rates Networks' distribution companies in New England charge their retail customers. FERC has found that the New England rate protocols lacked transparency and have established a hearing and settlement procedures. We cannot predict the outcome of this proceeding.

The FERC has issued rules requiring all RTOs, and transmission owning utilities to make compliance changes to their tariffs and contracts in order to further encourage the construction of transmission for generation, including renewable generation. This compliance will require RTOs (such as ISO-NE and NYISO) and the transmission owners in New England and New York to develop methodologies that allow for regional planning and cost allocation for transmission projects chosen in the regional plan that are designed to meet public policy goals such as reducing greenhouse gas emissions or encouraging renewable generation. Such compliance may also allow non-incumbent utilities and other entities to participate in the planning and construction of new projects in Networks' service areas and regionally.

Changes in RTO tariffs, transmission owners' agreements, or legislative policy, or implementation of these new FERC planning rules, could adversely affect our transmission planning, results of operations, financial condition and cash flows.

We are subject to numerous environmental laws, regulations and other standards, including rules and regulations with respect to climate change, which could result in capital expenditures, increased operating costs and various liabilities, and could require us to cancel or delay planned projects or limit or eliminate certain operations.

Our businesses are subject to environmental laws and regulations, including, but not limited to, extensive federal, state and local environmental statutes, rules and regulations relating to air quality, water quality and usage, climate change, emissions of greenhouse gases (including, but not limited to carbon dioxide), waste management, hazardous wastes (including the clean-up of former manufactured gas and electric generation facilities), marine, avian and other wildlife mortality and habitat protection, historical artifact preservation, natural resources and health and safety (including, but not limited to, electric and magnetic fields from power lines and substations, and ice throw, shadow flicker and noise related to wind turbines) that could, among other things, prevent or delay the development of power generation, power or natural gas transmission, or other infrastructure projects, restrict the output of some existing facilities, limit the availability and use of some fuels required for the production of electricity, require additional pollution control equipment, and otherwise increase costs, increase capital expenditures and limit or eliminate certain operations. There are significant capital, operating and other costs associated with compliance with these environmental statutes, rules and regulations, and those costs could be even more significant in the future as a result of new legislation, the current trend toward more stringent standards, and stricter and more expansive application and enforcement of existing environmental regulations. For example, new laws, regulations or treaties relating to climate change could mandate new or increased requirements to control or reduce the emission of greenhouse gases, such as carbon dioxide, taxes or fees on fossil fuels or emissions, cap and trade programs, emission limits and clean or renewable energy standards or mandates that require curtailment of operations for certain periods of time due to potential electromagnetic interference. Violations of current or future laws, rules, regulations or other standards could expose our subsidiaries to regulatory and legal proceedings, disputes with, and legal challenges by, third parties, and potentially significant civil fines, criminal penalties and other sanctions, which could have an adverse effect on our operations, financial condition and cash flows.

Our regulated utility operations may not be able to recover costs in a timely manner or at all or obtain a return on certain assets or invested capital through base rates, cost recovery clauses, other regulatory mechanisms or otherwise.

Our regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to periodic review of their rates by the NYPSC, MPUC, PURA and DPU, respectively, and the retail rates charged to our regulated utilities' customers through base rates and cost recovery clauses are subject to the jurisdiction of the NYPSC, MPUC, PURA and DPU, as applicable. New rates may be proposed by Network's businesses, which are then subject to review, modification and final authorization and implementation by regulators. Alternatively, regulators may review the rates of Networks' regulated utilities on their own motion. Networks' regulated utilities' rate plans cover specified periods, but rates determined pursuant to a plan generally continue in effect until a new rate plan is approved by the state utility regulator. Networks' regulated utilities' business rate plans approved by state utility regulators limit the rates Networks' regulated utilities can charge their customers. The rates are generally designed for, but do not guarantee, the recovery of Networks' regulated utilities' respective cost of service and the opportunity to earn a reasonable rate of return (ROE). Actual costs may increase due to inflation or other factors and exceed levels provided for such costs in the rate plans for Networks' regulated

utilities. Utility regulators can initiate proceedings to prohibit Networks' regulated utilities from recovering from their customers the cost of service (including energy costs) that the regulators determine to have been imprudently incurred. Networks' regulated utilities defer for future recovery certain costs including major storm costs and environmental costs. In a number of proceedings in recent years, Networks' regulated subsidiaries have been denied recovery, or deferred recovery pending the next general rate case, including denials or deferrals related to major storm costs and construction expenditures. In some instances, denial of recovery may cause the regulated subsidiaries to record an impairment of assets. If Networks' regulated utilities' costs are not fully and timely recovered through the rates ultimately approved by regulators, our cash flows, results of operations and financial condition, and our ability to earn a return on investment and meet financial obligations, could be adversely affected.

Certain of the current electric and gas rate plans of Networks' regulated utilities include revenue decoupling mechanisms, or RDMs, and the provisions for the recovery of energy costs, including reconciliation of the actual amount paid by such regulated utilities. There is no guarantee that such decoupling mechanisms or recovery and reconciliation mechanism will remain part of the rate plan of Networks in future rate proceedings.

In addition, there are pending challenges at the FERC against New England transmission owners (including UI and CMP) seeking to lower the ROE that these transmission owners are allowed by the FERC to receive for wholesale transmission service pursuant to the ISO-NE Open Access Transmission Tariff. Reductions to ROE adversely impact the revenues that Networks' regulated utilities receive from wholesale transmission customers and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Harming of protected species can result in curtailment of wind project operations and could have a material adverse effect on our business, results of operation, financial condition and cash flows.

The operation of energy projects and transmission of energy can adversely affect endangered, threatened or otherwise protected animal species under federal and state statutes, laws, rules and regulations. Wind projects involve a risk that protected flying species, such as birds and bats, will be harmed due to collision. Transmission and distribution lines are another source of potential avian collision as well as electrocution. Energy generation and transmission facilities can result in impacts to protected wildlife, including death caused by collision, electrocution and poisoning. Energy infrastructure occasionally affects endangered or protected species. Our businesses observe industry guidelines and government-recommended best practices to avoid, minimize and mitigate harm to protected species, but complete avoidance is not possible and subsequent penalties may result. Where appropriate, our businesses can apply for an "incidental take" permit for some protected species, which may be conditioned upon the institution of costly avoidance and remediation measures.

Violations of wildlife protection laws in certain jurisdictions may result in civil or criminal penalties, including violations of certain laws protecting migratory birds, endangered species and eagles. The ESA and analogous state laws restrict activities without a permit that may adversely affect endangered and threatened species or their habitat. The ESA also provides for private causes of actions against a development project, an operating facility, or the agency that oversees the alleged violation of law. Similar protections are offered to migratory birds under the MBTA, which implements various treaties and conventions between the United States and certain other nations for the protection of migratory birds and, pursuant to which the taking, killing or possessing of migratory birds is unlawful. Complying with the state and federal laws protecting migratory birds, endangered species and eagles may require implementation of operating restrictions or a temporary, seasonal, or permanent ban on operations in affected areas, which can have a material adverse effect on the revenue of those projects. For example, there have been recent sightings of the protected California condor at Renewables' Manzana wind facility. Any incidental taking of a California condor could result in substantial financial, legal and reputational harm to us. The DOJ is currently investigating Renewables for potential violations under the MBTA and the ESA at its Blue Creek facility. We cannot predict the outcome of this investigation.

Renewables relies in part on governmental policies that support utility-scale renewable energy. Any reductions to, or the elimination of, governmental incentives that support utility-scale renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables relies, in part, upon government policies that support utility-scale renewable energy projects and enhance the economic feasibility of developing and operating wind energy projects in regions in which Renewables operates or plans to develop and operate renewable energy facilities. The federal government and many states and local jurisdictions have policies or other mechanisms, such as tax incentives or renewable portfolio standards, or RPS, that support the sale of energy from utility-scale renewable energy facilities, such as wind energy facilities. As a result of budgetary constraints, political factors or otherwise, federal, state and local governments from time to time may review their policies and other mechanisms that support renewable energy and consider actions that would make them less conducive to the development or operation of renewable energy facilities. Any reductions to, or the elimination of, governmental policies or other mechanisms that support renewable energy or the imposition of additional

taxes or other assessments on renewable energy, could result in, among other items, the lack of a satisfactory market for the development of new renewable energy projects, Renewables abandoning the development of new renewable energy projects, a loss of Renewables' investments in the projects and reduced project returns, any of which could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Our businesses may face risks related to obtaining governmental approvals and permits in respect of project siting, financing, construction, operation and the negotiation of project development agreements which could cause delay a project and could materially adversely affect our businesses, results of operations or financial condition.

Renewables owns, develops, constructs and/or operates electricity generation, including renewable and thermal generators, and associated transmission facilities. Networks develops, constructs, manages and operates transmission and distribution facilities to meet customer needs. As part of these operations, our businesses must periodically apply for licenses and permits from various local, state, federal and other regulatory authorities and abide by their respective conditions. In particular, with respect to Renewables, over the past two years noise standards and siting criteria in the Northeast, where population density is higher compared to the Northwest, where Renewables also operates, have grown more restrictive. If our businesses are unsuccessful in obtaining necessary licenses or permits on acceptable terms, there is a delay in obtaining or renewing necessary licenses or permits or regulatory authorities initiate any associated investigations or enforcement actions or impose related penalties or disallowances on us, having a material adverse effect on our businesses, results of operations, financial condition and cash flows.

Our operating subsidiaries' purchases and sales of energy commodities and related transportation and services expose us to potential regulatory risks that could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Under the EPCA 2005 and the Dodd-Frank Act, our businesses are subject to enhanced FERC and CFTC statutory authority to monitor certain segments of the physical and financial energy commodities markets. These agencies have imposed broad regulations prohibiting fraud and manipulation of the electricity and gas markets. Under these laws, the FERC and CFTC have promulgated new regulations that have increased compliance costs and imposed new reporting requirements on our businesses. For example, the Dodd-Frank Act substantially increased regulation of the over-the-counter derivative contracts market and futures contract markets, which impacts our businesses. The new regulations require our operating subsidiaries to comply with certain margin requirements for our over-the-counter derivative contracts with certain CFTC- or SEC-registered entities and if the rules implementing the new regulations require us to post significant amounts of cash collateral with respect to swap transactions, this could have a material adverse effect on our liquidity. We cannot predict the impact these new regulations will have on our businesses' ability to hedge their commodity and interest rate risks or on over-the-counter derivatives markets as a whole, but they could potentially have a material adverse effect on our businesses' risk exposure, as well as reduce market liquidity and further increase the cost of hedging activities.

With regard to the physical purchases and sales of energy commodities, the physical trading of energy commodities and any related transportation and/or hedging activities that some of our operating subsidiaries undertake, our operating subsidiaries are required to observe the market-related regulations and certain reporting and other requirements enforced by the FERC, the CFTC and the SEC. Additionally, to the extent that the operating subsidiaries enter into transportation contracts with natural gas pipelines or transmission contracts with electricity transmission providers that are subject to FERC regulation, the operating subsidiaries are subject to FERC requirements related to the use of such transportation or transmission capacity. Any failure on the part of our operating subsidiaries to comply with the regulations and policies of the FERC, the CFTC or the SEC relating to the physical or financial trading and sales of natural gas or other energy commodities, transportation or transmission of these energy commodities or trading or hedging of these commodities could result in the imposition of significant civil and criminal penalties. Failure to comply with such regulations, as interpreted and enforced, could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Renewables' ability to generate revenue from certain utility-scale wind energy power plants depends on having continuing interconnection arrangements, PPAs, or other market mechanisms and depends upon interconnecting utility and RTO rules, policies, procedures and FERC tariffs that do not present restrictions to current and future wind project operations.

The electric generation facilities owned by Renewables rely on interconnection and/or transmission agreements and transmission networks in order to sell the energy generated by such facility. If the interconnection and/or transmission agreement of an electric generating facility Renewables owns is terminated for any reason, Renewables may not be able to replace it with an interconnection or transmission arrangement on terms as favorable as the existing arrangement, or at all, or it may experience significant delays or costs in securing a replacement. If a transmission network to which one or more of Renewables' electric generating facilities is connected experiences outages or curtailments, the affected projects may lose revenue. These factors could materially affect Renewables' ability to forecast operations and negatively affect our business, results of operations, financial condition and cash flow. In addition, certain of Renewables' operating facilities' generation of electricity may be physically or

economically curtailed, and offtakers or transmission or interconnection providers may be permitted to restrict wind project operations without paying full compensation to Renewables pursuant to PPAs or interconnection agreements or FERC tariff provisions or rules, policies or procedures of RTOs, which may reduce our revenues and impair our ability to capitalize fully on a particular facility's generating potential. Such curtailments or operational limitations could have a material adverse effect on our business, financial condition, results of operations and cash flows. Furthermore, economic congestion on the transmission grid (for instance, a negative price difference between the location where power is put on the grid by a project and the location where power is taken off the grid by the project's customer) in certain of the bulk power markets in which Renewables operates may occur and its businesses may be responsible for those congestion costs. Similarly, negative congestion costs may require that the wind projects either not participate in the energy markets or bid and clear at negative prices which may require the wind projects to pay money to operate each hour in which prices are negative. If such businesses were liable for such congestion costs or if the wind projects are required to pay money to operate in any given hour when prices are negative, then our financial results could be adversely affected.

Risks Relating to Our Business and Operations

Disruptions, uncertainty or volatility in the credit and capital markets may negatively affect our liquidity and capital needs and our ability to meet our growth objectives and can also materially adversely affect our results of operations and financial condition.

A credit crisis affecting the banking system and the financial markets and the resultant deterioration of macroeconomic conditions, including a global reduction in credit and liquidity in the financial markets and severe volatility in stock and bond markets could impact our financial operating conditions, our day-to-day activities, our liquidity and cash positions, the loss of significant investment opportunities, the value of our business and our financial condition. In addition, during periods of slow or little economic growth, energy conservation efforts often increase and the amount of uncollectible customer accounts increases. These factors may also reduce earnings and cash flow.

Increases in interest rates or reductions in credit ratings could have an adverse impact on our cash flows, results of operations and financial condition.

Trends in the general level of interest rates and in the debt capital and credit markets could increase the cost of our borrowings. Borrowings from our credit facilities and on our auction rate bonds are set by reference to the London Interbank Offer Rate, or LIBOR, and the cost of new long-term debt can be affected by the level of US treasury rates and conditions in the debt capital markets that affect credit spreads.

In addition, AVANGRID and certain of its subsidiaries are parties to revolving credit facilities that contain facility fees and borrowing spread pricing that are a function of the credit rating of the borrower. A lower credit rating automatically increases the cost of these facilities. A downgrade to the lowest investment grade rating of the borrower would likely preclude access to the commercial paper market for NYSEG and CMP, which each have commercial paper programs. Lower credit ratings would also increase the cost of debt and equity capital and, depending on the rating and market conditions, can preclude access to the debt and equity capital markets. Any of these events could have a materially adverse effect on our business, results of operations, financial condition and cash flows.

If Networks' electricity and natural gas transmission, transportation and distribution systems do not operate as expected, they could require unplanned expenditures, including the maintenance and refurbishment of Networks' facilities, which could adversely affect our business, results of operations, financial position and cash flows.

Networks' ability to operate its electricity and natural gas transmission, transportation and distribution systems is critical to the financial performance of our business. The ongoing operation of Networks' facilities involves risks customary to the electric and natural gas industry that include the breakdown, failure, loss of use or destruction of Networks' facilities, equipment or processes or the facilities, equipment or processes of third parties due to war or acts of terrorism, operational and safety performance below expected levels, errors in the operation or maintenance of these facilities and the inability to transport electricity or natural gas to customers in an efficient manner. These and other occurrences could reduce potential earnings and cash flows and increase the costs of repairs and replacement of assets. Losses incurred by Networks in respect of such occurrences may not be fully recoverable through insurance or customer rates. Further, certain of Networks' facilities require periodic upgrading and improvement. In addition, unplanned outages typically increase Networks' operation and maintenance expenses. Any unexpected failure, including failure associated with breakdowns, forced outages or any unanticipated capital expenditures, accident, failure of major equipment, shortage of or inability to acquire critical replacement or spare parts could result in reduced profitability or regulatory penalties. For more information, see "Risks Relating to Our Regulatory Environment" above.

Our businesses' operations and power production may fall below expectations due to the impact of severe weather or other natural events, which could adversely affect our cash flows, results of operations and financial position.

Weather conditions directly influence the demand for electricity and natural gas and other fuels and affect the price of energy and energy-related commodities. Severe weather, such as ice and snow storms, hurricanes and other natural disasters, such as floods and earthquakes, can be destructive and cause power outages, bodily injury and property damage or affect the availability of fuel and water, which may require additional costs or loss of revenues, for example, the costs incurred to restore service and repair damaged facilities, to obtain replacement power and to access available financing sources, may not be recoverable from customers, and could adversely affect our cash flows, results of operations and financial position. Many of our facilities could be placed at greater risk of damage should changes in the global climate produce unusual variations in temperature and weather patterns, resulting in more intense, frequent and extreme weather events, abnormal levels of precipitation and a change in sea level. A disruption or failure of electric generation, transmission or distribution systems or natural gas production, transmission, transportation, storage or distribution systems in the event of ice and snow storms, long periods of severe weather, hurricane, tornado or other severe weather event, or otherwise, could prevent us from operating our business in the normal course and could result in any of the adverse consequences described above. Because utility companies, including our regulated utilities, have large customer bases, they are subject to adverse publicity focused on the reliability of their distribution services and the speed with which they are able to respond to electric outages, natural gas leaks and similar interruptions caused by storm damage or other unanticipated events. Adverse publicity of this nature could harm our reputations and the reputations of our subsidiaries.

Furthermore, Renewables can incur damage to wind turbine equipment, either through natural events such as lightning strikes that damage blades or in-ground electrical systems used to collect electricity from turbines. Many of the operating facilities of Networks and Enstor, Inc., Gas' wholly-owned direct subsidiary, are located either in, or close to, densely populated public places. A failure of, or damage to, these facilities, could result in bodily injury or death, property damage, the release of hazardous substances or extended service interruptions. The cost of repairing damage to Networks' and Gas' facilities and the potential disruption of their operations due to storms, natural disasters or other catastrophic events could be substantial. In respect of our businesses where cost recovery is available, recovery of costs to restore service and repair damaged facilities is or may be subject to regulatory approval, and any determination by the regulator not to permit timely and full recovery of the costs incurred could have a material adverse effect on our business, results of operations, financial condition and cash flows.

If wind conditions are unfavorable or below Renewables' production forecasts, or Renewables' wind turbines are not available for operation, Renewables projects' electricity generation and the revenue generated from its projects may be substantially below our expectations.

Changing wind patterns or lower than expected wind resource could cause reductions in electricity generation at Renewables' projects, which could affect the revenues produced by these wind generating facilities. Renewables' wind projects are sited, developed and operated to maximize wind performance. Prior to siting a wind facility, detailed studies are conducted to measure the wind resource in order to estimate future production. However, wind patterns or wind resource in the future might deviate from historical patterns and are difficult to predict. These events could negatively impact the results of operations of Renewables, which may vary significantly from period to period, depending on the level of available resources. To the extent that resources are not available at planned levels, the financial results from these facilities may be less than expected. Changing wind patterns or lower than expected wind resources could also degrade equipment or components and the interconnection and transmission facilities' lives or maintenance costs. Replacement and spare parts for wind turbines and key pieces of electrical equipment may be difficult or costly to acquire or may be unavailable. The loss of any suppliers or service providers or inability to find replacement suppliers or service providers or to purchase turbines at rates currently offered by Renewables' existing suppliers or a change in the terms of Renewables' supply or operations and maintenance agreements, such as increased prices for maintenance services or for spare parts, could have a material adverse effect on Renewables' ability to construct and maintain wind farms or the profitability of wind farm development and operation.

The revenues generated by Renewables' facilities depend upon Renewables' ability to maintain the working order of its wind turbines. A natural disaster, severe weather, accident, failure of major equipment, shortage of or inability to acquire critical replacement or spare parts, failure in the operation of any future transmission facilities that Renewables may acquire, including the failure of interconnection to available electricity transmission or distribution networks, could damage or require Renewables to shut down its turbines or related equipment and facilities, leading to decreases in electricity generation levels and revenues. Additionally, Renewables' operating projects generally do not hold spare substation main transformers in inventory. These transformers are designed specifically for each wind power project, and order lead times can be lengthy. If one of Renewables' projects had to replace any of its substation main transformers, it would be unable to sell all of its power until a replacement is installed.

If Renewables experiences a prolonged interruption at one of its operating projects due to natural events or operational problems and such events are not fully covered by insurance, Renewables' electricity generation levels could materially decrease, which could

have a material adverse effect on its business, results of operation and financial condition and could adversely affect our cash flows, results of operations and financial position.

Cyber breaches, acts of war or terrorism, grid disturbances or security breaches involving the misappropriation of confidential and proprietary customer, employee, financial or system operating information could negatively impact our business.

Cyber breaches, acts of war or terrorism or grid disturbances resulting from internal or external sources could target our generation, transmission and distribution facilities or our information technology systems. In the regular course of business, we maintain sensitive customer, employee, financial and system operating information and are required by various federal and state laws to safeguard this information. Cyber or physical security intrusions could potentially lead to disabling damage to our generation, transmission and distribution facilities and to theft and the release of critical operating information or confidential customer or employee information, which could adversely affect our operations or adversely impact our reputation, and could result in significant costs, fines and litigation. Additionally, because our generation and transmission facilities are part of an interconnected regional grid, we face the risk of blackout due to a disruption on a neighboring interconnected system. As threats evolve and grow increasingly more sophisticated, we cannot ensure that a potential security breach may not occur or quantify the potential impact of such an event. Any such cyber breaches could result in a significant decrease in revenues, significant expense to repair system damage or security breaches, adversely impact our reputation, regulatory penalties and liability claims, which could have a material adverse effect on our cash flows, results of operations and financial condition.

Risks including but not limited to any physical security breach involving unauthorized access, electricity or equipment theft and vandalism could adversely affect our business operations and adversely impact our reputation.

A physical attack on our transmission and distribution infrastructure could interfere with normal business operations and affect our ability to control our transmission and distribution assets. A physical security intrusion could potentially lead to theft and the release of critical operating information, which could adversely affect our operations or adversely impact our reputation, and could result in significant costs, fines and litigation. Additionally, certain of our power generation and transmission and distribution assets and equipment are at risk for theft and damage. For example, Networks is at risk for copper wire theft, especially, due to an increased demand for copper in the United States and internationally. Theft of copper wire or solar panels can cause significant disruption to Networks' and Renewables' operations, respectively, and can lead to operating losses at those locations. Furthermore, Renewables can incur damage to wind turbine equipment through vandalism, such as gunshots into towers or other generating equipment. Such damage can cause disruption of operations for unspecified periods which may lead to operating losses at those locations.

Our risk management policies cannot fully eliminate the risk associated with some of our operating subsidiaries' commodity trading and hedging activities, which may result in significant losses.

Renewables has exposure to commodity price movements through their "natural" long positions in electricity and natural gas storage in addition to proprietary trading and hedging activities. Since market prices and temporal price spreads for natural gas reflect the demand for these products and their availability at a given time, the overall operating results of Gas' business may fluctuate substantially on a seasonal basis.

Networks and Renewables manage the exposure to risks of commodity price movements through internal risk management policies, enforcement of established risk limits and risk management procedures. These risk policies, risk limits and risk management procedures may not work as planned and cannot eliminate all risks associated with these activities. Even when these risk policies and procedures are followed, and decisions are made based on projections and estimates of future performance, results of operations may be diminished if the judgments and assumptions underlying those decisions prove to be incorrect. Our risk management tools and metrics associated with our hedging and trading procedures, such as daily value at risk, stop loss limits and liquidity guidelines, are based on historical price movements. Due to the inherent uncertainty involved in price movements and potential deviation from historical pricing behavior, we are unable to assure that our risk management tools and metrics will be effective to protect against material adverse effects on our business, financial condition, results of operations and prospects. Factors, such as future prices and demand for power and other energy-related commodities, become more difficult to predict and the calculations become less reliable the further into the future estimates are made. As a result, we cannot fully predict the impact that some of our subsidiaries' commodity trading and hedging activities and risk management decisions may have on our business, results of operations, financial condition and cash flows.

We expect to invest in development opportunities in all segments of our business, but such opportunities may not be successful, projects may not commence operation as scheduled and/or within budget or at all, which could have a material adverse effect on our business prospects.

We are pursuing broader development investment opportunities related to all segments of our business, particularly in respect of additional opportunities related to electric transmission, renewable energy generation, interconnections to generating resources and other development investment opportunities. The development, construction and expansion of such projects involve numerous risks. Various factors could result in increased costs or result in delays or cancellation of these projects. Risks include regulatory approval processes, permitting, new legislation, economic events, environmental and community concerns, negative publicity, design and siting issues, difficulties in obtaining required rights of way, construction delays and cost overruns, including delays in equipment deliveries, particularly of wind turbines or transformers, severe weather, competition from incumbent facilities and other entities, and actions of strategic partners. For example, there may be delays or unexpected developments in completing current and future construction projects. While most of Renewables' construction projects are constructed under fixed-price and fixed-schedule contracts with construction and equipment suppliers, these contracts provide for limitations on the liability of these contractors to pay liquidated damages for cost overruns and construction delays. These circumstances could prevent Renewables' construction projects from commencing operations or from meeting original expectations about how much electricity it will generate or the returns it will achieve. In addition, for Renewables' projects that are subject to PPAs, substantial delays could cause defaults under the PPAs, which generally require the completion of project construction by a certain date at specified performance levels. A delay resulting in a wind project failing to qualify for federal production tax credits could result in losses that would be substantially greater than the amount of liquidated damages paid to Renewables. In December 2015, the Consolidated Appropriations Act, 2016 extended the expiration date for this tax credit to December 31, 2019, for wind facilities commencing construction, with a phase-down beginning for wind projects commencing construction after December 31, 2016. Furthermore, as required by Connecticut's Comprehensive Energy Strategy, CNG and SCG filed, jointly with Yankee Gas Services Company, a comprehensive natural gas expansion plan ("Expansion Plan") outlining a structured approach to add approximately 280,000 new gas heating customers (approximately 200,000 of which relate to SCG and CNG) state-wide over the next 10 years. In order to serve new customers to comply with the Expansion Plan, SCG and CNG need to lay significant miles of new pipeline, maintain, expand and potentially upgrade their existing distribution and/or storage infrastructure, and build new gate stations. Various factors may prevent or delay SCG and CNG from completing such projects or make completion more costly, such as the inability to obtain required approval from local or state regulatory and governmental bodies, public opposition to the project, lack of potential customers as a result of reduced economic benefits for switching to gas, inability to obtain adequate financing, construction delays, cost overruns, and inability to negotiate acceptable agreements relating to rights-of-way, construction or other material development components. As a result, SCG and CNG may not be able to adequately support the proposed customer growth, which would negatively impact their businesses, cash flows, results of operations and financial condition. Additionally, RG&E's Rochester Area Reliability Project, which includes the development of a new substation and transmission lines and was approved by the NYPSC, has encountered significant delays due to the concerns of landowners. Should any of these factors result in such delays or cancellations, our growth projections, financial position, results of operations, and cash flows could be adversely affected or our future growth opportunities may not be realized as anticipated.

Advances in technology and rate design initiatives could impair or eliminate the competitive advantage of our business or could result in customer defection, which could have a material adverse effect on our growth, business, financial condition and results of operations.

The emergence of technology and initiatives designed to reduce greenhouse gas emissions or limit the effects of global warming and overall climate change has increased the development of new technologies for power generation, energy efficiency, and for investment in research and development to make those technologies more efficient and cost effective. There is a potential that new technology or rate design incentives could adversely affect the demand for services of our regulated subsidiaries thus impacting our revenues, which could adversely affect our cash flows, results of operations and financial concerns. For example, net energy metering allows electricity customers who supply their own electricity from on-site generation to pay only for the net energy obtained from the utility. Further, the behind-the-meter storage systems and grid integration components such as inverters or electronics could result in electricity delivery customers abandoning the grid system or replacing part of grid services with self-supply or self-balancing, which could impact the return on current or future Networks' assets deployed and designed to serve projected load. Such emergence of alternative sources of energy supply can result in customers relying on the power grid for limited use, such as in the case of a deficit or an emergency, or completely abandoning the grid, which is known as customer defection. While certain of the regulated utilities of Networks are subject to RDMs, they are either legislatively or regulatory in nature and there is no assurance such mechanisms will always be available. The progressive reduction in the costs of distributed energy assets, as a result of technological improvements, large scale deployment in certain jurisdictions and constructive support regimes could result in customer defection (individually or integrated in micro-grids) when a net benefit analysis of investing in self-supply and storage of energy compared to energy provided by utility service appears attractive for certain customer classes. Similarly, future investments in Networks could be impacted if adequate rate making does not fully contemplate the characteristics of an integrated reliable grid from a unified perspective, regardless of customer disconnection. Further, the interoperability, integration and standard connection of these distributed energy devices and

systems could place a burden on the system of Networks' operating subsidiaries, without adequately compensating them. Furthermore, the technologies used in the renewable energy sector change and evolve rapidly. Techniques for the production of electricity from renewable sources are constantly improving and becoming more complex. In order to maintain Renewables' competitiveness and expand its business, Renewables must adjust effectively to changes in technology. If Renewables fails to react effectively to current and future technological changes in the sector in a timely manner, Renewables' future business growth, results of operations and financial condition could be materially adversely affected.

Renewables' revenue may be reduced significantly upon expiration or early termination of PPAs if the market price of electricity decreases and Renewables is otherwise unable to negotiate favorable pricing terms.

Renewables' portfolio of PPAs is made up of PPAs that primarily have fixed or otherwise predetermined electricity prices for the life of the PPA. A decrease in the market price of electricity, including lower prices for traditional fossil fuels, could result in a decrease in revenues once a PPA has expired or upon a renewal of a PPA. Any decrease in the price payable to Renewables under new PPAs could have a material adverse effect on our business, results of operations, financial conditions and cash flows. For the majority of Renewables' wind energy generation projects, upon the expiration of a PPA, the project becomes a merchant project subject to market risks, unless Renewables can negotiate a renewal of the PPA. If Renewables is not able to replace an expiring PPA with a contract on equivalent terms and conditions or otherwise obtain prices that permit operation of the related facility on a profitable basis, the affected site may temporarily or permanently cease operations. The majority of the Renewables PPAs are fixed price contracts. An early termination of any may result in economic losses.

There are a limited number of purchasers of utility-scale quantities of electricity, which exposes Renewables' utility-scale projects to additional risk that could have a material adverse effect on its business.

Since the transmission and distribution of electricity is highly concentrated in most jurisdictions, there are a limited number of possible purchasers for utility-scale quantities of electricity in a given geographic location, including transmission grid operators, state and investor-owned power companies, public utility districts and cooperatives. As a result, there is a concentrated pool of potential buyers for electricity generated by Renewables' businesses, which may restrict our ability to negotiate favorable terms under new PPAs and could impact our ability to find new customers for the electricity generated by our generation facilities should this become necessary. Renewables' PPA portfolio is mostly contracted with low risk regulated utility companies. In the past few years, there has been increased participation from commercial and industrial businesses. The higher long term business risk profile of these companies results in increased credit risk. Furthermore, if the financial condition of these utilities and/or power purchasers deteriorated or the RPS programs, climate change programs or other regulations to which they are currently subject and that compel them to source renewable energy supplies change, demand for electricity produced by Renewables' businesses could be negatively impacted.

Lower prices for other fuel sources may reduce the demand for wind and solar energy development, which could have a material adverse effect on Renewables' ability to grow its business.

Wind and solar energy demand is affected by the price and availability of other fuels, including nuclear, coal, natural gas and oil, as well as other sources of renewable energy. To the extent renewable energy, particularly wind energy, becomes less cost-competitive due to reduced government targets, increases in the cost of wind energy, as a result of new regulations, and incentives that favor alternative renewable energy, cheaper alternatives or otherwise, demand for wind energy and other forms of renewable energy could decrease. Slow growth or a long-term reduction in the demand for renewable energy could have a material adverse effect on Renewables' ability to grow its business.

Volatility in the price of natural gas and home heating oil could adversely impact the demand for gas conversions and could have a material adverse effect on our regulated gas utilities' ability to grow their businesses.

Conversion from home heating oil to natural gas requires a significant investment by customers. If the price of natural gas does not remain sufficiently below the prices of home heating oil, current oil heating customers may elect not to convert to natural gas. Volatility in oil prices demonstrates the difficulty to predict future home heating costs. In addition, any new regulations imposed on natural gas, particularly on extraction of natural gas from shale formations, could lead to substantial increases in the price of natural gas. Reduced prices for heating oil or increases in in prices for natural gas may cause potential natural gas customers to forgo converting their heating systems to natural gas and as a result, could negatively impact the forecasted growth of the CNG, SCG and BGC businesses, and their cash flows, results of operations and financial condition.

Our subsidiaries do not own all of the land on which their projects are located and their use and enjoyment of real property rights for their projects may be adversely affected by the rights of lienholders and leaseholders that are superior to those of the grantors of those real property rights to our subsidiaries' projects, which could have a material adverse effect on their business, results of operations, financial condition and cash flows.

Our subsidiaries do not own all of the land on which their projects are located. For example, Renewables does not own all of the land on which its wind projects are located and Gas does not own all of the land on which its natural gas storage projects are located. Such projects generally are, and future projects may be, located on land occupied under long-term easements, leases and rights of way. The ownership interests in the land subject to these easements, leases and rights of way may be subject to mortgages securing loans or other liens and other easements, lease rights and rights of way of third parties that were created previously. As a result, some of the rights under such easements, leases or rights of way held by our operating subsidiaries may be subject to the rights of these third parties, and the rights of our operating subsidiaries to use the land on which their projects are or will be located and their projects' rights to such easements, leases and rights of way could be lost or curtailed. Any such loss or curtailment of the rights of our operating subsidiaries to use the land on which their projects are or will be located could have a material adverse effect on their business, results of operations, financial condition and cash flows.

We and our subsidiaries are subject to litigation or administrative proceedings, the outcome or settlement of which could adversely affect our business, results of operations, financial condition and cash flows.

Our operating subsidiaries have been and continue to be involved in legal proceedings, administrative proceedings, claims and other litigation that arise in the ordinary course of business. These actions may include environmental claims, employment-related claims and contractual disputes or claims for personal injury or property damage that occur in connection with services performed relating to the operation of our businesses, or actions by regulatory or tax authorities. Unfavorable outcomes or developments relating to these proceedings or future proceedings, such as judgments for monetary damages, injunctions or denial or revocation of permits, could have a material adverse effect on our business, financial condition and results of operations. In addition, settlement of claims could adversely affect our business, results of operations, financial condition and cash flows.

Storing, transporting and distributing natural gas involves inherent risks that could cause us to incur significant financial losses.

There are inherent hazards and operation risks in gas distribution activities, such as leaks, accidental explosions and mechanical problems that could cause the loss of human life, significant damage to property, environmental pollution and impairment of operations. The location of pipelines and storage facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages resulting from these risks. These activities may subject us to litigation and administrative proceedings that could result in substantial monetary judgments, fines or penalties. To the extent that the occurrence of any of these events is not fully covered by insurance or natural gas hedges, they could adversely affect our revenue, earnings and cash flow.

We are not able to insure against all potential risks and may become subject to higher insurance premiums, and our ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers.

Our businesses and activities are exposed to the risks inherent in the construction and operation of our respective assets, such as electrical power plants, wind power plants and other renewable energy projects and natural gas storage facilities, including breakdowns, manufacturing defects, natural disasters, terrorist attacks, cyber attacks and sabotage. Our subsidiaries are also exposed to third party liability risks and environmental risks. While our operating subsidiaries maintain insurance coverage, such insurance may not continue to be offered on an economically feasible basis and may not cover all events that could give rise to a loss or claim involving the assets or operations of our subsidiaries. For example, Renewables currently has 409 megawatts, or MW, of installed capacity in California subject to known earthquake risks and approximately 600 MW of installed capacity on the Texas Gulf Coast subject to known hurricane and windstorm risks. Further, while insurance coverage applies to property damages and business interruptions, this coverage is limited as a result of severe insurance market restrictions and we are generally not fully insured against all significant losses. In addition, our subsidiaries' insurance policies are subject to annual review by their insurers. Our ability to obtain insurance and the terms of any available insurance coverage could be materially adversely affected by international, national, state or local events and company-specific events, as well as the financial condition of insurers. If insurance coverage is not available or obtainable on acceptable terms, we may be required to pay costs associated with adverse future events. If one of our operating subsidiaries were to incur a serious uninsured loss or a loss significantly exceeding the limits of their insurance policies, the results could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Furthermore, Networks' gas distribution and transportation activities involve a variety of inherent hazards and operating risks, such as leaks, accidents, explosions, and mechanical problems and could result in serious injury to employees and non-employees, loss of human life, significant damage to property, environmental pollution and impairment of our subsidiaries' operations. In accordance with customary industry practice, our subsidiaries maintain insurance against some, but not all, of these risks and losses. The location of natural gas pipelines and natural gas storage facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages that could potentially result from these risks. The occurrence of any of these events not fully covered by insurance could adversely affect our business, results of operations, financial position and cash flows.

The benefits of any warranties provided by the suppliers of equipment for Networks and Renewables' projects may be limited by the ability of a supplier to satisfy its warranty obligations, or if the term of the warranty has expired or has liability limits which could have a material adverse effect on our business, results of operation, financial condition and cash flows.

Networks and Renewables expect to benefit from various warranties, including product quality and performance warranties, provided by suppliers in connection with the purchase of equipment. The suppliers of our operating subsidiaries may fail to fulfill their warranty obligations or a particular defect may not be covered by a warranty. Even if a supplier fulfills its obligations, the warranty may not be sufficient to compensate the operating subsidiary for all of its losses. In addition, these warranties generally expire within two to five years after the date each equipment item is delivered or commissioned and are subject to liability limits. If installation is delayed, the operating subsidiaries may lose all or a portion of the benefit of a warranty. If Networks or Renewables seeks warranty protection and a supplier is unable or unwilling to perform its warranty obligations, whether as a result of its financial condition or otherwise, or if the term of the warranty has expired or a liability limit has been reached, there may be a reduction or loss of warranty protection for the affected equipment, which could have a material adverse effect on our business, results of operation, financial condition and cash flows.

A disruption in the wholesale energy markets or failure by an energy supplier could adversely affect our business and results of operation.

Almost all the electricity and gas that Networks sells to full-service customers is purchased through the wholesale energy markets or pursuant to contracts with energy suppliers. A disruption in the wholesale energy markets or a failure on the part of energy suppliers or operators of energy delivery systems that connect to Networks' energy facilities could adversely affect Networks' ability to meet its customers' energy needs and adversely affect our business and results of operation.

The increased cost of purchasing natural gas during periods in which natural gas prices are rising significantly could adversely impact our earnings and cash flow.

The rates that are permitted to be charged by our regulated natural gas utilities that allow for rate recovery generally allow such businesses to recover their cost of purchasing natural gas. In general, the various regulatory agencies allow our regulated utilities to recover the costs of natural gas purchased for customers on a dollar-for-dollar basis (in the absence of disallowances), without a profit component. Networks' regulated natural gas utilities periodically adjust customer rates for increases and decreases in the cost of gas purchased by such regulated utilities for sale to its customers. Under the regulatory body-approved gas cost recovery pricing mechanisms, the gas commodity charge portion of gas rates charged to customers may be adjusted upward on a periodic basis. If the cost of purchasing natural gas increases and Networks' regulated natural gas utilities is unable to recover these costs from its customers immediately, or at all, Networks may incur increased costs associated with higher working capital requirements and/or realize increased costs. In addition, any increases in the cost of purchasing natural gas may result in higher customer bad debt expense for uncollectible accounts and reduced sales volume and related margins due to lower customer consumption.

Pension and post-retirement benefit plans could require significant future contributions to such plan that could adversely impact our business, results of operations, financial condition and cash flows.

We provide defined benefit pension plans and other post-retirement benefits administered by our subsidiaries for a significant number of employees, former employees and retirees. Financial market disruptions and significant declines in the market values of the investments held to meet the pension and post-retirement obligations, discount rate assumptions, participant demographics and increasing longevity, and changes in laws and regulations may require us to make significant contributions to the plans. Large funding requirements or significant increases in expenses could adversely impact our business, results of operations, financial condition and cash flows.

Long-term low natural gas prices and/or seasonal or locational variation in natural gas price spreads could have a negative impact on the natural gas business and gas storage services.

The natural gas business benefits from price volatility and temporal price spreads. Variation in price spreads can impact the level of demand and the rates that can be charged for natural gas storage services. If natural gas prices and volatility remain low, or prices decline further, then the natural gas business could generate less revenue and lower demand for natural gas storage services. A sustained decline in these prices and volatility could have an adverse impact on gas business, results of operation, financial condition and cash flows.

Our existing credit facilities contain, and agreements that we may enter into in the future may contain, covenants that could restrict our financial flexibility.

Our existing credit facilities, and the credit facilities of our subsidiaries, contain covenants imposing certain requirements on our business including covenants regarding the ratio of indebtedness to total capitalization. Furthermore, our subsidiaries periodically issue long-term debt, historically consisting of both secured and unsecured indebtedness. These third-party debt agreements also contain covenants, including covenants regarding the ratio of indebtedness to total capitalization. These requirements may limit our ability and the ability of our subsidiaries to take advantage of potential business opportunities as they arise and may adversely affect our conduct and our operating subsidiaries' current business, including restricting our ability to finance future operations and capital needs and limiting the subsidiaries' ability to engage in other business activities. Other covenants place or could place restrictions on our ability and the ability of our operating subsidiaries to, among other things, incur additional debt, create liens, and sell or transfer assets.

Agreements we and our operating subsidiaries enter into in the future may also have similar or more restrictive covenants, especially if the general credit market deteriorates. A breach of any covenant in the existing credit facilities or the agreements governing our other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration of payment of the underlying obligations or may trigger acceleration of payment if not remedied within a specified period. Events of default under one agreement may trigger events of default under other agreements, although our regulated utilities are not subject to the risk of default of affiliates. Should payments become accelerated as the result of an event of default, the principal and interest on such borrowing would become due and payable immediately. If that should occur, we may not be able to make all of the required payments or borrow sufficient funds to refinance the accelerated debt obligations. Even if new financing is then available, it may not be on terms that are acceptable to us.

We may be unable to meet our financial obligations and to pay dividends on our common stock if our subsidiaries are unable to pay dividends or repay loans from us.

We are a holding company and, as such, have no revenue-generating operations of our own. We are dependent on dividends and the repayment of loans from our subsidiaries and on external financings to provide the cash that is necessary to make future investments, service debt we have incurred, pay administrative costs and pay dividends. Our subsidiaries are separate legal entities and have no independent obligation to pay us dividends. Prior to paying us dividends, the subsidiaries have financial obligations that must be satisfied, including among others, their operating expenses and obligations to creditors. Furthermore, our regulated utilities are restricted by regulatory decision from paying us dividends unless a minimum equity-to-total capital ratio is maintained. The future enactment of laws or regulations may prohibit or further restrict the ability of our subsidiaries to pay upstream dividends or to repay funds. In addition, in the event of a subsidiary's liquidation or reorganization, our right to participate in a distribution of assets is subject to the prior claims of the subsidiary's creditors. As a result, our ability to pay dividends on our common stock and meet our financial obligations is reliant on the ability of our subsidiaries to generate sustained earnings and cash flows and pay dividends to and repay loans from us.

Our investments and cash balances are subject to the risk of loss.

Our cash balances and the cash balances at our subsidiaries may be deposited in banks, may be invested in liquid securities such as commercial paper or money market funds or may be deposited in a notional cash pooling account in which we are a participant along with other affiliates of the Iberdrola Group. Bank deposits in excess of federal deposit insurance limits would be subject to risks in the counterparty bank. Liquid securities and money market funds are subject to loss of principal, more likely in an adverse market situation, and to the risk of illiquidity. Moreover, under the agreement governing the notional cash pooling account mentioned above, credit balances in the cash pooling account are pledged as collateral for the debit balances of other cash pooling participants. We are therefore subject to the credit risk of the affiliated parties to the cash pooling agreement and to Iberdrola's ability to manage the overall liquidity of the Iberdrola Group.

We have identified a material weakness in our internal control over financial reporting which, if not remediated, could adversely affect our reputation, business or stock price.

In connection with the preparation of our consolidated financial statements for the year ended December 31, 2016, management along with our independent registered public accounting firm identified a material weakness in the internal control over financial

reporting. Management identified deficiencies related to: (1) the accounting for the change in the estimated useful life of certain elements of the wind farms at Renewables and other smaller deficiencies related to documentation of internal controls procedures, and enhancement of review controls at Renewables, (2) the preparation of the consolidated financial statements, specifically the classification and disclosure of financial information, and (3) the measurement and disclosure of income taxes. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim consolidated financial statements will not be prevented or detected on a timely basis.

We are actively engaged in remediation efforts to address the material weakness in the internal control over financial reporting, including, among other things, (i) improving general internal control activities and policies, including processes to maintain sufficient documentation evidencing execution of these policies; (ii) increasing accounting personnel to devote additional time and resources related to financial reporting; (iii) educating and re-training internal control employees regarding internal control processes to mitigate identified risks and maintaining adequate documentation to evidence the effective design and operation of such processes; and (iv) implementing enhanced controls to monitor the effectiveness of the underlying business process controls. We believe, based on our evaluation to date, that this material weakness will be remediated by December 31, 2017. However, we cannot assure you that this will occur within the contemplated timeframe.

If our remediation efforts are insufficient to address the identified material weakness or if additional material weaknesses in internal controls are discovered in the future, they may adversely affect our ability to record, process, summarize and report financial information timely and accurately and, as a result, our financial statements may contain material misstatements or omissions. The occurrence of or failure to remediate the material weakness may adversely affect our reputation and business and the market price of shares of our common stock.

We and our subsidiaries may suffer the loss of key personnel or the inability to hire and retain qualified employees, which could result in a material adverse effect on our business, financial condition, results of operations and prospects.

The operations of our operating subsidiaries depend on the continued efforts of our employees and our subsidiaries' employees. Retaining key employees and maintaining the ability to attract new employees are important to our financial performance and for our subsidiaries' operations and financial performance. We cannot guarantee that any member of our management or of our subsidiaries' management will continue to serve in any capacity for any particular period of time. In addition, a significant portion of our and our subsidiaries' workforce, including many workers with specialized skills maintaining and servicing the electrical infrastructure, will be eligible to retire over the next five to ten years. Such highly skilled individuals cannot be quickly replaced due to the technically complex work they perform. If a significant amount of such workers retire and are not replaced, the subsequent loss in productivity and increased recruiting and training costs could result in a material adverse effect on our business, financial condition, results of operations and prospects.

We and our subsidiaries face the risk of strikes, work stoppages or an inability to negotiate future collective bargaining agreements on commercially reasonable terms which could have a material adverse effect on our business, results of operations, financial condition and cash flows.

A majority of the employees at Networks' facilities are subject to collective bargaining agreements with various unions. Additionally, unionization activities, including votes for union certification, could occur among non-union employees. If union employees strike, participate in a work stoppage or slowdown or engage in other forms of labor strike or disruption, our subsidiaries could experience reduced power generation or outages if replacement labor is not procured. The ability to procure such replacement labor is uncertain, though risks are reduced by rigorous contingency planning. Strikes, work stoppages or an inability to negotiate future collective bargaining agreements on commercially reasonable terms could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Changes in tax laws, as well as judgments and estimates used in the determination of tax-related asset and liability amounts, could materially adversely affect our business, results of operations, financial condition and cash flows.

Our provision for income taxes and reporting of tax-related assets and liabilities require significant judgments and the use of estimates. Amounts of tax-related assets and liabilities involve judgments and estimates of the timing and probability of recognition of income, deductions and tax credits, including, but not limited to, estimates for potential adverse outcomes regarding tax positions that have been taken and the ability to utilize tax benefit carryforwards, such as net operating loss, or NOL, and tax credit carryforwards. Actual income taxes could vary significantly from estimated amounts due to the future impacts of, among other things, changes in tax laws, regulations and interpretations, our financial condition and results of operations.

The success of our business depends on achieving our strategic objectives, which may be through acquisitions, joint ventures, dispositions and restructurings.

We are continuously reviewing the alternatives available to ensure that we meet our strategic objectives, which include, among other things, acquisitions, joint ventures, dispositions and restructuring. With respect to potential acquisitions, joint ventures and restructuring actions, we may not achieve expected returns and other benefits as a result of various factors, including integration and collaboration challenges, such as personnel and technology. In addition, we may not achieve anticipated cost savings from restructuring actions. We also may participate in joint ventures with other companies or enterprises in various markets, including joint ventures where we may have a lesser degree of control over the business operations, which may expose us to additional operational, financial, legal or compliance risks. We also continue to evaluate the potential disposition of assets and businesses that may no longer help us meet our objectives. When we decide to sell assets or a business, we may encounter difficulty in finding buyers or executing alternative exit strategies on acceptable terms in a timely manner, which could delay the accomplishment of our strategic objectives. Alternatively, we may dispose of a business at a price or on terms that are less than we had anticipated. Failure to achieve our strategic objectives could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Risks Relating to Ownership of Our Common Stock

The trading price and volume of our common stock may be volatile and the value of your investment could decline.

The trading price of and demand for shares of our common stock could fluctuate and will depend on a number of conditions, including:

- the risk factors described in this Annual Report on Form 10-K;
- general economic conditions internationally and within the U.S., including changes in interest rates;
- changes in electricity and natural gas prices;
- actual or anticipated fluctuations in our quarterly and annual results and those of its competitors;
- the businesses, operations, results and prospects of us;
- future mergers and strategic alliances;
- market conditions in the energy industry;
- changes in government regulation, taxes, legal proceedings or other developments;
- shortfalls in our operating results from levels forecasted by securities analysts;
- investor sentiment toward the stock of energy companies in general;
- announcements concerning us or its competitors;
- maintenance of acceptable credit ratings or credit quality; and
- the general state of the securities markets.

These and other factors may impair the development or sustainability of a liquid market for shares of our common stock and the ability of investors to sell shares at an attractive price. These factors also could cause the market price and demand for shares of our common stock to fluctuate substantially, which may negatively affect the price and liquidity of shares of our common stock. These fluctuations could cause you to lose all or part of your investment in shares of our common stock. Many of these factors and conditions are beyond our control and may not be related to our operating performance.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about us or our businesses, the price and trading volume of our common stock could decline.

The trading market for our common stock will, to some extent, depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If one or more of the analysts who cover us should downgrade our shares or change their opinion of our business prospects, our share price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our stock price and trading volume to decline.

Iberdrola exercises significant influence over us, and its interests may be different than yours. Additionally, future sales or issuances of our common stock by Iberdrola, S.A. could have a negative impact on the price of our common stock.

Iberdrola owns approximately 81.5% of outstanding shares of our common stock and will be able to exercise significant influence over our business policies and affairs, including the composition of our board of directors and any action requiring the approval of our shareholders, including the adoption of amendments to the certificate of incorporation and bylaws and the approval of a merger or sale of substantially all of our assets, subject to applicable law and the limitations set forth in the shareholder agreement. The directors designated by Iberdrola will have significant authority to effect decisions affecting our capital structure, including the issuance of additional capital stock, incurrence of additional indebtedness, the implementation of stock repurchase programs and the decision of whether or not to declare dividends.

The interests of Iberdrola may conflict with the interests of our other shareholders. For example, Iberdrola may support certain long-term strategies or objectives for us that may not be accretive to shareholders in the short term. The concentration of ownership may also delay, defer or even prevent a change in control, even if such a change in control would benefit our other shareholders, and may make some transactions more difficult or impossible without the support of Iberdrola. This significant concentration of share ownership may adversely affect the trading price for shares of our common stock because investors may perceive disadvantages in owning stock in companies with shareholders who own significant percentages of a company's outstanding stock.

Further, sales of our common stock by Iberdrola or the perception that sales may be made by it could significantly reduce the market price of shares of our common stock. We and Iberdrola are parties to a shareholder agreement pursuant to which Iberdrola will be generally restricted from transferring shares of our common stock, subject to certain exceptions. Iberdrola will also be restricted, for a period of three years after the completion of the proposed merger, from transferring more than an aggregate of 10% of the outstanding shares of our common stock in any transaction or series of transactions, unless all of our shareholders are entitled to participate in such transaction (on a *pro rata* basis) and are entitled to the same per share consideration to be received in such transaction as Iberdrola. In addition, even if Iberdrola does not sell a large number of shares of our common stock into the market, its right to transfer such shares may depress the price of our common stock. Furthermore, pursuant to the shareholder agreement and subject to the terms and conditions therein, Iberdrola will be entitled to customary registration rights of our common stock, including the right to choose the method by which the common stock are distributed, a choice as to the underwriter and fees and expenses to be borne by us. Iberdrola will also retain preemptive rights to protect against dilution in connection with issuances of equity by us. If Iberdrola exercises its registration rights and/or its preemptive rights, the market price of shares of our common stock may be adversely affected.

We have elected to take advantage of the “controlled company” exemption to the corporate governance rules for NYSE-listed companies, which could make shares of our common stock less attractive to some investors or otherwise harm our stock price.

Under the rules of the NYSE, a company in which over 50% of the voting power is held by an individual, a group or another company is a “controlled company” and is not required to have:

- a majority of its board of directors be independent directors;
- a compensation committee, or to have such committees be composed entirely of independent directors; and
- a nominating and corporate governance committee, or to have such committee composed entirely of independent directors.

In October 2016, our board determined that it was in the best interests of the company to establish a compensation, nominating and corporate governance committee. In light of our status as a controlled company, we currently rely on the NYSE exemptions with respect to board, compensation committee and nominating and corporate governance committee independence.

Because we are a controlled company, you will not have the same protections afforded to shareholders of companies that are subject to all of the corporate governance requirements of the NYSE without regard to the exemptions available for “controlled companies.” Our status as a controlled company could make our shares of common stock less attractive to some investors or otherwise harm our stock price.

Our dividend policy is subject to the discretion of our board of directors and may be limited by our debt agreements and limitations under New York law.

Although we currently anticipate paying a regular quarterly dividend, any such determination to pay dividends is at the discretion of our board of directors and dependent on conditions such as our financial condition, earnings, legal requirements, including limitations under New York law, restrictions in our debt agreements that limit our ability to pay dividends to shareholders and other factors the board of directors deem relevant. Our board of directors may, in its sole discretion, change the amount or

frequency of dividends or discontinue the payment of dividends entirely. For these reasons, you will not be able to rely on dividends to receive a return on your investment.

If we are unable to implement and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the trading price of our common stock may be negatively affected.

As a public company, we are subject to reporting, disclosure control and other obligations under the Exchange Act, the Sarbanes-Oxley Act, or SOX, the Dodd-Frank Act, as well as rules adopted, and to be adopted, by the SEC and the NYSE. For example, beginning with this Annual Report on Form 10-K, Section 404 of SOX requires our management to report on the effectiveness of our internal control over financial reporting and our independent registered public accounting firm to attest to the effectiveness of our internal controls. Our management and other personnel will continue to devote a substantial amount of time to these compliance activities. If we are not able to comply with the requirements of Section 404 in a timely manner or if we are unable to conclude that our internal control over financial reporting is effective, our ability to accurately report our cash flows, results of operations or financial condition could be inhibited and additional financial and management resources could be required. Any failure to maintain internal control over financial reporting or if our independent registered public accounting firm determines that we have a material weakness or significant deficiency in our internal control over financial reporting, could cause investors to lose confidence in the accuracy and completeness of our financial reports, a decline in the market price of our common stock, or subject us to sanctions or investigations by the NYSE, the SEC or other regulatory authorities. Failure to remedy any material weakness or significant deficiency in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets and reduce or eliminate the trading market for our common stock. Further, as a result of becoming a public company, we have incurred and will continue to incur higher legal, accounting and other expenses than we did as a private company, and these expenses may increase even more in the future.

Item 1B. Unresolved Staff Comments.

None

Item 2. Properties.

We have included descriptions of the location and general character of our principal physical operating properties by segment in “Item 1. Business”, which is incorporated herein by reference. The principal offices of AVANGRID and Networks are located in New Gloucester, Maine, Rochester, New York and New Haven and Orange, Connecticut. Renewables’ headquarters is located in Portland, Oregon, while Gas is principally located in Houston, Texas. In addition, AVANGRID and its subsidiaries have various administrative offices located throughout the United States. AVANGRID leases part of its administrative and local offices.

The following table sets forth the principal properties of AVANGRID, by location, type, lease or ownership and size as of December 31, 2016:

Location	Type of Facility	Lease/Owned	Size (square feet)
New Haven, Connecticut	Office	Leased	51,307
Orange, Connecticut	Office	Owned	337,586
Augusta, Maine	Office	Leased	220,400
New Gloucester, Maine	Office	Leased	60,913
Rochester, New York	Office	Owned	122,494
Portland, Oregon	Office	Leased	57,082
Houston, Texas	Office	Leased	21,571

We believe that our office facilities are adequate for our current needs and that additional office space can be obtained if necessary.

Item 3. Legal Proceedings.

We are involved in various proceedings, legal actions and claims arising in the normal course of our respective businesses. The outcomes of these matters will generally not be known for an extended period of time. In certain of the legal proceedings, the claimants seek damages, as well as other compensatory relief, which could result in the payment of significant claims and settlements.

While the ultimate outcome and impact of any proceeding cannot be predicted with certainty, management believes that the resolution of its pending proceedings will not have a material adverse effect on its financial condition or results of operations.

FirstEnergy

NYSEG sued FirstEnergy under the Comprehensive Environmental Response, Compensation, and Liability Act to recover environmental cleanup costs at sixteen former manufactured gas sites, which are included in the discussion above. In July 2011, the District Court issued a decision and order in NYSEG's favor. Based on past and future clean-up costs at the sixteen sites in dispute, FirstEnergy would be required to pay NYSEG approximately \$60 million if the decision were upheld on appeal. On September 9, 2011, FirstEnergy paid NYSEG \$30 million, representing their share of past costs of \$27 million and pre-judgment interest of \$3 million.

FirstEnergy appealed the decision to the Second Circuit Court of Appeals. On September 11, 2014, the Second Circuit Court of Appeals affirmed the District Court's decision in NYSEG's favor, but modified the decision for nine sites, reducing NYSEG's damages for incurred costs from \$27 million to \$22 million, excluding interest, and reducing FirstEnergy's allocable share of future costs at these sites. NYSEG refunded FirstEnergy the excess \$5 million in November 2014.

FirstEnergy remains liable for a substantial share of clean up expenses at nine MPG sites. In January 2015, NYSEG sent FirstEnergy a demand for \$16 million representing FirstEnergy's share of clean-up expenses incurred by NYSEG at the nine sites from January 2010 to November 2014 while the District Court appeal was pending. Nearly all of this amount has been paid by FirstEnergy. FirstEnergy would also be liable for a share of post 2014 costs, which, based on current projections, would be \$26 million. This amount is being treated as a contingent asset and has not been recorded as either a receivable or a decrease to the environmental provision. Any recovery will be flowed through to NYSEG ratepayers.

Century Indemnity and OneBeacon

NYSEG filed suit in federal court on August 14, 2013 against two excess insurers, Century Indemnity and OneBeacon, who provided excess liability coverage to NYSEG. NYSEG seeks payment for clean-up costs associated with contamination at twenty-two former manufactured gas plants. Based on estimated clean-up costs of \$282 million, the carriers' allocable share is approximately \$89 million, excluding pre-judgment interest. Any recovery will be flowed through to NYSEG ratepayers.

Century Indemnity and One Beacon have answered admitting issuance of the excess policies, but contesting coverage and providing documentation proving they received notice of the claims in the 1990s. We cannot predict the outcome of this matter; however, any recovery will be flowed through to NYSEG ratepayers.

Shareholder Derivative Action

On February 27, 2015, a complaint was filed in Connecticut state court against us, UIL, its board of directors and others related to our acquisition of UIL. The complaint is a class action filed on behalf of all UIL shareowners. The complaint generally alleges that UIL's directors breached their fiduciary duties by failing to maximize shareowner value in negotiating and approving the acquisition, and that we, UIL, and/or Morgan Stanley aided and abetted the UIL Board's alleged breaches.

On November 30, 2015, the plaintiffs and the defendants executed a binding Memorandum of Understanding, or MOU, that sets forth the terms on which the parties have agreed to settle the consolidated action. The settlement terms do not include any change in the acquisition consideration but only additional disclosures relating to information included in our Registration Statement on Form S-4 filed with the SEC, which was declared effective on November 12, 2015, additional confirmatory discovery, and plaintiffs' counsel fees. The parties have agreed on the fees and submitted the unopposed settlement and dismissal to the Court on August 26, 2016. On November 4, 2016, the Court issued its preliminary approval of the settlement, there were no objections to the settlement, and on January 30, 2017, the Court held a final settlement hearing. A final decision is pending. We cannot predict the ultimate outcome of this matter.

Avangrid Renewables, LLC and Northern Indiana Public Service Company

Renewables has a contractual dispute with the Northern Indiana Public Service Company, or NIPSCO, concerning the interpretation of two November 2007 PPAs, entered into between two subsidiaries of Renewables and NIPSCO. Renewables and NIPSCO disagree regarding how, if at all, NIPSCO's response to a March 2013 change in the regulations of the Midcontinent Independent System Operator, or MISO, which administers the energy markets in which NIPSCO participates, affects their rights and obligations under the PPAs. Because of the disagreement, NIPSCO has refused to pay, and denied any obligation to pay, certain invoices Renewables' affiliates have issued to NIPSCO. These invoices seek compensation for periods during which Renewables' affiliates' power plants were not permitted to produce power as a result of NIPSCO's bids submitted under the new MISO regulations.

To resolve this dispute, on July 25, 2013, Renewables filed a complaint against NIPSCO in the Federal District Court for the Northern District of Illinois. Fact discovery and expert discovery in that action is complete. The parties to the dispute are seeking dismissal of the case through summary judgment. The court is initially denied both summary judgment motions in early 2016, but in January 2017, the parties requested reconsideration of this ruling in light of a December 16, 2016, ruling by the Seventh Circuit Court of Appeals in another dispute arising out under the new MISO rules. No trial date has been set. We cannot predict the ultimate outcome of this matter.

California Energy Crisis Litigation

Two California agencies brought a complaint in 2001 against a long-term power purchase agreement entered into by Renewables, as seller, to the California Department of Water Resources, as purchaser, alleging that the terms and conditions of the power purchase agreement were unjust and unreasonable. FERC dismissed Renewables from the proceedings; however, the Ninth Circuit Court of Appeals reversed FERC's dismissal of Renewables.

Joining with two other parties, Renewables filed a petition for certiorari in the United States Supreme Court on May 3, 2007. In an order entered on June 27, 2008, the Supreme Court granted Renewables' petition for certiorari, vacated the appellate court's judgment, and remanded the case to the appellate court for further consideration in light of the Supreme Court's decision in a similar case. In light of the Supreme Court's order, on December 4, 2008, the Ninth Circuit Court of Appeals vacated its prior opinion and remanded the complaint proceedings to the FERC for further proceedings consistent with the Supreme Court's rulings. In 2014 FERC assigned an administrative law judge to conduct evidentiary hearings. Following discovery, the FERC Trial Staff recommended that the complaint against Renewables be dismissed.

A hearing was held before an administrative law judge of the FERC in November and early December 2015. A preliminary proposed ruling by the administrative law judge was issued on April 12, 2016. The proposed ruling found no evidence that Renewables had engaged in any unlawful market contract that would justify finding the Renewables power purchase agreements unjust and unreasonable. However, the proposed ruling did conclude that price of the power purchase agreements imposed an excessive burden on customers in the amount of \$259 million. Renewables position, as presented at hearings and agreed by the FERC Trial Staff, is that Renewables entered into bilateral power purchase contracts appropriately and complied with all applicable legal standards and requirements. The parties have submitted to the FERC briefs on exceptions to the administrative law judge's proposed ruling. There is no specific timetable to the FERC's ruling. We cannot predict the outcome of this proceeding.

Yankee Nuclear Spent Fuel Disposal Claim

CMP has an ownership interest in Maine Yankee Atomic Power Company, Connecticut Yankee Atomic Power Company, and Yankee Atomic Electric Company (the Yankee Companies), three New England single-unit decommissioned nuclear reactor sites, and UI has an ownership interest in Connecticut Yankee Atomic Power Company. Every six years, pursuant to the statute of limitations, the Yankee Companies file a lawsuit to recover damages from the Department of Energy (DOE) for breach of the Nuclear Spent Fuel Disposal Contract to remove spent nuclear fuel (SNF) and Greater than Class C Waste as required by contract and the Nuclear Waste Policy Act beginning in 1998. The damages are the incremental costs for the DOE's failure to take the spent nuclear fuel.

In 2012, the U.S. Court of Appeals issued a favorable decision in the Yankee Companies' claim for the first six year period (Phase I). Total damages awarded to the Yankee Companies were nearly \$160 million. CMP's share of the award was approximately \$36.5 million which was credited back to customers. UI's share of the award was \$3.8 million which was credited back to customers.

In November 2013 the U.S. Court of Claims issued its decision in the Phase II case (the second six-year period, 2002-2008). The court's decision awarded the Yankee Companies a combined \$235.4 million (Connecticut Yankee \$126.3 million, Maine Yankee \$37.7 million, and Yankee Atomic \$73.3 million). In January 2014, the DOE informed the Yankee Companies it would not appeal the court's decision. As a result the Yankee Companies received full payment in April 2014. CMP's share of the award was approximately \$28.2 million which was credited back to customers. UI received approximately \$12 million of such award which was applied, in part, against its remaining storm regulatory asset balance. The remaining regulatory liability balance was applied to UI's generation service charge (GSC) "working capital allowance" and was returned to customers through the non-by-passable federally mandated congestion charge.

In March 2016 the U.S. Court of Claims issued its decision in the Phase III case (the third six-year period, 2009-2014), awarding the Yankee Companies a combined \$76.8 million (Connecticut Yankee \$32.6 million, Maine Yankee \$24.6 million and Yankee Atomic \$19.6 million). The damage awards, less any amount retained to reduce future customer charges, will potentially flow through the Yankee Companies to shareholders, including CMP and UI, upon FERC approval, and will reduce retail customer charges or otherwise as specified by law. CMP and UI will receive their proportionate share of the awards that flow through based on

percentage ownership. On July 18, 2016, the notice of appeal period expired and the Phase III trial award became final. On October 14, 2016, the Yankee Companies received the DOE's payment of the damage award. We cannot predict the timing or amount of damage awards that may ultimately flow through to customers.

English Station

In January 2012, Evergreen Power, LLC (Evergreen Power) and Asnat Realty LLC (Asnat), then and current owners of a former generation site on the Mill River in New Haven (the English Station site) that UI sold to Quinnipiac Energy in 2000, filed a lawsuit in federal district court in Connecticut against UI seeking, among other things: (i) an order directing UI to reimburse the plaintiffs for costs they have incurred and will incur for the testing, investigation and remediation of hazardous substances at the English Station site and (ii) an order directing UI to investigate and remediate the site. This proceeding had been stayed in 2014 pending resolution of other proceedings before the Connecticut Department of Energy and Environmental Protection, or DEEP, concerning the English Station site. In December 2016, the court administratively closed the file without prejudice to reopen upon the filing of a motion to reopen by any party. In December 2013, Evergreen and Asnat filed a subsequent lawsuit in Connecticut state court seeking among other things: (i) remediation of the property; (ii) reimbursement of remediation costs; (iii) termination of UI's easement rights; (iv) reimbursement for costs associated with securing the property; and (v) punitive damages. This lawsuit had been stayed in May 2014 pending mediation. Due to lack of activity in the case, the court terminated the stay and scheduled a status conference on or before August 1, 2017.

On April 8, 2013, DEEP issued an administrative order addressed to UI, Evergreen Power, Asnat and others, ordering the parties to take certain actions related to investigating and remediating the English Station site. Mediation of the matter began in the fourth quarter of 2013 and concluded unsuccessfully in April 2015. This proceeding was stayed while DEEP and UI continue to work through the remediation process pursuant to the consent order described below. A status report was filed with the court in December 2016 and the next status report is due in May 2017.

On August 4, 2016, DEEP issued the consent order that, subject to its terms and conditions, requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such cost and \$30 million, to be applied to a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut, and the Commissioner of DEEP. However, UI is obligated to comply with the terms of the consent order even if the cost of such compliance exceeds \$30 million. Under the terms of the consent order, the State will discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties; however, it is not bound to agree to or support any means of recovery or funding.

In connection with the consent order, on August 4, 2016, DEEP also issued a consent order to Evergreen Power, Asnat, and certain related parties that provides UI access to investigate and remediate the English Station site consistent with the terms of the August 2016 consent order. UI has initiated its process to investigate and remediate the environmental conditions within the perimeter of the English Station site pursuant to the consent order.

Other Legal Proceedings

We have included descriptions of the regulatory environment and environmental, health and safety in "Item 1. *Business*," general information about several significant risks in "Item 1A. *Risk Factors*" and other legal proceedings that we believe could be material to us in Notes 13 and 14 of our audited consolidated financial statements for the three years ended December 31, 2016, which are incorporated herein by reference.

Item 4. *Mine Safety Disclosures.*

Not Applicable.

Executive Officers of AVANGRID

The names and ages of all executive officers of AVANGRID as of March 10, 2017 and a brief account of the business experience during the past five years of each executive officer are as follows:

Name	Age*	Title
James P. Torgerson	64	Chief Executive Officer
Richard J. Nicholas	61	Senior Vice President – Chief Financial Officer
Daniel Alcain	43	Senior Vice President – Controller
Frank Burkhartsmeier	52	Chief Executive Officer of Renewables
Sara J. Burns	61	President and Chief Executive Officer of CMP
Sheila Duncan	52	Senior Vice President – Human Resources & Corporate Administration
Ignacio Estella	47	Senior Vice President – Corporate Development
Daryl W. Gee	53	Chief Executive Officer of Gas
Robert D. Kump	55	President and Chief Executive Officer of Networks
Mark S. Lynch	63	President and Chief Executive Officer of NYSEG and RG&E
R. Scott Mahoney	51	Senior Vice President – General Counsel and Chief Compliance Officer; Secretary
Anthony Marone	53	President and Chief Executive Officer of UIL

(*) Age as of December 31, 2016.

James P. Torgerson. Mr. Torgerson was appointed Chief Executive Officer of AVANGRID on December 16, 2015, upon consummation of the acquisition of UIL. Previously, Mr. Torgerson served as president and chief executive officer of UIL since 2006. Prior to 2006, Mr. Torgerson was president and chief executive officer of MISO. He is a trustee of the Yale-New Haven Hospital and a Director of Yale New Haven Health System. Mr. Torgerson is the chairman of the Connecticut Institute for the 21st Century. He is the former chairman and a director of the Connecticut Business and Industry Association and is a member of the board of the Edison Electric Institute and the American Gas Association. Mr. Torgerson is a trustee of the Hartford Bishops' Foundation for the Archdiocese of Hartford. Mr. Torgerson holds a bachelor's of business administration degree in accounting from Cleveland State University.

Richard J. Nicholas. Mr. Nicholas was appointed Chief Financial Officer of AVANGRID on December 17, 2015, upon consummation of the acquisition of UIL. Previously, Mr. Nicholas served as executive vice president and chief financial officer of two subsidiaries of AVANGRID, UIL and UI, from March 2005 until December 2015. Effective November 16, 2010, Mr. Nicholas was appointed chief financial officer of BGC, CNG and SCG, all of which are subsidiaries of AVANGRID. Mr. Nicholas earned his undergraduate degree in business and administration with a concentration in finance from Duquesne University and holds a M.B.A. from the University of New Haven.

Daniel Alcain. Mr. Alcain was appointed Senior Vice President – Controller of AVANGRID on December 17, 2015. Previously, Mr. Alcain was chief financial officer of Scottish Power, from April 2012 until December 2015, and Iberdrola USA, Inc., from December 2009 until March 2012. Mr. Alcain joined the Iberdrola Group in 2001 and worked for four years in Latin America within the Control area. He holds two degrees in economy and law from the University of Valladolid.

Frank Burkhartsmeier. Mr. Burkhartsmeier was appointed Chief Executive Officer of Renewables in April 2015. Mr. Burkhartsmeier previously served as senior vice president of finance of ARHI from July 2012 until March 2015, and as vice president of strategy, planning and market fundamentals at Renewables from July 2006 until June 2012, both subsidiaries of AVANGRID. He also served as managing director of corporate strategy of Scottish Power between June 2004 and September 2005. Mr. Burkhartsmeier earned a B.A. from the University of Montana and a M.B.A. from the University of Oregon.

Sara J. Burns. Ms. Burns was appointed President and Chief Executive Officer of CMP in 2005. She has served as President of CMP since 1998. Ms. Burns is the chairman of the board of directors of Maine & Company and serves on the board of directors of the Mitchell Institute and the Maine State Chamber of Commerce. She holds a B.A. in Political Science and Government from Colby College.

Sheila Duncan. Ms. Duncan was appointed Senior Vice President – Human Resources & Corporate Administration of AVANGRID on December 17, 2015. She previously served as human resources and shared services director of Scottish Power from March 2009 until December 2015. She holds a Master of Arts (Hons) from the University of Glasgow and is a chartered fellow of the Institute of Personnel & Development in the UK.

Ignacio Estella. Mr. Estella was appointed Senior Vice President – Corporate Development of AVANGRID on December 17, 2015. Previously, Mr. Estella served as corporate vice president of business origination of Iberdrola from May 2009 until November 2013 and vice president – corporate development of Iberdrola USA, Inc., from December 2013 to December 16, 2015. He served as gas markets development director of Iberdrola between February 2007 and April 2009. Mr. Estella holds a degree in law and business administration from the Universidad Pontificia Comillas and a master of public administration, with concentration in regulation and industry analysis and negotiation and conflict resolution from Harvard University.

Daryl W. Gee. Mr. Gee was appointed Chief Executive Officer of Gas in May, 2014. He has also served as Chief Executive Officer and President of Enstor Energy Services LLC and Enstor, Inc. since 2014, both subsidiaries of AVANGRID. Previously, Mr. Gee served as chief compliance officer and vice president of Gas, Enstor Energy Services LLC and Enstor, Inc. between March, 2013 and May, 2014. From 2002 through March 2013, Mr. Gee served as director of regulatory affairs and director of business development for Enstor, Inc. Mr. Gee holds a bachelor of applied arts and sciences in petroleum land management /petroleum technology and marketing from the Stephen F. Austin State University.

Robert D. Kump. Mr. Kump was appointed Chief Executive Officer of Networks in November 2010. Mr. Kump served as AVANGRID's Chief Corporate Officer in January 2014. Mr. Kump also has served as a director of AVANGRID's subsidiaries CMP, NYSEG, and RG&E since 2009, as the President of the Avangrid Management Company, LLC since March 2012 and as the Chief Executive Officer of AVANGRID Service Company since October 2009. Mr. Kump held various positions from February 1997 to October 2009 as AVANGRID's senior vice president and chief financial officer, vice president, controller and chief accounting officer, treasurer and secretary. Mr. Kump also previously held a number of positions at NYSEG from 1986 to 1997, including senior accountant-external financial reporting, director-investor relations, director-financial services, and treasurer. Mr. Kump earned a B.A. in accounting from Binghamton University and is a C.P.A. in New York.

Mark S. Lynch. Mr. Lynch was appointed President of NYSEG and RG&E in January 2010 and Chief Executive Officer in January, 2014, and serves on the board of directors of NYSEG and RG&E. Mr. Lynch also served as president and chief executive officer of NYISO from 2005 to 2008. Mr. Lynch earned a bachelor of electrical engineering from Villanova University.

R. Scott Mahoney. Mr. Mahoney was appointed Senior Vice President – General Counsel and Chief Compliance Officer of AVANGRID on December 17, 2015. He was appointed Secretary of AVANGRID on January 27, 2016, and previously served as vice president-general counsel and secretary of Networks. Mr. Mahoney has served as AVANGRID's General Counsel since June 2012. Mr. Mahoney previously served as Deputy General Counsel and Chief FERC Compliance Officer for AVANGRID from January 2007 to June 2012, and previously served in legal and senior executive positions at AVANGRID subsidiaries from October 1996 until January 2007. Mr. Mahoney also serves on the board of directors of the Gulf of Maine Research Institute. Mr. Mahoney earned a B.A. from St. Lawrence University, a J.D. from the University of Maine, a master's degree in environmental law from the Vermont Law School, and a postgraduate diploma in business administration from the University of Warwick. He has received bar admission to the State of Maine, the State of New York, the U.S. Court of Appeals, the U.S. District Court and the U.S. Court of Military Appeals.

Anthony Marone. Mr. Marone was appointed President and Chief Executive Officer of UIL on September 9, 2016. In this role, he has overall responsibility for Avangrid Networks' electric and natural gas operating companies in Connecticut and Massachusetts. Mr. Marone also serves as President – Connecticut and Massachusetts Operations and senior vice president of gas operations of Avangrid Service Company, overseeing the natural gas operations of Networks. Previously Mr. Marone served as senior vice president of customer and business services of UIL since May 14, 2013. Mr. Marone served as senior vice president – business services of UI and vice president of business services of UIL from November 16, 2010 to May 2013. Mr. Marone received his master's degree in engineering and business management from the University of New Haven and a bachelor's degree in mechanical engineering from the New York Institute of Technology.

PART II

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Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

Our shares of common stock began trading on the New York Stock Exchange, or NYSE, on December 17, 2015, under the symbol "AGR." Prior to that time, there was no public market for shares of our common stock. The following table sets forth on a per share basis, for the periods indicated, the high and low sale prices of our common stock as reported by the NYSE.

	2016 Sales Price		2015 Sales Price	
	High	Low	High	Low
First Quarter	\$ 42.40	\$ 36.01	—	—
Second Quarter	\$ 46.49	\$ 37.07	—	—
Third Quarter	\$ 46.74	\$ 40.71	—	—
Fourth Quarter	\$ 41.88	\$ 35.42	\$ 38.90	\$ 32.45

As of March 9, 2017, there were 3,463 shareholders of record.

Dividends

The quarterly cash dividends declared in 2016 were at a rate of \$0.432 per share.

AVANGRID expects to continue paying quarterly cash dividends, although there is no assurance as to the amount of future dividends which depends on future earnings, capital requirements, and financial condition.

Further information regarding payment of dividends is provided in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Annual Report on Form 10-K.

Performance Graph

The line graph appearing below compares the change in AVANGRID's total shareholder return on its shares of common stock with the return on the S&P Composite-500 Stock Index, the S&P Electric Utilities Index and the S&P Utilities Index for the period December 17, 2015 through December 31, 2016.

Cumulative Total Return Comparison
December 17, 2015 – December 31, 2016



	December 17, 2015		December 31, 2015		December 31, 2016	
AVANGRID	\$	100	\$	106.30	\$	109.46
S&P 500	\$	100	\$	100.70	\$	112.13
S&P Electric Utilities Index	\$	100	\$	100.50	\$	116.32
S&P Utilities Index	\$	100	\$	100.10	\$	117.02

The above information assumes that the value of the investment in shares of AVANGRID's common stock and each index was \$100 on December 17, 2015, including dividend reinvestment during this time period. The changes displayed are not necessarily indicative of future returns.

Recent Sales of Unregistered Securities

None.

Issuer Repurchases of Equity Securities

AVANGRID repurchased 18,352 shares of common stock in open market transactions within the fourth quarter of the year ended December 31, 2016, to maintain the relative ownership percentage of Iberdrola at 81.5% as follows:

Period	Total Number of Shares Purchased*	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs
October 1-31	—	—	—	—
November 1-30	18,352	\$ 37.14	None	None
December 1-31	—	—	—	—
Total	18,352	\$ 37.14	None	None

* All shares were purchased in open market transactions. The effects of these transactions did not change the number of outstanding shares of AVANGRID common stock.

Equity Compensation Plan Information

For information regarding securities authorized for issuance under equity compensation plans, see Part III, Item 12 of this Annual Report on Form 10-K.

Item 6. Selected Financial Data

Consolidated and Combined Statements of Operations Data: *	Year Ended December 31, (millions, except per share data)				
	2016	2015	2014	2013	2012
Operating Revenues	\$ 6,018	\$ 4,367	\$ 4,594	\$ 4,313	\$ 4,055
Operating Income From Continuing Operations	1,194	513	885	179	262
Income (Loss) Before Income Tax	1,009	301	706	(15)	60
Income tax expense (benefit)	379	34	282	35	(117)
Net Income (Loss) From Continuing Operations	630	267	424	(50)	177
Net Income From Discontinued Operations	—	—	—	—	74
Net Income (Loss)	630	267	424	(50)	251
Less: Net income attributable to noncontrolling interests	—	—	0	1	1
Net Income (Loss) Attributable to AVANGRID, Inc.	630	267	424	(51)	250

Earnings (Loss) Per Common Share, Basic and Diluted:

Earnings (loss) from continuing operations per common share, basic and diluted	2.04	1.05	1.68	(0.20)	0.69
Earnings (loss) from discontinued operations per common share, basic and diluted	—	—	—	—	0.30
Total Earnings (Loss) Per Common Share, Basic and Diluted	\$ 2.04	\$ 1.05	\$ 1.68	\$ (0.20)	\$ 0.99

Weighted-average Number of Common Shares Outstanding:

Basic	309,512,553	254,588,212	252,235,232	252,235,232	252,235,232
Diluted	309,817,322	254,605,111	252,235,232	252,235,232	252,235,232

Consolidated and Combined Balance Sheet Data:*

As of December 31, (Millions)	2016	2015	(millions) 2014	2013	2012
Total Property, Plant and Equipment	\$ 21,548	\$ 20,711	\$ 17,133	\$ 16,715	\$ 16,643
Total Other Assets	3,976	3,795	2,075	2,137	2,376
Total Assets	\$ 31,309	\$ 30,743	\$ 24,162	\$ 23,170	\$ 23,671

As of December 31, (Millions)	2016	2015	(millions) 2014	2013	2012
Liabilities					
Current portion of debt	\$ 349	\$ 206	\$ 148	\$ 25	\$ 354
Non-current debt	4,510	4,530	2,489	2,669	2,780
Total Liabilities	16,187	15,677	11,685	11,119	12,323
Total Stockholder's Equity	15,109	15,053	12,461	12,036	11,334
Total Equity	\$ 15,122	\$ 15,066	\$ 12,477	\$ 12,051	\$ 11,348

*Selected financial data for UIL is included from December 16, 2015.

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion of our financial condition and results of operations in conjunction with the consolidated financial statements and the notes thereto included elsewhere in this Annual Report on Form 10-K. In addition to historical consolidated financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, and beliefs. Our actual results could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in Part I, Item 1A, "Risk Factors."

AVANGRID is a diversified energy and utility company with more than \$30 billion in assets and operations in 26 states. The company operates regulated utilities and electricity generation through two primary lines of business. Avangrid Networks includes eight electric and natural gas utilities, serving 3.1 million customers in New York and New England. Avangrid Renewables operates 6.5 gigawatts of electricity capacity, primarily through wind power, in states across the United States. AVANGRID employs approximately 7,000 people. The company was formed by a merger between Iberdrola USA, Inc. and UIL Holdings Corporation in 2015. Iberdrola S.A., or Iberdrola, a corporation (*sociedad anónima*) organized under the laws of the Kingdom of Spain, a worldwide leader in the energy industry, directly owns 81.5% of the outstanding shares of AVANGRID common stock. Our primary business is ownership of our operating businesses, which are described below.

Our direct, wholly-owned subsidiaries include Avangrid Networks, Inc., or Networks, and Avangrid Renewables Holdings, Inc., or ARHI. ARHI in turn holds subsidiaries including Avangrid Renewables LLC, or Renewables, and Enstor Gas, LLC, or Gas. Networks, owns and operates our regulated utility businesses through its subsidiaries, including electric transmission and distribution and natural gas distribution, transportation and sales. Renewables operates a portfolio of renewable energy generation facilities primarily using onshore wind power and also solar, biomass and thermal power. Gas operates our natural gas storage facilities and gas trading businesses through Enstor Energy Services LLC (gas trading) and Enstor Inc. (gas storage).

On December 16, 2015, we completed our acquisition of UIL Holdings Corporation, or UIL. Immediately following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola owned the remaining shares. The acquisition was accounted for as a business combination. The results of operations of UIL since December 16, 2015, the acquisition date, have been included in the consolidated results of AVANGRID. Effective as of April 30, 2016, UIL and its subsidiaries were transferred to a wholly-owned subsidiary of Networks. Further information regarding the accounting for the acquisition is provided in Note 4 of our audited consolidated financial statements for the three years ended December 31, 2016, which are incorporated herein by reference.

Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 992,000 natural gas public utility customers as of December 31, 2016.

Networks, a Maine corporation, holds our regulated utility businesses, including electric transmission and distribution and natural gas distribution, transportation and sales. Networks serves as a super-regional energy services and delivery company through eight regulated utilities it owns directly:

- New York State Electric & Gas Corporation, or NYSEG, which serves electric and natural gas customers across more than 40% of the upstate New York geographic area;
- Rochester Gas and Electric, or RG&E, which serves electric and natural gas customers within a nine-county region in western New York, centered around Rochester;
- The United Illuminating Company, or UI, which serves electric customers in southwestern Connecticut;
- Central Maine Power Company, or CMP, which serves electric customers in central and southern Maine;
- The Southern Connecticut Gas Company, or SCG, which serves natural gas customers in Connecticut;
- Connecticut Natural Gas Corporation, or CNG, which serves natural gas customers in Connecticut;

- The Berkshire Gas Company, or BGC, which serves natural gas customers in western Massachusetts; and
- Maine Natural Gas Corporation, or MNG, which serves natural gas customers in several communities in central and southern Maine.

Through Renewables, we had a combined wind, solar and thermal installed capacity of 6,538 megawatts, or MW, as of December 31, 2016, including Renewables' share of joint projects, of which 5,852 MW was installed wind capacity. Approximately 62% of the capacity was contracted as of December 31, 2016, for an average period of 9.5 years. As the second largest wind operator in the United States based on installed capacity as of December 31, 2016, Renewables strives to lead the transformation of the U.S. energy industry to a competitive, clean energy future. Renewables currently operates 54 wind farms in 19 states across the United States.

Through Gas, as of December 31, 2016, we own approximately 67.5 billion cubic feet, or Bcf, of net working gas storage capacity. Gas operates 52.4 Bcf of contracted or managed natural gas storage capacity in North America through Enstor Energy Services, LLC, as of December 31, 2016.

Summary of Results of Operations

Our operating revenues increased by 38%, from \$4.4 billion for the year ended December 31, 2015, to \$6.0 billion for the year ended December 31, 2016.

The increase in operating revenues was largely due to the inclusion of UIL, which was not in the comparable period, adding \$1.6 billion in revenues for the year ended December 31, 2016. The Networks and Gas business revenues increased on the impact of favorable operating conditions partially offset by unfavorable mark-to-market, or MtM, changes on derivatives at Renewables.

Net income increased by 136% from \$267 million for the year ended December 31, 2015, to \$630 million for the year ended December 31, 2016, primarily due to the additional contribution of UIL. Other Networks businesses' net income also significantly improved as higher electricity and gas revenues and rate case impacts occurred offset by increases in costs resulting from higher transmission support expense. Renewables net income decreased as a result of lower average prices and unfavorable MtM changes on derivatives offset by favorable changes from the revision of estimated useful lives of wind power station assets. Gas net loss decreased due to favorable MtM changes on derivatives and transport contracts.

Adjusted earnings before interest, tax, depreciation and amortization, or adjusted EBITDA (a non-GAAP financial measure), increased by 64% from \$1.2 billion for the year ended December 31, 2015, to \$1.9 billion for the year ended December 31, 2016, primarily as a result of a 113% increase in adjusted EBITDA at Networks due to the addition of UIL. Renewables increased by 1%, primarily due to lower operations and maintenance expenses, related to reductions in bad debt and asset retirement obligation expenses. Adjusted gross margin (a non-GAAP financial measure) increased by 38%, from \$3.2 billion for the year ended December 31, 2015, to \$4.5 billion for the year ended December 31, 2016, primarily as a result of the addition of UIL, which added \$1.0 billion to adjusted gross margin in 2016. For additional information and reconciliation of the non-GAAP adjusted EBITDA to net income and the non-GAAP adjusted gross margin to net income, see "*—Non-GAAP Financial Measures*".

See "*—Results of Operations*" for further analysis of our operating results for the year.

Our financial condition and financing capability will be dependent on many factors, including the level of income and cash flow of its subsidiaries, conditions in the bank and capital markets, economic conditions, interest rates and legislative and regulatory developments.

Networks

Electric Transmission and Distribution and Natural Gas Distribution

The operating subsidiaries of Networks are regulated electric distribution and transmission and natural gas transportation and distribution utilities whose structure and operations are significantly affected by legislation and regulation. The FERC regulates, under the FPA, the interstate transmission and wholesale sale of electricity by these regulated utilities, including transmission rates and allowed ROE on transmission assets. Further, the distribution rates and allowed ROEs for Networks' regulated utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the NYPSC, the MPUC, PURA and DPU, respectively. Legislation and regulatory decisions implementing legislation establish a framework for Networks' operations. Other factors affecting Networks' financial results are operational matters, such as the ability to manage expenses, uncollectibles and capital expenditures, in addition to major weather disturbances and environmental regulation. Networks expects to continue to make significant capital investments in its distribution and transmission infrastructure.

Pursuant to Maine law, CMP earns revenue for the delivery of energy to its retail customers, but is prohibited from selling power to them. CMP generally does not enter into purchase or sales arrangements for power with ISO-NE, the New England power pool, or any other ISO or similar entity. CMP generally sells all of its power entitlements under its nonutility generator and other PPAs to unrelated third parties under bilateral contracts. If the MPUC does not approve the terms of bilateral contracts, it can direct CMP to sell power entitlements that it receives from those contracts on the spot market through ISO-NE. NYSEG and RG&E enter into power purchase and sales transactions with the NYISO to have adequate supplies for their customers who choose to purchase energy directly from them. Customers may also choose to purchase energy from other energy supply companies.

Under Connecticut law, UI's retail electricity customers are able to choose their electricity supplier while UI remains their electric distribution company. UI purchases power for those of its customers under standard service rates who do not choose a retail electric supplier and have a maximum demand of less than 500 kilowatts and its customers under supplier of last resort service for those who are not eligible for standard service and who do not choose to purchase electric generation service from a retail electric supplier. The cost of the power is a "pass-through" to those customers through the generation services charge on their bills.

UI has wholesale power supply agreements in place for its entire standard service load for the first half of 2017, 80% of its standard service load for the second half of 2017, and 20% of its standard service load for the first half of 2018. Supplier of last resort service is procured on a quarterly basis, however, from time to time there are no bidders in the procurement process for supplier of last resort service and in such cases UI manages the load directly.

For additional information regarding Networks, including a comprehensive overview of our regulated businesses, please see the section entitled, "Business—Networks" in Part I, Item 1 in this report.

Revenues

Networks utilizes regulatory deferrals to evaluate its financial condition and operating performance by reconciling differences between actual revenue received or cost incurred with the rate allowances provided under the tariffs set by the state utilities commissions and FERC. Regulatory deferrals create regulatory assets and liabilities under FERC, consistent with U.S. GAAP financial accounting standards. Regulatory deferrals in New York include electric and gas supply costs, PPAs, downward net plant reconciliations, revenue decoupling, system benefit charges, renewable portfolio standards, energy efficiency portfolio standards, economic development programs, low income programs, gross receipt taxes, pension costs, other post-employment benefits costs, environmental remediation costs, major storm costs, downward adjustments for vegetation management, research and development, incremental maintenance initiatives, property taxes, REV initiatives, NEIL credits, credit and debit card fees, exogenous costs and certain legislative, accounting, regulatory and tax related actions. Regulatory deferrals in Maine include stranded costs, revenue decoupling, power tax regulatory asset, environmental remediation, storm reserve accounting, electric thermal storage pilot costs, standard offer retainage costs, AMI opt-out program costs, AMI deferral costs, AMI legal / health proceeding costs, conservation program costs, demand side management costs, low income program costs, electric lifeline program costs, make-ready line extension costs, electric vehicle pilot program costs and transmission planning and related cost allocation.

Regulatory deferrals in Connecticut include electric and gas supply costs, PPAs, revenue decoupling, system benefit charges, certain hardship bad debt expense, transmission revenue requirements, gas distribution integrity management program costs, gas system expansion costs, certain public policy costs, certain environmental remediation costs, major storm costs, and certain legislative, accounting, regulatory and tax related actions.

Regulatory deferrals in Massachusetts include gas supply costs, gas supply-related bad debt costs, environmental remediation costs, arrearage management program costs, gas system enhancement program costs, energy efficiency program costs and certain other public policy costs.

NYSEG's and RG&E's electric and natural gas rate plans and CMP's and UI's electric rates and CNG's gas rates, each contain a RDM under which their actual energy delivery revenues are compared on a periodic basis with the authorized delivery revenues and the difference accrued, with interest, for refund to or recovery from customers, as applicable.

NYSEG, RG&E and UI are energy delivery companies and provide energy supply as providers of last resort. Energy costs that are set on the wholesale markets are passed on to consumers. The difference between actual energy costs that are incurred and those that are initially billed are reconciled in a process that results in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional, such as the effects of extreme weather conditions, environmental factors, regulatory and accounting changes, and treatment of vulnerable customers, that are offset in the tariff process.

Pursuant to agreements with, or decisions of the NYPSC and, the MPUC, Networks' Maine and New York regulated utilities are each subject to a minimum equity ratio requirement that is tied to the capital structure assumed in establishing revenue requirements.

Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. The minimum equity ratio requirement has the effect of limiting the amount of dividends that can be paid if the minimum equity ratio is not maintained and can, under certain circumstances, require that AVANGRID contribute equity capital. For CMP and MNG, equity distributions that would result in equity falling below the minimum level are prohibited. For NYSEG and RG&E, equity distributions that would result in a 13-month average common equity less than maximum equity ratio, utilized for the earnings sharing mechanism, are prohibited if the credit rating of NYSEG, RG&E, AVANGRID or Iberdrola are downgraded by a nationally recognized rating agency to the lowest investment grade with a negative watch or downgraded to noninvestment grade. UI, SCG, CNG and BGC may not pay dividends if paying such dividend would result in a common equity ratio lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. In addition, UI, SCG, CNG and BGC are prohibited from paying dividend to their parent if the utility's credit rating as rated by any of the three major credit rating agencies, falls below investment grade, or if the utility's credit rating, as determined by two of the three major credit rating agencies falls to the lowest investment grade and there is a negative watch or review downgrade notice. We believe that these minimum equity ratio requirements do not present any material risk with respect to our performance, cash flow or ability to pay quarterly dividends. In the ordinary course, Networks utilities manage their capital structures to allow the maximum level of returns consistent with the levels of equity authorized to set rates, and accordingly, compliance with these requirements does not alter ordinary equity level management. Additionally, the lower monthly minimum equity ratio requirement (a cushion of 300 basis points) provides flexibility to have short-term fluctuations that result in temporary shortfalls of the maximum equity ratio in any given month. The regulated utility subsidiaries are also prohibited by regulation from lending to unregulated affiliates.

Rates

On May 20, 2015, NYSEG and RG&E initiated a distribution rate case to ensure that the companies are able to continue to provide safe, adequate and reliable service, continue to make investments to modernize infrastructure, enhance low income programs and improve both gas and electric reliability, while maintaining the Companies' financial integrity. On February 19, 2016, the NYSEG, RG&E and other signatory parties filed a joint proposal, or the proposal, with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016, which was approved on June 15, 2016 by the NYPSC. The proposal balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The proposal reflects many customer attributes including acceleration of the companies' natural gas leak prone main replacement programs and increased electric vegetation management to provide continued safe and reliable service. The delivery rate increase in the proposal can be summarized as follows:

Utility	May 1, 2016		May 1, 2017		May 1, 2018	
	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %
NYSEG Electric	\$ 29.6	4.10%	\$ 29.9	4.10%	\$ 30.3	4.10%
NYSEG Gas	13.1	7.30%	13.9	7.30%	14.8	7.30%
RG&E Electric	3.0	0.70%	21.6	5.00%	25.9	5.70%
RG&E Gas	8.8	5.20%	7.7	4.40%	9.5	5.20%

The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%. The proposal includes an ESM applicable to each company. The customer share of earnings would increase at higher ROE levels, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% of ROE, respectively, in the first rate year. Earnings are based on the lower of the actual equity ratio or 50%. Earnings thresholds increase in subsequent rate years. The proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million will be amortized over ten years and the remaining \$139 million will be amortized over five years. The proposal also continues reserve accounting for qualifying Major Storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided they meet certain thresholds.

On August 25, 2014, the MPUC approved a stipulation agreement for a CMP rate change which provided for a distribution rate increase of approximately \$24.3 million effective July 1, 2014 with an allowed ROE of 9.45% and an allowed equity ratio of 50%. On December 22, 2009, MPUC approved a stipulation which provided for a rate increase to MNG's base distribution rates for a three year period, with a 12% increase effective January 1, 2010, a 10% increase effective December 1, 2010 and another 10% increase effective December 1, 2011.

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service. On May 3, 2016, all active parties to the case filed a stipulation which settled all matters at issue in the case and reflected a 10-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a ten-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge which increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation. The reserve of \$6 million for this case was reversed in May 2016.

In December 2016, PURA approved distribution rate schedules for UI for three years that became effective January 1, 2017, and which, among other things, provides for \$57 million of cumulative distribution rate increases, an allowed ROE of 9.10% based on 50% equity, continued UI's existing earnings sharing mechanism, continued the existing decoupling mechanism, and approved the continuation of the requested storm reserve.

On January 22, 2014, PURA approved base delivery rates for CNG, with an effective date of January 10, 2014, which, among other things, approved an allowed ROE of 9.18%, a decoupling mechanism, two separate ratemaking mechanisms that reconcile actual revenue requirements related to CNG's cast iron and bare steel replacement program and system expansion and an earnings sharing mechanism by which CNG and customers share on a 50/50 basis all earnings above the allowed ROE in a calendar year. In accordance with the approval by PURA of the acquisition, SCG and CNG agreed not to file a rate case for new rates effective before January 1, 2018.

BGC's rates are established by the DPU. BGC's ten-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan. In accordance with the approval by the DPU of the acquisition, BGC agreed not to file a rate case for new rates effective before June 1, 2018.

CMP's and UI's electric transmission rates are determined by a tariff regulated by the FERC and administered by ISO-NE. Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, including return of and on investment in assets. The FERC currently provides an initial base ROE of 10.57% and additional incentive adders applicable to assets based upon vintage, voltage, and other factors.

In September 2011, several New England governmental entities, including PURA, the Connecticut Attorney General and the OCC, filed a joint complaint with the FERC against ISO-NE and several New England transmission owners (including CMP and UI) claiming that the current approved base ROE used in calculating formula rates for transmission service under the ISO-NE Open Access Transmission Tariff by the New England transmission owners of 11.14% was not just and reasonable and seeking a reduction of the base ROE with refunds to customers for the refund period of October 1, 2011 through December 31, 2012, or the refund period. The FERC issued an order in 2014 to reset the base ROE at 10.57% and capped the incentive rate at 11.74% for applicable projects for the refund period. Two additional complaints have also been filed for subsequent periods. The complaints have been consolidated and the administrative law judge issued an initial decision on March 22, 2016. The initial decision determined that, (1) for the fifteen month refund period in the second complaint, the base ROE should be 9.59% and that the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and (2) for the fifteen month refund period in the third complaint and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The initial decision is the administrative law judge's recommendation to the FERC commissioners. The FERC is expected to make its final decision in early 2017. The results of the decision in the initial complaint, as well as the results of any future decisions, will be reconciled in future transmission rates. On April 29, 2016, a fourth, related, complaint was filed for a subsequent rate period requesting the base ROE be 8.61% and ROE Cap be 11.24%. CMP and UI, as part of the NETOs group, filed a response on June 3, 2016. On September 20, 2016, the FERC accepted the fourth complaint, established a refund effective date of April 29, 2016, and set the matter for hearing. We cannot predict the outcome of the fourth complaint proceeding.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC found that ISO-NE Transmission, Markets, and Services Tariff is unjust, unreasonable, and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE participating transmission owners, including UI and CMP. The FERC also found that the current Regional network service, or RNS, and Local Network Service, or LNS, formula rates appear to be

unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates.

Merger Settlement Agreement – Connecticut and Massachusetts

As part of the process of seeking and obtaining regulatory approval of the acquisition in Connecticut and Massachusetts, AVANGRID and UIL reached settlement agreements with the Office of Consumer Counsel, or OCC, in Connecticut and with the Attorney General of the Commonwealth of Massachusetts and the Department of Energy Resources in Massachusetts, which settlement agreements included commitments of actions to be taken after the transaction closed.

As a result, the following commitments were made in Connecticut:

- A one-time, \$20 million rate credit to customers in 2016, allocated among UI, SCG and CNG customers based on the total number of retail customers.
- Additional rate credits of \$1.25 million/year for ten years (2018-2027) to CNG customers.
- Additional rate credits of \$0.75 million/year for ten years (2018-2027) to SCG customers.
- \$1.6 million in savings to SCG customers, associated with SCG making additional infrastructure capital investments over a three-year period without seeking recovery until the next SCG rate case.
- Agreement not to seek to increase UI distribution base rates effective before January 1, 2017, and agreement not to seek to increase CNG and SCG distribution base rates effective before January 1, 2018.
- Contribution of \$2 million/year for three years to the DEEP, to stimulate investment in energy efficiency and clean energy technologies.
- \$5 million in benefits to customers resulting from UI recovering only the debt rate rather than the equity return for two years, on an increased \$50 million of investment in storm resiliency programs.
- Contribution of \$1 million for disaster relief entities.
- Maintaining charitable contribution at historical contribution levels (between \$500,000 and \$800,000) for at least four years.
- Upon the resolution of all appeals of the PURA decision approving the acquisition, UI will withdraw its appeals of two PURA dockets relating to PURA's disallowance of certain reconciliation amounts. The appeals were withdrawn by UI in June 2016.

In connection with the acquisition proceeding, UI signed the partial consent order related to the investigation and remediation of the English Station site. To the extent that the investigation and remediation is less than \$30 million, UI is required to remit to the State of Connecticut the difference between such costs and \$30 million, to be applied to a public purpose as determined in the discretion of the Governor the Attorney General of Connecticut and the Commissioner of DEEP. However, UI is obligated to comply with the consent order even if the cost of such compliance exceeds \$30 million. The state may discuss options with UI on recovering or funding any cost above \$30 million, such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding.

The following commitments were made in Massachusetts:

- Customers of BGC will receive a total of \$4.0 million in rate credits, to be spread over the months of November through April 2016-2017 and November through April 2017-2018.
- BGC will contribute \$1 million to alternative heating programs.
- BGC will not seek to increase distribution base rates effective before June 1, 2018.

As a result of the merger settlement agreement we have recorded \$44 million as regulatory liabilities relating to the rate credits and an additional \$19.8 million as liabilities.

New England Clean Energy Request for Proposals

DEEP, Eversource Energy, National Grid Plc and Unitil Corporation conducted a request for proposals, or RFP, for clean energy and transmission in order to identify projects that will advance the clean energy goals of Connecticut, Massachusetts and

Rhode Island. The RFP was issued in November 2015, and bids were received on January 28, 2016. AVANGRID companies offered two transmission projects and three wind projects as components of various joint bids with other parties. None of AVANGRID's bids were selected as winning bids. Any contracts negotiated with chosen projects would require regulatory approvals in the contracting utilities' states and the projects will need various regulatory and permitting approvals, including FERC approval for transmission tariffs. DEEP selected eight bids for Connecticut. DEEP has directed UI to negotiate and enter into contracts with the selected projects.

Reforming the Energy Vision

In April 2014, the NYPSC instituted its REV proceeding, the goals of which are to improve electric system efficiency and reliability, encourage renewable energy resources, support DER, and empower customer choice. In this proceeding, the NYPSC is examining the establishment of a DSP, to manage and coordinate DER, and provide customers with market data and tools to manage their energy use. The NYPSC is also examining how its regulatory practices should be modified to incentivize utility practices to promote REV objectives. REV has been divided into two tracks, Track 1 for market design and technology, and Track 2 for regulatory reform. REV proposes regulatory changes that are intended to promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar, and wider deployment of DER, such as micro grids, on-site power supplies and storage. The NYPSC order on Track 1 affirmed that utilities would serve as the DSP and required utilities to file implementation plans before the end of 2015. Track 2 is undertaken in parallel with the Track 1, and examines changes in current regulatory, tariff, and market designs, and incentive structures to better align utility interests with achieving NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for earnings adjustment mechanisms, or EAMs, platform service revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of system efficiency, energy efficiency, interconnections, and clean air. A collaborative process to review the companies' petition is expected to begin in the first quarter of 2017.

Ginna Reliability Support Service Agreement

Ginna Nuclear Power Plant, LLC, or GNPP, which is a subsidiary of Constellation Energy Nuclear Group, LLC, or CENG, owns and operates the R.E. Ginna Nuclear Power Plant, or Ginna Facility, and together with GNPP, Ginna, a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, NYISO produced a reliability study, confirming that the Ginna Facility needs to remain in operation to avoid bulk transmission and non-bulk local distribution system reliability violations in 2015 and 2018. In July 2014, GNPP filed a petition requesting that the NYPSC initiate a proceeding to examine a proposal for the continued operation of the Ginna Facility.

In November 2014, the NYPSC ruled that GNPP had demonstrated that the Ginna Facility is required to maintain system reliability and that its actions with respect to meeting the relevant retirement notice requirements were satisfactory. The NYPSC also accepted the findings of the 2014 reliability study and stated that it established "the reliability need for continued operation of the Ginna Facility that is the essential prerequisite to negotiating a Reliability Support Service Agreement, or RSSA." As such, the NYPSC ordered RG&E and GNPP to negotiate an RSSA.

On February 13, 2015, RG&E submitted to the NYPSC an executed RSSA between RG&E and GNPP. RG&E requested that the NYPSC accept the RSSA and approve cost recovery by RG&E from its customers of all amounts payable to GNPP under the RSSA utilizing the cost recovery surcharge mechanism.

On October 21, 2015, RG&E, GNPP, New York Department of Public Service, Utility Intervention Unit and Multiple Intervenors filed a joint proposal with the NYPSC for approval of the RSSA, as modified. The joint proposal provides a term of the RSSA from April 1, 2015, through March 31, 2017. RG&E shall make monthly payments to Ginna in the amount of \$15.4 million. RG&E will be entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna will be entitled to 30% of such revenues. The signatory parties recommend that the NYPSC authorize RG&E to implement a rate surcharge effective January 1, 2016, to recover amounts paid to Ginna pursuant to the RSSA. RG&E's payment obligation to Ginna did not begin until the rate surcharge was in effect and the FERC issued an order authorizing the FERC settlement agreement in the Settlement Docket. RG&E will use deferred rate credit amounts (regulatory liabilities) to offset the full amount of the deferred collection amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed \$2.3 million per month, not to exceed a total use of credits in the amount of \$110 million, applicable through June 30, 2017. To the extent that the available credits are insufficient to satisfy the final payment from RG&E to Ginna then the RSSA surcharge would continue past March 31, 2017, to recover up to \$2.3 million per month until the final payment has been recovered by RG&E from ratepayers. In the month following the expiration of the term on March 31, 2017, Ginna shall prepare and issue an invoice to RG&E for, and RG&E shall pay to Ginna, a one-time payment in the amount of \$11.5 million. This amount is being accrued pro-rata over the term of the agreement and will be recovered from ratepayers. If Ginna continues to deliver energy to the NYISO transmission system or makes available capacity to the

NYISO markets after seventy-five days following March 31, 2017, Ginna shall pay RG&E a capital recovery balance in eight quarterly installments as long as Ginna is continuing to deliver energy or making available capacity throughout this period. The estimated capital recovery balance that is expected to be in place on March 31, 2017 is \$20.1 million and will accrue interest unless amounts are prepaid by Ginna. The capital recovery balance will be refunded to ratepayers, to the extent collected, which is based on the term of the delivery of energy or capacity being made available by Ginna. On February 23, 2016, the NYPSC unanimously adopted the joint proposal in the Ginna RSSA proceeding as in the public interest. On March 1, 2016, the FERC issued an order approving the contested settlement agreement, subject to conditions.

New York TransCo

Networks holds an approximately 20% ownership interest in New York TransCo, LLC. New York TransCo was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. In December 2014, New York TransCo filed for regulatory approval of its rates, terms, and conditions with the FERC. The filing requests a formula base ROE of 10.6%, 150 basis points ROE incentives, construction work in progress, a formula rate mechanism, and a proposed cost allocation. Various parties, including the NYPSC, have protested the filing with the FERC, including the base ROE, the ROE incentives, and the cost allocation. New York TransCo will not make final decisions on transmission project development until the FERC decision.

On April 2, 2015, the FERC issued an order granting, inter alia, New York TransCo's owners' request for a 50 basis point adder for New York TransCo's membership in the NYISO RTO, subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected New York TransCo's owners' cost allocation method for the transmission owner transmission solutions, or TOTS, projects because it would allocate costs to Power Supply Long Island and New York Power Authority that they did not voluntarily agree to pay.

On November 5, 2015, New York TransCo's owners, filed the settlement with the FERC to resolve all outstanding issues associated with the TOTS projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed TOTS projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the NYISO Open Access Transmission Tariff (OATT) for the TOTS projects. On March 17, 2016, the FERC approved the settlement.

Weather Impact

The demand for electric power and natural gas is affected by seasonal differences in the weather. Statewide demand for electricity in New York, Connecticut and Maine tends to increase during the summer months to meet cooling load or in winter months for heating load while statewide demand for natural gas tends to increase during the winter to meet heating load. Market prices for both electricity and natural gas reflect the demand for these products and their availability at that time. Overall operating results of Networks do not fluctuate due to commodity costs as the regulated utilities generally recover those costs coincident with their expense or defer any differences for future recovery. Networks has historically sold less power when weather conditions are milder and may also be affected by severe weather, such as ice and snow storms, hurricanes and other natural disasters which may result in additional cost or loss of revenues that may not be recoverable from customers. However, Networks' regulated utilities, other than MNG, SCG and BGC, have approved revenue decoupling mechanisms, or RDMs, as part of the NYPSC, PURA and MPUC rate plans. The RDM allows the regulated utilities to defer for future recovery and shortfall from projected revenues whether due to weather, economic conditions, conservation or other factors.

New Renewable Source Generation

Under Connecticut law Public Act 11-80, or PA 11-80, Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I RECs, from renewable generators located on customer premises. Under this program, UI is required to enter into contracts totaling approximately \$200 million in commitments over an approximate 21-year period. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, through which UI will develop up to 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25

basis points and (B) the current authorized distribution ROE for CL&P, (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the project. UI expects the cost of this program, a planned 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge, to be approximately \$47 million. Pursuant to Section 8 of Public Act 13-303, "An Act Concerning Connecticut's Clean Energy Goals," in January 2014, at the DEEP's direction, UI entered into three contracts for the purchase of RECs associated with an aggregate of 5.7 MW of energy production from biomass plants in New England. The costs of these agreements will be fully recoverable through electric rates.

Pursuant to Connecticut statute, in January 2017, UI entered into a master agreement with the Connecticut Green Bank to procure Connecticut Class I RECs produced by residential solar installations in 15 year tranches, with a final tranche to commence no later than 2022. UI's contractual obligation is to procure 20% of RECs produced by about 255 MW of residential solar installations. Connecticut statutes provides that the net costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or RECs, from qualifying resources. The MPUC is further authorized to order Maine transmission and distribution utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, or Evergreen Power, on March 31, 2010, to purchase capacity and energy from Evergreen Power's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Pursuant to Maine law 35-A M.R.S.A §3604, the MPUC is authorized to direct Maine transmission and distribution utilities to enter into long-term contracts to purchase capacity, energy and renewable energy credits from up to 50 MW of qualifying community-based renewable energy facilities. In accordance with §3604, on October 22, 2016, CMP commenced purchases from Athens Energy LLC for a contract term of three years. CMP purchase obligations under the Athens contract are approximately \$6 million per year. Under the provisions of §3604 and MPUC implementing orders, CMP will periodically auction the purchased products from Athens for resale to wholesale market purchasers and recover any differences between power purchase costs and resale revenues through a reconcilable component of its retail distribution rates. Although the MPUC has certified several additional community-based renewable energy generation projects under §3604 and authorized similar power purchase agreements between these sellers and CMP, no additional facilities have advanced to operational status.

Renewables

Renewable Energy Incentives

Renewables relies, in part, upon government policies that support utility-scale renewable energy and enhance the economic feasibility of development and operating wind energy projects in regions in which Renewables operates or plans to develop and operate renewable energy facilities. In support of this, on December 18, 2015, Congress passed and President Obama signed into law the Consolidated Appropriations Act, Public Law 114-113. This law extends the qualifying dates for the production tax credit available to wind energy generating facilities (Internal Revenue Code Section 45) and the investment tax credit available to commercial solar generating facilities (Internal Revenue Code Section 48). The law also extends an option for wind generation facilities to elect to receive an investment tax credit in lieu of the production tax credit. In general, both provisions allow new wind and solar facilities to qualify for the respective credits at full value over the next several years, with reductions in the value of the authorized tax credits for facilities phased in during subsequent periods. Production tax credits will be reduced to 80% for facilities commencing construction in 2017, reduced to 60% for facilities commencing construction in 2018, and reduced to 40% for facilities commencing construction in 2019. Investment tax credits will be 30% for projects commencing construction through 2019, then reduce to 26%, 22% and 10% for projects commencing construction in 2020, 2021 and 2022, respectively. The Internal Revenue Service, or IRS, updated its guidance related to which projects will qualify for the production tax credits, including criteria for the beginning of construction for a project and the continuous program of construction or the continuous efforts to advance the project to completion. Multi-year extension of these credits provides opportunities for Renewables to develop, construct, and market new renewable generating facilities and partially repower existing renewable generating facilities in several U.S. markets.

Additionally, the federal government and many states and local jurisdictions have policies or other mechanisms, such as tax incentives or RPS that support the sale of energy from utility-scale renewable energy facilities, such as wind and solar energy facilities. As a result of budgetary constraints, political factors or otherwise, U.S., state or local governments from time to time may review their policies and other mechanisms that support renewable energy and consider actions that would make them less conducive to the development and operation of renewable energy facilities. Any reductions to, or the elimination of, governmental policies or other mechanisms that support renewable energy or the imposition of additional taxes or other assessments on renewable energy, could result in, among other items, the lack of a satisfactory market for the development of new renewable energy projects, Renewables abandoning the development of new renewable energy projects, a loss of Renewables' investments in the projects and reduced project returns, any of which could have a material adverse effect on Renewables' business, financial condition, results of operations and prospects.

Renewable Energy Demand

Since the transmission and distribution of electricity is highly concentrated in most jurisdictions, there are a limited number of possible purchasers for utility-scale quantities of electricity in a given geographic location, including transmission grid operators, state and investor-owned power companies, public utility districts, cooperatives, and large commercial and industrial customers. As a result, there is a concentrated pool of potential buyers for electricity generated by Renewables' business, which may restrict their ability to negotiate favorable terms under new PPAs, and could impact their ability to find new customers for the electricity generated by their generation facilities should this become necessary. Furthermore, if the financial condition of these utilities and/or power purchasers deteriorated or the RPS programs, climate change programs or other regulations to which they are currently subject and that compel them to source renewable energy supplies change, demand for electricity produced by Renewables' businesses could be negatively impacted.

Energy Prices

Renewables has exposure to commodity price movements through its "natural" long positions in electricity from its generation. Renewables manages the exposure to risks of commodity price movements through internal risk management policies, enforcement of established risk limits and risk management procedures.

A portion of Renewables' fuel and energy output arrangements qualify as derivative contracts. Such derivative contracts are carried at fair value, with changes in fair value recognized to earnings as the changes occur. In 2015, Renewables began designating certain qualifying derivatives contracts as hedges. These hedge designations result in deferral of changes in fair value, to the extent the hedge is effective, to accumulated other comprehensive income until the contract settles, at which point the deferred amount is recognized to earnings.

Wind Conditions

If wind conditions are unfavorable, or if Renewables' wind turbines are not available for operation, Renewables electricity generation and related revenue may be substantially below our expectations. Renewables' wind projects are sited, developed and operated to maximize wind performance. Prior to siting a wind facility, detailed studies are conducted to measure the wind resource in order to estimate future production. However, wind patterns or wind resource in the future might deviate from historical patterns. These events could also degrade equipment or components and the interconnection and transmission facilities' lives or maintenance costs. Historically, Renewables wind production is greater in the first, second and fourth quarters.

Wind Turbine Supply

Replacement and spare parts for wind turbines and key pieces of electrical equipment may be difficult or costly to acquire or may be unavailable. Although Renewables has expanded and diversified its supplier base, the loss of any of these suppliers or service providers or inability to find replacement suppliers or service providers or to purchase turbines at rates currently offered by Renewables' existing suppliers or a change in the terms of Renewables' supply or operations and maintenance agreements, such as increased prices for maintenance services or for spare parts, could have a material adverse effect on Renewables' ability to construct and maintain wind farms or the profitability of wind farm development and operation.

Gas

Gas benefits from price volatility and temporal price spreads, which impacts the level of demand for services and the rates that can be charged for natural gas storage services. On a system-wide basis, natural gas is typically injected into storage between April and October when natural gas prices are generally lower and withdrawn during the winter months of November through March when natural gas prices are typically higher. Largely due to the abundant supply of natural gas made available by hydraulic fracturing

techniques, natural gas prices have dropped significantly to levels that are near historic lows. If prices and volatility remain low or declines further, then the demand for natural gas storage services, and the prices that Gas will be able to charge for those services, may decline or be depressed for a prolonged period of time. Conversely, if prices and volatility remain high or increase then the demand for natural gas storage services and the prices that Gas will be able to charge for these services may increase for a period of time. In 2015 we began designating those derivatives contracts at Gas that qualify as hedges. This designation was made prospectively, and in accordance with all the requirements of hedge accounting.

Results of Operations

The following table sets forth our operating revenues and expenses items for each of the periods indicated and as a percentage of operating revenues:

	Year Ended December 31, 2016				
	Total	Networks	Renewables	Gas	Other(1)
	(in millions)				
Operating Revenues	\$ 6,018	\$ 5,030	\$ 1,015	\$ 32	\$ (59)
Operating Expenses					
Purchased power, natural gas and fuel used	1,286	1,174	152	—	(40)
Operations and maintenance	2,206	1,839	351	44	(28)
Impairment of non-current assets	—	—	—	—	—
Depreciation and amortization	804	466	313	25	—
Taxes other than income taxes	528	465	50	4	9
Total Operating Expenses	4,824	3,944	866	73	(59)
Operating Income	1,194	1,086	149	(41)	—
Other Income (Expense)					
Other income (expense)	76	46	30	2	(2)
Earnings (losses) from equity method investments	7	15	(8)	—	—
Interest expense, net of capitalization	(268)	(252)	(50)	(25)	59
Income Before Income Tax	1,009	895	121	(64)	57
Income tax expense	379	415	9	(22)	(23)
Net Income	630	480	112	(42)	80
Less: Net income attributable to noncontrolling interests	—	—	—	—	—
Net Income	\$ 630	\$ 480	\$ 112	\$ (42)	\$ 80

	Year Ended December 31, 2015				
	Total	Networks	Renewables	Gas	Other(1)
	(in millions)				
Operating Revenues	\$ 4,367	\$ 3,386	\$ 1,067	\$ (19)	\$ (67)
Operating Expenses					
Purchased power, natural gas and fuel used	972	821	202	1	(52)
Operations and maintenance	1,808	1,389	363	38	18
Impairment of non-current assets	12	—	12	—	—
Depreciation and amortization	695	328	344	23	—
Taxes other than income taxes	367	311	46	4	6
Total Operating Expenses	3,854	2,849	967	66	(28)
Operating Income	513	537	100	(85)	(39)
Other Income (Expense)					
Other income (expense)	55	44	105	3	(97)
Earnings (losses) from equity method investments	—	1	(5)	—	4
Interest expense, net of capitalization	(267)	(227)	(54)	(31)	45
Income Before Income Tax	301	355	146	(113)	(87)
Income tax expense	34	146	13	(44)	(81)
Net Income	267	209	133	(69)	(6)
Less: Net income attributable to noncontrolling interests	—	—	—	—	—
Net Income	\$ 267	\$ 209	\$ 133	\$ (69)	\$ (6)

	Year Ended December 31, 2014				
	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating Revenues	\$ 4,594	\$ 3,397	\$ 1,189	\$ 84	\$ (76)
Operating Expenses					
Purchased power, natural gas and fuel used	1,181	1,056	192	1	(68)
Operations and maintenance	1,560	1,191	336	40	(7)
Impairment of non-current assets	25	—	25	—	—
Depreciation and amortization	629	275	332	22	—
Taxes other than income taxes	314	259	47	5	3
Total Operating Expenses	3,709	2,781	932	68	(72)
Operating Income	885	616	257	16	(4)
Other Income (Expense)					
Other income (expense)	52	42	67	3	(60)
Earnings (losses) from equity method investments	12	—	2	—	10
Interest expense, net of capitalization	(243)	(198)	(64)	(28)	47
Income Before Income Tax	706	460	262	(9)	(7)
Income tax expense	282	172	61	(5)	54
Net Income	424	288	201	(4)	(61)
Less: Net income attributable to noncontrolling interests	—	—	—	—	—
Net Income	\$ 424	\$ 288	\$ 201	\$ (4)	\$ (61)

(1) Other amounts represent corporate and company eliminations.

The following tables set forth our segment revenues and expenses by segment for each of the periods indicated and as a percentage of the total consolidated operating revenues and operating expenses, respectively:

Year Ended December 31, 2016

	Year Ended December 31, 2016				
	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating revenues	\$ 6,018	\$ 5,030	\$ 1,015	\$ 32	\$ (59)
Operating revenues %		84%	17%	—	(1)%
Operating expenses	\$ 4,824	\$ 3,944	\$ 866	\$ 73	\$ (59)
Operating expenses %		82%	18%	2%	—

Year Ended December 31, 2015

	Year Ended December 31, 2015				
	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating revenues	\$ 4,367	\$ 3,386	\$ 1,067	\$ (19)	\$ (67)
Operating revenues %		78%	24%	(0)%	(2)%
Operating expenses	\$ 3,854	\$ 2,849	\$ 967	\$ 66	\$ (28)
Operating expenses %		75%	25%	2%	(2)%

Year Ended December 31, 2014

	Year Ended December 31, 2014				
	Total	Networks	Renewables	Gas	Other(1)
	<i>(in millions)</i>				
Operating revenues	\$ 4,594	\$ 3,397	\$ 1,189	\$ 84	\$ (76)
Operating revenues %		74%	26%	2%	(2)%
Operating expenses	\$ 3,709	\$ 2,781	\$ 932	\$ 68	\$ (72)
Operating expenses %		75%	25%	2%	(2)%

(1) Other amounts represent corporate and company eliminations.

Comparison of Period to Period Results of Operations

Our operating revenues increased by 38%, from \$4.4 billion for the year ended December 31, 2015, to \$6.0 billion for the year ended December 31, 2016.

Our purchased power, natural gas and fuel used increased by 32%, from \$972 million for the year ended December 31, 2015, to \$1,286 million for the year ended December 31, 2016.

Our operations and maintenance increased by 22%, from \$1.8 billion for the year ended December 31, 2015, to \$2.2 billion for the year ended December 31, 2016.

Details of the period to period comparison are described below at the segment level.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015

Networks

Operating revenues for the year ended December 31, 2016, increased by \$1.6 billion, or 49%, from \$3.4 billion for the year ended December 31, 2015, to \$5.0 billion. The addition of UIL increased revenues by \$1.6 billion, for an underlying increase of \$77 million. The milder winter weather in 2016 lowered demand for both electricity and gas, with a corresponding revenue impact of \$48 million. Wholesale electricity revenues also declined by \$28 million due to a combination of lower volumes and wholesale market prices, which were down in 2016 as a result of the reduced demand due to milder weather. An increase of \$36 million was due primarily to higher retail rates for electricity during the period. Regulatory recoveries increased by \$117 million primarily due to an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method, which has been recorded as an increase to revenue, with an offsetting and equal increase to income tax expense, an increase of \$17 million relating to recoveries on the Ginna RSSA together with other decreases in the amount of \$26 million for items such as revenue decoupling mechanisms, nonbypassable wires charges and rate case impacts.

Purchased power, natural gas and fuel increased used for the year ended December 31, 2016, increased by \$353 million, or 43%, from \$821 million for the year ended December 31, 2015, to \$1,174 million. UIL contributed \$463 million in additional expense, resulting in underlying expense being \$110 million lower. Purchase volume requirements were 3% lower for electricity and 3% lower for gas for the same reasons outlined under Networks revenues, that is, the milder weather in winter 2016. In addition, market prices were down 25% for electricity and 17% for gas.

Operations and maintenance during the year ended December 31, 2016, increased by \$450 million or 32% from approximately \$1.4 billion for the year ended December 31, 2015, to approximately \$1.8 billion. UIL accounts for \$463 million of this increase, with the remaining \$13 million decrease attributable to the underlying business. The regulatory adjustment for the Ginna RSSA, which has offsets in revenue, accounts for a \$35 million increase. Offsetting this are reductions relating to \$22 million refunds received from the Spent Fuel Nuclear Trust from Maine Yankee, which will be refunded to customers, \$8 million due to lower-write-offs in the current year due to lower commodity prices in the current year, \$7 million due to reduced recovery of storm costs as compared to higher levels in prior years and of \$11 million from lower expenditures on various state mandated energy efficiency programs, lower insurance claim expenses, and renewable energy credit purchases and adjustments to regulatory deferrals based on changes to rate plans.

Renewables

Operating revenues for the year ended December 31, 2016, decreased by \$52 million, or 5% from approximately \$1.1 billion for the year ended December 31, 2015, to approximately \$1.0 billion. Revenues from wind and solar facilities increased by \$7 million due to 5% increase in wind generation on favorable wind resource and full year of operation in 2016 of a wind farm completed in 2015, offset in part by 4% lower average prices. New wind capacity added in 2016 did not contribute significantly to the increase in revenues or production for 2016. The decrease in average price results from general market conditions and mild weather in 2016 compared to 2015 and proportionately more output sold merchant due to expiring contracts. Revenues decreased by \$46 million due to unfavorable MtM changes on energy derivative transactions entered into for economic hedging purposes and thermal revenues decreased by \$13 million due to lower merchant prices.

Purchased power, natural gas and fuel used for the year ended December 31, 2016, decreased by \$50 million, or 25%, from \$202 million for the year ended December 31, 2015, to \$152 million. Klamath power plant expense was \$11 million lower due to lower production and reduced fuel costs, MtM changes on derivatives were favorable \$41 million due to market price changes in the current period and transmission and energy purchases were higher by \$2 million.

Operations and maintenance for the year ended December 31, 2016, decreased by \$12 million or 3% from \$363 million for the year ended December 31, 2015, to \$351 million. Bad debt expense decreased by \$7 million due to a specific reserve recorded in 2015 that did not occur in 2016. Asset retirement related expenses were \$5 million lower, as a result of the extension of the windfarm useful life in combination with revisions to expense estimates.

Gas

Operating revenues for the year ended December 31, 2016, increased by \$51 million, or 268%, from negative \$19 million for the year ended December 31, 2015, to \$32 million. The increase in operating revenues was due to \$19 million of improved performance in the owned and contracted storage businesses, with both capturing higher spreads relative to previous year, \$6 million favorable transportation contract, \$15 million favorable MtM change and the remainder relating to various items including contract adjustments in the prior year.

The gas business had no purchased power, natural gas and fuel used for the year ended December 31, 2016, and insignificant amount for the year ended December 31, 2015. As a predominantly trading business, such expenses are required to be netted with revenues.

Operations and maintenance for the year ended December 31, 2016, increased by \$6 million, or 16%, from \$38 million for the year ended December 31, 2015, to \$44 million. Increases in credit guarantee expenses and third party services account for the increase in 2016.

Depreciation, Amortization and Impairment of Non-Current Assets

Depreciation, amortization and impairment expenses for the year ended December 31, 2016, increased by \$97 million or 14% from \$707 million for the year ended December 31, 2015, to \$804 million. The primary movements were UIL contributing \$160 million, with the underlying business \$63 million lower. Networks depreciation expense was \$22 million lower, mainly as a result of updates to asset lives from the rate case activities. Renewables expense was \$43 million lower primarily as a result of lower project impairment expenses in 2016, as compared to that in 2015, and \$52 million lower depreciation expense due to revision of useful lives of wind farm assets offset by \$21 million due to increases from the Baffin Bay wind asset only being operational for part of the prior year, combined with additional expense from salvage values and from asset retirement obligation estimations.

Other Income and (Expense) and Equity Earnings

Other income and (expense) and equity earnings for the year ended December 31, 2016, increased by \$28 million, or 49%, from \$55 million other income for the year ended December 31, 2015, to \$83 million. UIL contributed \$22 million of income. Of the remaining \$6 million, \$31 million was as a result of the sale of the Iroquois equity investment, and \$3 million was as a result of the sale of other investment. An additional \$12 million of income results from the reversal of the Maine Natural Gas provision in the current period that was initially recorded at the end of 2015. Offsetting these amounts were a \$13 million decrease primarily from interest income on regulatory deferrals, due to updates from the rate case activities, \$5 million for reduced allowance for funds used during construction in Networks, \$6 million for reduced earnings on equity method investments and \$5 million due to a gain from tax equity financing arrangements' buyback recorded in 2015 that did not occur in 2016. Other various items caused a decrease of approximately \$11 million in the period.

Interest Expense, Net of Capitalization

Interest expense for the year ended December 31, 2016, increased by \$1 million or less than 1% from \$267 million for the year ended December 31, 2015, to \$268 million. Excluding the impact of UIL, which added \$79 million of expense, underlying expense was \$78 million favorable. Networks was \$53 million favorable, mainly as a result of lower interest expense on regulatory deferrals, and Other was favorable by \$18 million as a result of a reduction to the interest rate on outstanding debt and reduced outstanding debt.

Income Tax Expense

The effective tax rate for the year ended December 31, 2016, was 37.6%, which is slightly higher than the 35% statutory federal income tax rate due to offsetting income tax matters. Increases were predominantly due to the impact of an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method following the approval of the proposal by the NYPSC, which was recorded in the second quarter of 2016 as an increase to income tax expense and an offsetting increase to revenue. This was offset by the recognition of production tax credits associated with wind and state income tax amounts including unitary filing amounts for our various states of operations. Income tax expense for the year ended December 31, 2015, was

\$71 million lower than it would have been at the statutory federal income tax rate of 35%, primarily due to production tax credits, filing of amended returns in the State of New York and the impact of tax equity financing arrangements. This resulted in an effective tax rate of 11.30% for 2015.

Year Ended December 31, 2015 Compared to the Year Ended December 31, 2014

Networks

Operating revenues for the year ended December 31, 2015, decreased by \$11 million or less than 1% from \$3,397 million for the year ended December 31, 2014, to \$3,386 million. UIL contributed \$36 million in additional revenue, offset by underlying revenue being \$47 million lower due to lower gas rates in 2015 as compared to 2014. There were also lower gas sales volumes, as consumption declined due to milder weather.

Purchased power, natural gas and fuel used for the year ended December 31, 2015, decreased by \$235 million, or 22%, from \$1.1 billion for the year ended December 31, 2014, to \$821 million. UIL contributed \$34 million in additional expense, resulting in underlying expense being \$269 million lower. Purchased power decreased by \$189 million, resulting from a decrease in the market price of electricity in 2015, with 2014 prices being higher due to colder temperatures causing less efficient generation to be used, increasing the marginal price of electricity. Additionally, gas purchase expenses decreased by \$80 million due to a decrease in gas market prices, with prices lower in 2015 due to continuing shale gas production increasing supply, and a decline in oil prices, which are closely correlated with gas prices.

Operations and maintenance during the year ended December 31, 2015, increased by \$206 million or 17% from approximately \$1.2 billion for the year ended December 31, 2014, to approximately \$1.4 billion. Excluding the impact of UIL, underlying expense increased by \$153 million, with the main drivers being increased spending in 2015 on reliability support services of \$80 million, combined with regulatory refunds received from the DOE in 2014 for the Phase II of the Yankee Companies Case of \$28 million together with smaller increases in energy efficiency programs and corporate recharges.

Renewables

Operating revenues for the year ended December 31, 2015 decreased \$122 million or 10% from approximately \$1.2 billion for the year ended December 31, 2014, to approximately \$1.1 billion. In 2015, revenues increased by \$17 million due to the addition of a 202 MW newly constructed wind farm. Revenues decreased \$87 million from existing wind farms on lower wind generation due to poor wind resource (amount of wind in actual weather lower than the prior year) and lower revenues from merchant wind farms due to lower prices of approximately 6%. The decrease in prices is attributed to general market conditions and milder weather in 2015 as compared to 2014. Power trading revenues were \$34 million lower due to reduced trading opportunities created by lower price volatility in the northwest markets and a decrease of \$9 million attributable to unfavorable MtM changes on derivative transactions entered into for economic hedging purposes.

Purchased power, natural gas and fuel used for the year ended December 31, 2015, increased by \$9 million, or 5%, from \$193 million for the year ended December 31, 2014, to \$202 million. The increase is attributable to costs for our thermal power plant.

Operations and maintenance for the year ended December 31, 2015, increased by \$27 million or 8% from \$336 million for the year ended December 31, 2014, to \$363 million, primarily as a result of higher corporate recharges, combined with several non-recurring expenses and lower capitalization of expenses.

Gas

Operating revenues for the year ended December 31, 2015 decreased by \$103 million, or 123%, from \$84 million for the year ended December 31, 2014 to negative \$19 million. The decrease in operating revenues was due to \$105 million unfavorable MtM changes on derivatives, with unrealized losses in 2015 compared to unrealized gains in 2014. The unrealized MtM change recorded within operating revenues is related to the change in average prices for storage derivatives. The 2015 losses resulted primarily from the settlement of 2014 MtM gains on short-term derivatives that rolled-off in 2015 based on the Company's derivative strategies as disclosed in Note 12, Derivative Instruments and Hedging. In 2014, a decrease in average prices for storage derivatives resulted in significant MtM gains.

Purchased power, natural gas and fuel used for the year ended December 31, 2015, remained consistent over the periods at \$1 million.

Operations and maintenance for the year ended December 31, 2015, decreased by \$2 million, or 4%, from \$40 million for the year ended December 31, 2014, to \$38 million. The decrease is mainly due to reduction in operational expense in the trading and storage businesses.

Depreciation, Amortization and Impairment of Non-Current Assets

Depreciation, amortization and impairment expenses for the year ended December 31, 2015, increased by \$53 million or 8% from \$654 million for the year ended December 31, 2014, to \$707 million. The depreciation expense for Gas, Renewables and Networks increased by \$67 million. Asset increases at Networks accounted for \$43 million and a further \$10 million at Renewables, and UIL accounts for a further \$6 million. Partially offsetting this is a reduction of \$12 million on impairment expense related to renewable development projects.

Other Income and (Expense) and Equity Earnings

Other income and (expense) and equity earnings for the year ended December 31, 2015, decreased by \$9 million, or 14%, from \$64 million other income for the year ended December 31, 2014, to \$55 million. The decrease in other income is associated with lower equity earnings of \$11 million due to the impact of lower power prices and production on the joint venture windfarms of Renewables.

Interest Expense, Net of Capitalization

Interest expense for the year ended December 31, 2015, increased by \$24 million or 10% from \$243 million for the year ended December 31, 2014 to \$267 million. Networks expense increased by \$30 million, consistent with the change in debt and UIL contributed \$4 million in additional expense. Renewables expense decreased corresponding with a decrease as their debt amortized.

Income Tax Expense

Income tax expense for the year ended December 31, 2015, was \$71 million lower than it would have been at the statutory federal income tax rate of 35% due predominately to production tax credits, filing of amended returns in the State of New York and the impact of tax equity financing arrangements. This resulted in an effective tax rate of 11.30%. Income tax expense for the year ended December 31, 2014, was \$35 million higher than it would have been at the statutory federal income tax rate of 35% due predominately to remeasurement of the deferred income tax liability caused by the imposition of a unitary tax regime in New York effective January 1, 2015, production tax credits, and the impact of tax equity financing arrangements. This resulted in an effective tax rate of 39.94%.

Non-GAAP Financial Measures

To supplement our consolidated financial statements presented in accordance with U.S. GAAP, we consider certain non-GAAP financial measures that are not prepared in accordance with U.S. GAAP, including adjusted gross margin, adjusted EBITDA, adjusted net income and adjusted earnings per share, or adjusted EPS. The non-GAAP financial measures we use are specific to AVANGRID and the non-GAAP financial measures of other companies may not be calculated in the same manner. We use these non-GAAP financial measures, in addition to U.S. GAAP measures, to establish operating budgets and operational goals to manage and monitor our business, evaluate our operating and financial performance and to compare such performance to prior periods and to the performance of our competitors. We believe that presenting such non-GAAP financial measures is useful because such measures can be used to analyze and compare profitability between companies and industries because it eliminates the impact of financing and certain non-cash charges. In addition, we present non-GAAP financial measures because we believe that they and other similar measures are widely used by certain investors, securities analysts and other interested parties as supplemental measures of performance.

We define adjusted EBITDA as net income attributable to AVANGRID, adding back income tax expense, depreciation, amortization, impairment of non-current assets and interest expense, net of capitalization, and then subtracting other income and earnings from equity method investments. We define adjusted net income as net income adjusted to reflect the full 12-month period of results for UIL and to exclude gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, mark-to-market adjustments to reflect the effect of mark-to-market changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity and adjustments for the non-core Gas storage business, for which we are exploring strategic options. We believe adjusted net income is more useful in understanding and evaluating actual and projected financial performance and contribution of AVANGRID core lines of business and to more fully compare and explain our results. Additionally, we evaluate the nature of our revenues and expenses and adjust to reflect classification by nature for evaluation of our non-GAAP financial measures

as opposed to by function. The most directly comparable U.S. GAAP measure to adjusted EBITDA and adjusted net income is net income. We also define adjusted gross margin as adjusted EBITDA adding back operations and maintenance and taxes other than income taxes and then subtracting transmission wheeling. We also define adjusted EPS as adjusted net income converted to an earnings per share amount.

The use of non-GAAP financial measures is not intended to be considered in isolation or as a substitute for, or superior to, AVANGRID's U.S. GAAP financial information, and investors are cautioned that the non-GAAP financial measures are limited in their usefulness, may be unique to AVANGRID, and should be considered only as a supplement to AVANGRID's U.S. GAAP financial measures. The non-GAAP financial measures may not be comparable to other similarly titled measures of other companies and have limitations as analytical tools.

Non-GAAP financial measures are not primary measurements of our performance under U.S. GAAP and should not be considered as alternatives to operating income, net income or any other performance measures determined in accordance with U.S. GAAP.

Reconciliation of the Net Income attributable to AVANGRID to adjusted EBITDA (non-GAAP) and adjusted gross margin (non-GAAP) before reflecting the full 12-month period of results for UIL, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market activities in Renewables and Gas storage business, and before adjustments to reflect the classification of revenues and expenses by nature for the years ended December 31, 2016, 2015 and 2014, respectively, is as follows:

Years Ended December 31, (Millions)	2016	2015	2014
Net Income Attributable to Avangrid, Inc.	\$ 630	\$ 267	\$ 424
Add: Income tax expense	379	34	282
Depreciation and amortization	804	695	629
Impairment of non-current assets	—	12	25
Interest expense, net of capitalization	268	267	243
Less: Other income	76	55	52
Earnings from equity method investments	7	—	12
Adjusted EBITDA (2)	\$ 1,998	\$ 1,220	\$ 1,539
Add: Operations and maintenance (1)	2,206	1,808	1,560
Taxes other than income taxes	528	367	314
Less: Transmission wheeling (1)	260	149	143
Adjusted gross margin (2)	\$ 4,472	\$ 3,246	\$ 3,270

- (1) Transmission wheeling is a component of operations and maintenance and is considered a component of adjusted gross margin because it is directly associated with the power supply costs included in the cost of sales.
- (2) Adjusted EBITDA and adjusted gross margin are non-GAAP financial measures and are presented before reflecting the full 12-month period of results for UIL results, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market activities in Renewables and Gas storage business, and before adjustments to reflect the classification of revenues and expenses by nature. For additional details of these adjustments and reconciliation of net income to adjusted EBITDA and adjusted gross margin that reflect these adjustments see the table on pages 70-71 of this Annual Report on Form 10-K.

The following tables set forth our adjusted EBITDA and adjusted gross margin by segment for each of the periods indicated and as a percentage of operating revenues:

Year Ended December 31, 2016

	Total	Networks	Renewables	Gas	Other(1)
			(in millions)		
Adjusted gross margin (2)	\$ 4,472	\$ 3,596	\$ 863	\$ 33	\$ (20)
Adjusted gross margin %		71 %	85 %	103 %	34 %
Adjusted EBITDA (2)	\$ 1,998	\$ 1,551	\$ 462	\$ (15)	\$ —
Adjusted EBITDA %		31 %	46 %	(47) %	58 %

Year Ended December 31, 2015

	Total	Networks	Renewables	Gas	Other(1)
	(in millions)				
Adjusted gross margin (2)	\$ 3,246	\$ 2,417	\$ 865	\$ (20)	\$ (16)
Adjusted gross margin %		71%	81%	105%	24%
Adjusted EBITDA (2)	\$ 1,220	\$ 865	\$ 456	\$ (62)	\$ (39)
Adjusted EBITDA %		26%	43%	326%	59%

Year Ended December 31, 2014

	Total	Networks	Renewables	Gas	Other(1)
	(in millions)				
Adjusted gross margin (2)	\$ 3,270	\$ 2,199	\$ 997	\$ 83	\$ (9)
Adjusted gross margin %		65%	84%	99%	12%
Adjusted EBITDA (2)	\$ 1,539	\$ 891	\$ 613	\$ 38	\$ (3)
Adjusted EBITDA %		26%	52%	45%	4%

(1) Other amounts represent corporate and company eliminations.

(2) Adjusted EBITDA and adjusted gross margin are non-GAAP financial measures and are presented before reflecting the full 12-month period of results for UIL results, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market activities in Renewables and Gas storage business, and before adjustments to reflect the classification of revenues and expenses by nature. For additional details of these adjustments and reconciliation of net income to adjusted EBITDA and adjusted gross margin that reflect these adjustments see the table on pages 70-71 of this Annual Report on Form 10-K.

Comparison of Period to Period Results of Operations

Our adjusted gross margin increased by \$1.3 billion, or 39%, from \$3.2 billion for the year ended December 31, 2015, to \$4.5 billion for the year ended December 31, 2016.

Our adjusted EBITDA increased by \$778 million, or 64%, from \$1.2 billion for the year ended December 31, 2015 to \$1.9 billion for the year ended December 31, 2016.

Details of the period to period comparison are described below at the segment level.

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015

Networks

Adjusted gross margin for the year ended December 31, 2016, increased by \$1.2 billion from \$2.4 billion for the year ended December 31, 2015, to \$3.6 billion. The increase is associated primarily with the addition of UIL, which added \$1.0 billion of gross margin. Underlying margins increased by \$172 million. Although volume of both sales and purchased power were lower due to the mild winter in 2016, purchased power rates decreased comparatively more, due to declines in market prices in 2016, which, combined with increases in regulatory recoveries including the \$126 million unfunded future income tax adjustment and impacts of the rate case activities, increased margins in 2016, partly offset by increases in the cost of transmission wheeling year over year.

Adjusted EBITDA for the year ended December 31, 2016, increased by \$686 million or 79% from \$865 million for the year ended December 31, 2015, to \$1.6 billion. UIL added \$493 million of adjusted EBITDA in 2016, with underlying business adjusted EBITDA increasing by \$193 million for the year ended December 31, 2016, as compared to the same period of 2015. The increase was due to the same reasons discussed above for adjusted gross margin, partly offset by an increase in operations and maintenance expenses for transmission system reliability support.

Renewables

Adjusted gross margin for the year ended December 31, 2016, decreased by \$2 million or less than 1% from \$865 million for the year ended December 31, 2015, to \$863 million. The decrease was primarily due to \$5 million in unfavorable MtM changes on derivatives in 2016 compared to 2015 and a \$2 million decrease in thermal results on lower merchant prices not offset by lower fuel

costs. Underlying gross margin on wind and solar increased by \$4 million due to increased production of 642 GWh or 5% with average prices 4% lower due to expiring contracts resulting in more generation being sold merchant.

Adjusted EBITDA for the year ended December 31, 2016, increased by \$6 million or 1% from \$456 million for the year ended December 31, 2015, to \$462 million. The increase was due primarily to lower operations and maintenance expenses, related to reductions in bad debts expense recorded in 2015 not recurring in 2016 and lower asset retirement obligation expenses.

Gas

Adjusted gross margin for the year ended December 31, 2016, increased by \$53 million, or 265%, from negative \$20 million for the year ended December 31, 2015, to \$33 million. The increase is associated with the increase in operating revenues due to favorable movement in spreads in the owned storage and gas transportation areas in 2016 as compared to 2015.

Adjusted EBITDA for the year ended December 31, 2016 increased by \$47 million, or 76%, from negative \$62 million for the year ended December 31, 2015, to negative \$15 million. The increase was due primarily to the same reasons discussed above for adjusted gross margin offset by operations and maintenance expense increases in 2016 resulting from higher credit support costs and external services.

Year Ended December 31, 2015 Compared to the Year Ended December 31, 2014

Networks

Adjusted gross margin for the year ended December 31, 2015, increased by \$218 million, from \$2.2 billion for the year ended December 31, 2014, to \$2.4 billion. The increase is associated primarily with the decrease of purchased power by \$189 million due to a decrease in the market price of electricity in 2015, with 2014 prices being higher due to colder temperatures causing less efficient generation to be used, increasing the marginal price of electricity. The remaining difference represents the cost of transmission wheeling year over year.

Adjusted EBITDA for the year ended December 31, 2015, decreased by \$26 million or 3% from \$891 million for the year ended December 31, 2014, to \$865 million. The decrease is primarily due to the reasons discussed above regarding adjusted gross margin and increase in operations and maintenance with the main drivers being increased spending in 2015 on reliability support services.

Renewables

Adjusted gross margin for the year ended December 31, 2015, decreased by \$132 million or 13% from \$997 million for the year ended December 31, 2014, to \$865 million. The decrease was due primarily to a reduction in output from our renewable generation facilities, which were 592 GWh lower, and lower merchant prices with a resulting reduction of \$70 million, unfavorable results from power trading activities of \$34 million, due to reduced trading opportunities created by lower price volatility in the northwest markets and a decrease of \$9 million attributable to unrealized losses from changes in fair value of energy derivative transactions entered into for economic hedging purposes.

Adjusted EBITDA for the year ended December 31, 2015, decreased by \$157 million or 26% from \$613 million for the year ended December 31, 2014, to \$456 million. The increase was due primarily to the same reasons discussed above for adjusted gross margin.

Gas

Adjusted gross margin for the year ended December 31, 2015, decreased by \$103 million, or 124%, from \$83 million for the year ended December 31, 2014, to negative \$20 million. The decrease is associated with the decrease in operating revenues due to \$105 million in changes relating to change in value of derivatives, with unrealized losses in 2015 compared to unrealized gains in 2014.

Adjusted EBITDA for the year ended December 31, 2015 decreased by \$100 million, or 263%, from \$38 million for the year ended December 31, 2014 to negative \$62 million. The decrease was due primarily to the same reasons discussed above for adjusted gross margin.

The following table provides a reconciliation between Net Income attributable to AVANGRID and adjusted gross margin (non-GAAP) and adjusted EBITDA (non-GAAP) by segment after the full 12-month period of results for UIL, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market

activities in Renewables and Gas storage business, and after adjustments to reflect the classification of revenues and expenses by nature for the years ended December 31, 2016, 2015 and 2014, respectively:

	Year Ended December 31, 2016				
	Total	Networks	Renewables	Corporate *	Gas Storage
	(in millions)				
Net Income Attributable to Avangrid, Inc.	\$ 630	\$ 480	\$ 112	\$ 80	\$ (42)
Adjustments:					
Sale of equity method and other investment	(36)	—	(3)	(33)	—
Impairment of investment	3	3	—	—	—
Mark-to-market adjustments - Renewables	(20)	—	(20)	—	—
Income tax impact of adjustments (1)	22	(1)	9	14	—
Gas Storage, net of tax	42	—	—	—	42
Adjusted Net Income	\$ 641	\$ 482	\$ 98	\$ 61	\$ —
Add: Income tax expense (2)	287	290	35	(38)	—
Depreciation and amortization (3)	985	566	415	4	—
Interest expense, net of capitalization (4)	131	132	28	(28)	—
Less: Other income and (expense)	(2)	1	(3)	—	—
Earnings (losses) from equity method investments	4	15	(11)	—	—
Adjusted EBITDA (6)	\$ 2,042	\$ 1,453	\$ 589	\$ (1)	\$ —
Add: Operations and maintenance (5)	1,319	1,089	234	(5)	—
Taxes other than income taxes	513	463	44	6	—
Adjusted gross margin (6)	\$ 3,873	\$ 3,006	\$ 867	\$ —	\$ —

	Year Ended December 31, 2015				
	Total	Networks	Renewables	Corporate *	Gas Storage
	(in millions)				
Net Income Attributable to Avangrid, Inc.	\$ 267	\$ 208	\$ 133	\$ (6)	\$ (69)
Adjustments:					
Add: Net Income representing the full 12-month period of results for UIL	133	133	—	—	—
Merger costs	122	89	—	34	—
Mark-to-market adjustments - Renewables	(25)	—	(25)	—	—
Income tax impact of adjustments (1)	(45)	(49)	9	(5)	—
Gas Storage, net of tax	69	—	—	—	69
Adjusted Net Income	\$ 521	\$ 381	\$ 117	\$ 23	\$ —
Add: Income tax expense (2)	203	241	37	(76)	—
Depreciation and amortization (3)	1,047	586	461	—	—
Impairment of non-current assets	12	—	12	—	—
Interest expense, net of capitalization (4)	190	163	(37)	64	—
Less: Other income	1	1	—	—	—
Earnings (losses) from equity method investments	15	14	(4)	4	—
Adjusted EBITDA (6)	\$ 1,957	\$ 1,356	\$ 595	\$ 7	\$ —
Add: Operations and maintenance (5)	1,339	1,122	229	(12)	—
Taxes other than income taxes	517	471	41	5	—
Adjusted gross margin (6)	\$ 3,813	\$ 2,949	\$ 865	\$ —	\$ —

	Year Ended December 31, 2014				
	Total	Networks	Renewables	Corporate *	Gas Storage
	(in millions)				
Net Income Attributable to Avangrid, Inc.	\$ 424	\$ 288	\$ 201	\$ (61)	\$ (4)
Adjustments:					
Add: Net Income representing the full 12-month period of results for UIL	110	110	—	—	—
Merger costs	8	8	—	—	—
Mark-to-market adjustments - Renewables	(34)	—	(34)	—	—
Income tax impact of adjustments (1)	10	(3)	13	—	—
Gas Storage, net of tax	4	—	—	—	4
Adjusted Net Income	\$ 522	\$ 403	\$ 180	\$ (61)	\$ —
Add: Income tax expense (2)	363	238	76	54	(5)
Depreciation and amortization (3)	877	523	332	—	22
Impairment of non-current assets	25	—	25	—	—
Interest expense, net of capitalization (4)	300	255	64	(47)	28
Less: Other income and (expense)	52	42	67	(60)	3
Earnings from equity method investments	23	11	2	10	—
Adjusted EBITDA (6)	\$ 2,012	\$ 1,366	\$ 608	\$ (4)	\$ 42
Add: Operations and maintenance (5)	1,521	1,152	336	(7)	40
Taxes other than income taxes	500	445	47	3	5
Adjusted gross margin (6)	\$ 4,033	\$ 2,963	\$ 991	\$ (8)	\$ 87

- (1) Income tax impact of adjustments: \$14 million from sale of equity method investment, \$1 million from sale of other investment, \$(1) million on impairment of investment and \$8 million from MtM adjustment for the year ended December 31, 2016. Income tax impact of \$54 million and \$3 million relate to merger costs for the years ended December 31, 2015 and 2014, respectively. Income tax impact of \$9 million and \$13 million relate to MtM adjustment for the years ended December 31, 2015 and 2014, respectively.
- (2) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for production tax credit for the amount of \$34 million, \$33 million and \$28 million for the years ended December 31, 2016, 2015 and 2014, as they have been included in operating revenues in Renewables based on the by nature classification. Additionally, \$126 million for unfunded future income taxes have been reclassified from revenues based on the by nature classification in Networks for the year ended December 31, 2015.
- (3) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for the inclusion of vehicle depreciation of \$22 million, \$14 million and \$16 million and bad debt provision of \$50 million, \$48 million and \$87 million in Networks within depreciation and amortization from operations and maintenance based on the by nature classification for the years ended December 31, 2016, 2015 and 2014, respectively. Additionally, government grants of \$6.6 million and \$6.8 million in Networks and investment tax credits amortization of \$91 million and \$103 million in Renewables have been presented within other operating income and not within depreciation and amortization based on the by nature classification for the years ended December 31, 2016 and 2015, respectively.
- (4) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for allowance for funds used during construction, debt portion, to reflect these amounts within other income and expenses in Networks for the years ended December 31, 2016, 2015 and 2014, respectively.
- (5) In addition to adjustments to include a full 12-month period of results for UIL, adjustments have been made for regulatory amounts to reflect amounts in revenues based on the by nature classification of these items. In addition, the vehicle depreciation and bad debt provision have been reflected within depreciation and amortization in Networks.
- (6) Adjusted EBITDA and adjusted gross margin are non-GAAP financial measures and are presented after reflecting the full 12-month period of results for UIL, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market activities in Renewables and Gas storage business, and after adjustments to reflect the classification of revenues and expenses by nature explained in notes (1)-(5) above.

* Includes corporate and other non-regulated entities.

The following tables provide a reconciliations between Net Income attributable to AVANGRID and Adjusted Net Income (non-GAAP), and EPS attributable to AVANGRID and adjusted EPS (non-GAAP) after reflecting the full 12- month period of results for UIL, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market activities in Renewables and Gas storage business, for the years ended December 31, 2016, 2015 and 2014, respectively:

	Year Ended December 31,		
	2016	2015	2014
	<i>(in millions)</i>		
Networks	\$ 480	\$ 208	\$ 288
Renewables	112	133	201
Corporate (1)	80	(6)	(61)
Gas Storage	(42)	(69)	(4)
Net Income	\$ 630	\$ 267	\$ 424
Adjustments:			
Net income representing the full 12-month period of results for UIL	—	133	110
Merger Costs	—	122	8
Sale of equity method and other investment	(36)	—	—
Impairment of investment	3	—	—
Mark-to-market adjustments - Renewables (2)	(20)	(25)	(34)
Income tax impact of adjustments	22	(45)	10
Gas Storage , net of tax	42	69	4
Adjusted Net Income (3)	\$ 641	\$ 521	\$ 522

	Year Ended December 31,		
	2016	2015	2014
Networks	1.55	0.83	1.14
Renewables	0.37	0.53	0.80
Corporate (1)	0.26	(0.03)	(0.24)
Gas Storage	(0.14)	(0.28)	(0.02)
Earnings Per Share	2.04	1.05	1.68
Adjustments:			
Reduction for acquisition of UIL shares	—	(0.18)	(0.31)
Net income representing the full 12-month period of results for UIL	—	0.43	0.36
Merger costs	—	0.40	0.03
Sale of equity method and other investment	(0.12)	—	—
Impairment of investment	0.01	—	—
Mark-to-market adjustments - Renewables (2)	(0.07)	(0.08)	(0.11)
Income tax impact of adjustments	0.07	(0.15)	0.03
Gas Storage, net of tax	0.14	0.22	0.02
Adjusted Earnings Per Share (3)	\$ 2.07	\$ 1.68	\$ 1.69

(1) Includes corporate and other non-regulated entities.

(2) Mark-to-market adjustments relate to changes in the fair value of derivative instruments used by AVANGRID to economically hedge market price fluctuations in related underlying physical transactions for the purchase and sale of electricity and gas.

(3) Adjusted net income and adjusted earnings per share are non-GAAP financial measures and are presented after reflecting the full 12-month period of results for UIL, excluding gain on the sale of equity method and other investment, impairment of investment, costs related to the merger with UIL, impact from mark-to-market activities in Renewables and Gas storage business.

Liquidity and Capital Resources

Our operations, capital investment and business development require significant short-term liquidity and long-term capital resources. Historically, we have used cash from operations, and borrowings under our credit facilities and commercial paper programs as our primary sources of liquidity. Our long-term capital requirements have been met primarily through retention of earnings, equity contributions from Iberdrola and borrowings in the investment grade debt capital markets. Continued access to these sources of liquidity and capital are critical to us. Risks may increase due to circumstances beyond our control, such as a general disruption of the financial markets and adverse economic conditions.

Liquidity Resources

At December 31, 2016, we had cash and cash equivalents of \$91 million, as compared to \$427 million at December 31, 2015. In addition to cash on hand, we and our subsidiaries have access to committed credit facilities totaling \$1.5 billion. See discussion of AVANGRID commercial paper program and AVANGRID credit facility below.

We optimize our liquidity within the United States through a series of arms'-length intercompany lending arrangements with our subsidiaries and among our regulated utilities to provide for lending of surplus cash to subsidiaries with liquidity needs, subject to the limitation that the regulated utilities may not lend to unregulated affiliates.

We manage our overall liquidity position as part of the group of companies controlled by Iberdrola, or the Iberdrola Group, and are a party to a notional cash pooling agreement with Bank Mendes Gans, N.V., BMG, along with other members of the Iberdrola Group. The notional cash pooling agreement aids the Iberdrola Group in efficient cash management and reduces the need for external borrowing by the pool participants. Parties to the agreement, including us, may deposit funds with or borrow from BMG, provided that the net balance of funds deposited or borrowed by all pool participants in the aggregate is not less than zero. Deposits are available for next day withdrawal. Deposit in the cash pooling account was \$353 million at December 31, 2015. In advance of the United Kingdom "BREXIT" vote, we took steps to reposition our liquidity and our deposits with BMG were withdrawn and reinvested in money market accounts. The BMG balance at December 31, 2016 was zero. The deposit amounts are reflected in our consolidated balance sheet under cash and cash equivalents because our deposited surplus funds under the cash pooling agreement are highly-liquid short-term investments. We also have a bi-lateral demand note agreement with a Canadian affiliate of the Iberdrola Group under which we had notes payable balance outstanding of \$10 million at December 31, 2016.

AVANGRID Commercial Paper Program

On May 13, 2016, AVANGRID established a commercial paper program with a limit of \$1 billion that is backstopped by the AVANGRID credit facility (described below). As of December 31, 2016 and March 9, 2017, there was \$150 million and \$300 million of commercial paper outstanding, respectively.

AVANGRID Credit Facility

On April 5, 2016, AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC entered into a revolving credit facility with a syndicate of banks, or the AVANGRID Credit Facility, that provides for maximum borrowings of up to \$1.5 billion in the aggregate. Since the facility is a backstop to the AVANGRID commercial paper program, the amounts available under the facility at December 31, 2016 and March 9, 2017, were \$1,350 million and \$1,200 million, respectively.

Under the terms of the AVANGRID Credit Facility, each joint borrower has a maximum borrowing entitlement, or sublimit, which can be periodically adjusted to address specific short-term capital funding needs, subject to the maximum limit established by the banks. AVANGRID's maximum sublimit is \$1 billion, NYSEG, RG&E, CMP and UI have maximum sublimits of \$250 million, CNG, and SCG have maximum sublimits of \$150 million and BGC has a maximum sublimit of \$25 million. Under the AVANGRID credit facility, each of the borrowers will pay an annual facility fee that is dependent on their credit rating. The facility fees will range from 10.0 to 17.5 basis points. The maturity date for the AVANGRID credit facility is April 5, 2021.

As a condition of closing on the AVANGRID credit facility, three existing credit facilities were terminated: i) the AVANGRID revolving credit facility which provided for maximum borrowings of up to \$300 million and had a scheduled termination date in May 2019; ii) a joint utility revolving credit facility, to which NYSEG, RG&E and CMP were parties, which provided for borrowings of up to \$600 million and which had a scheduled termination date in July 2018; iii) the UIL credit facility, to which UIL, UI, SCG, CNG and BGC were parties, which provided for maximum borrowings of \$400 million and which had a scheduled termination date in November 2016. At December 31, 2015, no amounts were outstanding under the AVANGRID revolving credit facility, and the joint utility revolving credit facility, and there was \$160 million outstanding under the UIL credit facility.

Long-Term Capital Resources

We expect to meet our long-term capital requirements through the use of our cash balances, credit facilities, cash from operations, and long-term borrowing. We have investment grade ratings from Standard and Poor's, Moody's and Fitch and we believe that we can raise capital on competitive terms in the investment grade debt capital and/or bank markets.

In November 2016, NYSEG issued \$500 million principal amount of senior unsecured notes bearing a coupon of 3.25% and a December 1, 2026 maturity date. The notes were priced at a discount to yield 3.335%. Net proceeds of the offering after the price discount and underwriters' discount were \$493 million.

At December 31, 2016, we had \$4,307 million of long-term debt (including the current portion thereof) outstanding in the Networks segment consisting of first mortgage bonds, senior unsecured notes, tax-exempt bonds and various other forms of debt. Network's regulated utilities are required by regulatory order to maintain a minimum ratio of common equity to total capital that is tied to the capital structure used in the establishment of their revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. Networks' regulated utilities were in compliance with these regulatory orders as of December 31, 2016. UI, SCG, CNG and BGC are restricted from paying dividends if paying such dividend would result in their respective common equity ratio being lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. The regulated utilities periodically pay dividends to, or receive capital contributions from AVANGRID, in order to maintain the minimum equity ratio requirement. They each independently incur indebtedness by issuing investment grade debt securities.

At December 31, 2016, we had \$70 million of long-term debt (including the current portion thereof) outstanding in the Renewables segment consistently principally of a sale-leaseback arrangement on a solar generation facility. Renewables has historically been financed primarily with equity contributions from Iberdrola. The last such contribution of \$800 million was made in February 2013. Renewables has also sourced capital through tax equity financing arrangements associated with particular wind farm projects. The arrangements allocate tax losses and production tax credits to the tax equity investor in exchange for an initial contribution. The obligations created under the tax equity financing arrangements are recorded as a liability with an aggregate balance of \$199 million, of which \$96 million is current, at December 31, 2016.

At December 31, 2016, we had \$470 million and \$12 million of long-term debt (including the current portion thereof) outstanding in the corporate and Gas, respectively. Long-term debt in the corporate consists principally of \$450 million of 4.625% notes due in 2020 originally issued by UIL in 2010. The obligations relating to those notes were transferred to Avangrid, Inc. in December 2016. For further details see details Note 10 and Note 3 of Schedule I of our audited consolidated financial statements for the three years ended December 31, 2016, which are incorporated herein by reference.

In our credit facilities, long-term borrowing and tax-equity partnerships, we and our affiliates that are parties to the agreements are subject to covenants that are standard for such agreements. Affirmative covenants impose certain obligations on the borrower and negative covenants limit certain activities by the borrower. The agreements also define certain events of default, including but not limited to non-compliance with the covenants that may automatically in some circumstances, or at the option of the lenders in other circumstances, trigger acceleration of the obligations. We and our affiliates were in compliance with all such covenants at December 31, 2016.

Capital Requirements

Funding Future Common Dividend Payments

We expect to fund any quarterly shareholder dividends primarily from the cash provided by operations of our businesses in the future. We have a revolving credit facility, as described above, to fund short-term liquidity needs and we believe that we will have access to the capital markets should additional, long-term growth capital be necessary.

Capital Expenditures

The regulated utilities' capital expenditures over the last three years have been as follows:

	2016	2015	2014
	(in millions)		
NYSEG	\$ 282	\$ 259	\$ 247
RG&E	268	157	181
CMP (non-MPRP(1))	207	120	172
CMP (MPRP)	—	108	112
MNG	3	3	15
UI	170	187	142
SCG	54	62	64
CNG	73	62	55
BGC	17	16	13
Total	\$ 1,074	\$ 974	\$ 1,001

(1) MPRP refers to the Maine Power Reliability Program.

Renewables' capital expenditures for the years set forth below were as follows:

	2016	2015	2014
	(in millions)		
Wind & solar	\$ 751	\$ 58	\$ 270
Thermal	8	11	14
Corporate(1)	7	8	9
Total capital expenditures	766	77	293

(1) Includes information technology and facilities and safety (security).

Capital expenditures have remained relatively flat across Networks during the period from 2014 to 2016.

Renewables also made capital investments during this three-year period. In 2016 there were capital expenditures of \$728 million on construction of the Amazon Wind Farm US - East (formerly Desert Wind) and other wind assets, \$8 million in capital expenditures on the Klamath gas-fired cogeneration facility, or the Klamath Plant, \$10 million on improvements to operating wind assets and \$13 million in development costs.

In 2015 there were capital expenditures of \$73 million on construction of the Amazon Wind Farm US - East (formerly Desert Wind) and other wind assets, \$11 million in capital expenditures on the Klamath Plant, \$31 million on improvements to operating wind assets and \$9 million in development costs.

In 2014 there were capital expenditures of \$257 million primarily for construction of the Baffin Bay wind asset, \$14 million for capital expenditures on the Klamath gas-fired cogeneration facility, or the Klamath Plant, \$14 million on improvements to operating wind assets and \$13 million in development costs, partially offset by \$16 million in net refunds of wind turbine deposits.

Capital Improvement Projects

An important part of our business strategy involves capital improvement projects. Through Networks we plan to invest a total of approximately \$7.8 billion from 2017 to 2021 to upgrade and expand electricity and natural gas transmission and distribution infrastructure. In the next 12 months, CMP plans to invest \$204 million, including the program to complete the Lewiston Loop project, which complements the already completed MPRP, a project which enhanced the bulk power transmission grid in Maine. In addition, CMP plans to continue developing its new customer relationship management and billing system and new transmission investments in the Maine Electric Power Corporation, or MEPCO, 388 rebuild. NYSEG plans to invest \$336 million in the next 12 months, including a number of programs disclosed in Appendix P Schedule I of the proposal dated June 15, 2016, the most relevant ones: The FERC Bright Line project, Auburn transmission project, Columbia County transmission project, Gas Distribution Mains and Leak Prone Main replacement. RG&E plans to invest \$299 million in the next 12 months, including a number of programs disclosed in Appendix P Schedule I of the proposal dated June 15, 2016, the most relevant ones: The FERC Bright Line, Rochester Area Reliability Project (RARP), Ginna Retirement Transmission Alternative (GRTA), Station 23 - New Downtown 115kV source,

Gas Distribution Mains and Leak Prone Main replacement. UIL plans to invest \$393 million in the next 12 months, including a number of programs disclosed in the UI-Distribution PURA Order dated December 14 2016 related to new customers, system and corrective reliability, system resiliency, infrastructure replacement (substations and distribution system), and system operations. The most relevant investment for CNG will be the Rocky Hill Liquefied Natural Gas, or LNG, Plant Liquefaction System Replacement Project.

On July 24, 2015, UIL announced its participation in Tennessee Gas Pipeline Company LLC's, or TGP, proposed Northeast Energy Direct project, or NED pipeline, through an acquisition of a 2.5% equity interest in Northeast Expansion LLC. Northeast Expansion LLC is a joint venture between an affiliate of Kinder Morgan, Inc., or Kinder Morgan, and Liberty Utilities Corp., which had planned to construct and own the NED pipeline, a new, "market path" natural gas pipeline segment of approximately 188 miles from Wright, New York, to Dracut, Massachusetts. In addition, as a condition to making this investment, UIL entered into a 20-year precedent agreement with TGP for pipeline capacity of 70,000 DTh/day on the NED pipeline, which capacity commitment, under the terms of the precedent agreement, would be reduced in the event that TGP enters into additional precedent agreements with third parties for capacity on the NED pipeline. In April 2016, citing inadequate capacity commitments from prospective customers, TGP elected to suspend all activities on the NED pipeline.

Through Renewables we plan to invest a total of approximately \$4.0 billion from 2017 to 2021 in order to add 2,000 MWs of generation capacity. 601 MW are approved for construction in 2017 and 2018 and these projects have long-term associated PPA contracts.

We expect to fund these capital improvement projects through a combination of retained earnings, cash provided by operations, and access to the capital markets, including debt borrowings at either the subsidiary or holding company level. Additionally, we have a revolving credit facility, as described above, to fund short-term liquidity needs.

Cash Flows

Our cash flows depend on many factors, including general economic conditions, regulatory decisions, weather, commodity price movements, and operating expense and capital spending control.

The following is a summary of the cash flows by activity for the years ended December 31, 2016, 2015 and 2014:

	Year Ended December 31,		
	2016	2015	2014
	<i>(in millions)</i>		
Cash Flows			
Net cash from operating activities	\$ 1,561	\$ 1,363	\$ 1,331
Net cash used in investing activities	(1,527)	(1,518)	(888)
Net cash (used in) from financing activities	(372)	102	(180)
Net (decrease) increase in cash, cash equivalents and restricted cash	\$ (338)	\$ (53)	\$ 263

Operating Activities

Our primary sources of operating cash inflows are proceeds from transmission and distribution of electricity and natural gas, sales of wholesale energy and energy related products and services, and natural gas revenues from natural gas storage services. Our primary operating cash outflows are power and natural gas purchases and transmission operating and maintenance expenses, as well as personnel costs and other employee-related expenditures. As our business has expanded, our working capital requirements have grown. We expect our working capital to grow as we continue to grow our business.

In 2016, net cash provided by operating activities was \$1.6 billion. During the period, Renewables contributed \$420 million of operating cash flow associated with wholesale sales of energy, Networks contributed \$1.0 billion of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas, and Gas used \$17 million in cash associated with losses on marketing of wholesale gas and gas storage services. Additionally, \$82 million in cash was provided in support of the operating segments and changes in working capital provided \$40 million in cash. The cash from operating activities in 2016 compared to 2015 increased by \$198 million, primarily attributable to the increased operating revenues. The \$338 million net change in operating assets and liabilities in 2016 was primarily attributable to a net increase of \$26 million in accounts receivable and payable due to impacts from sales and purchases, cash distributions from equity method investments of \$14 million, offset by net decrease of \$340 million in other assets/liabilities, decrease in inventories of \$46 million and regulatory assets/liabilities of \$81 million.

In 2015, net cash provided by operating activities was approximately \$1.4 billion. During the period, Renewables contributed \$531 million of operating cash associated with wholesale sales of energy, Networks contributed \$867 million of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas, and Gas used cash of \$42 million associated with gains on marketing of wholesale gas and gas storage services. We used \$5 million in cash associated with operating expenses in support of our segments. In addition, changes in working capital contributed \$12 million in cash. The cash from operating activities for the year ended December 31, 2015, compared to the year ended December 31, 2014, increased by \$30 million and this is primarily driven by a slight increase in Networks revenues. The \$19 million net change in our net operating assets and liabilities during the year ended December 31, 2015, was primarily attributable to a decrease in inventory costs driven by a decrease in inventory levels of \$4 million, partially offset by environmental cost deferrals of \$32 million.

In 2014, net cash provided by operating activities was approximately \$1.3 billion. During the period, Renewables contributed \$724 million of operating cash associated with wholesale sales of energy, Networks contributed \$734 million of operating cash as the result of regulated transmission and distribution sales of electricity and natural gas, and Gas contributed cash of \$17 million associated with gains on marketing of wholesale gas and gas storage services. We used \$60 million in cash associated with operating expenses in support of our segments. In addition, changes in working capital used \$84 million in cash. The cash from operating activities for the year ended December 31, 2014, compared to the year ended December 31, 2013, increased by \$154 million and this is primarily driven by the increased revenues at Renewables due to increase in wind source, prices, power trading activities and abundant hydro conditions as well as Gas due to lower gas prices. The \$35 million net change in our net operating assets and liabilities during the year ended December 31, 2014, was primarily attributable to a decrease in inventory costs driven by a decrease in inventory levels of \$58 million, partially offset by storm cost deferrals of \$20 million.

Investing Activities

Our investing activities have primarily focused on enhancing, automating, and reinforcing the asset base to support safety, reliability, and customer growth in accordance with the regulatory markets within which we operate, as well as constructing solar and wind assets and spending on gas generation assets. The increase in cash outflows related to capital expenditures in 2016 was largely due to the inclusion of UIL, which was not in the comparable period, adding \$356 million. The cost of investments has been offset, partially, by contributions in aid of construction and proceeds from the sale of equity investments in 2016.

In 2016, net cash used in investing activities was \$1.5 billion, which was comprised of \$1.1 billion associated with capital expenditures at Networks and \$561 million of capital expenditures at Renewables primarily associated with payments in support of the Amazon Wind Farm US - East (formerly Desert Wind) construction project and safe harbor payments for turbines. This was offset by \$69 million of contributions in aid of construction, proceeds of \$57 million from the sale of our equity method investment in Iroquois and other investment, \$43 million from asset sale to the New York TransCo and \$7 million from sale of property.

In 2015, the cash used in investing activities was \$1.5 billion, compared to \$888 million in 2014. The increase in 2015 compared to 2014 is primarily related to cash paid for acquisition of UIL (net of cash acquired) of \$547 million. The cash outflows related to capital expenditures for Networks were \$773 million in 2015 and \$775 million in 2014. The remaining capital expenditure related cash outflows in 2015 represent principally capital expenditures in Renewables of \$304 million. This amount is driven by significant progress in construction of the Baffin Bay wind asset in 2014. Under a turbine supply agreement, with Gamesa, payment for the supplied turbines did not take place until first quarter of 2015.

Financing Activities

Our financing activities have primarily consisted of using our credit facilities and long-term debt issued or redeemed by our regulated Networks subsidiaries.

In 2016, cash used in financing activities was \$372 million reflecting primarily an increase in non-current notes payable of \$493 million less maturities and redemptions of \$355 million, \$88 million in payments on the tax equity financing arrangements, repurchase of common stock of \$5 million and dividends of \$401 million.

In 2015, cash provided by financing activities was \$102 million reflecting primarily a net increase in non-current notes payable of \$350 million less maturities of \$141 million and \$102 million in payments on the tax equity financing arrangements.

In 2014, cash used in financing activities was \$180 million reflecting primarily maturities of notes payable and \$119 million in payments on the tax equity financing arrangements.

Contractual Obligations

As of December 31, 2016, our contractual obligations (excluding any tax reserves) were as follows:

	Total	2017	2018	2019	2020	2021	Thereafter
	<i>(in millions)</i>						
Operating leases(1)	\$ 703	\$ 106	\$ 28	\$ 28	\$ 26	\$ 28	\$ 487
Projected future pension benefit plan contributions(2)	151	33	51	54	13	—	—
Long-term debt (including current maturities)(3)	4,859	349	180	358	723	308	2,941
Interest payments(4)	2,371	222	205	186	169	141	1,448
Material purchase commitments(5)	2,587	487	376	287	238	191	1,008
Total Contractual Obligations	\$ 10,671	\$ 1,197	\$ 840	\$ 913	\$ 1,169	\$ 668	\$ 5,884

- (1) Represents lease contracts relating to operational facilities, office building leases, and vehicle and equipment leases. These amounts represent our expected portion of the costs to pay as amounts related to contingent payments are predominantly linked to electricity generation at the respective facilities. Obligations under operating lease significantly decrease from 2016 onwards as commitments on Cayuga and Ginna facilities are scheduled to terminate from 2017.
- (2) The qualified pension plans' contributions are generally based on the estimated minimum pension contributions required under the Employee Retirement Income Security Act of 1974, as amended, and the Pension Protection Act of 2006, as well as contributions necessary to avoid benefit restrictions and at-risk status and agreements with state regulatory agencies. These amounts represent estimates that are based on assumptions that are subject to change. The minimum required contributions for years after 2020 are not included as projection beyond 2020 are not available.
- (3) Includes obligations under capital leases. See debt payment discussion in "Long-term Capital Resources."
- (4) Interest payments are estimated based on final maturity dates of debt securities outstanding at December 31, 2016, and do not reflect anticipated future refinancing, early redemptions or debt issuances. Variable rate interest obligations are estimated based on rates as of December 31, 2016
- (5) Represents forward purchase commitments under power, gas, and other arrangements.

Critical Accounting Policies and Estimates

The financial statements provided herein have been prepared in accordance with U.S. GAAP and include the accounts of AVANGRID.

In preparing the accompanying financial statements, our management has made certain estimates and assumptions that affect the reported amounts of assets, liabilities, shareholder's equity, revenues and expenses, and the disclosures thereof. Our management recorded the net assets of ARHI in these consolidated financial statements at the historical accounting basis of AVANGRID. The historical accounting basis of AVANGRID includes purchase accounting adjustments related to AVANGRID's acquisition of ARHI in 2007. Prior to the 2013 reorganization of AVANGRID, Networks was not considered to be a substantive operating entity as it did not hold any direct operations and had always been a part of AVANGRID. As a result, the net assets of Networks in these consolidated financial statements are recorded at the historical accounting basis of AVANGRID, which do not include purchase accounting adjustments related to Iberdrola, S.A.'s acquisition of AVANGRID in 2008.

Revision of estimated useful lives of wind power station assets at Renewables

Renewables' wind power station assets in service less salvage value, if any, are depreciated using the straight-line method over their estimated useful lives. Renewables' effective depreciation rate, excluding decommissioning, was 4.0% in both 2015 and 2014. Renewables reviews the estimated useful lives of its fixed assets on an ongoing basis. In the first quarter of 2016, this review indicated that the actual lives of certain assets at wind power stations are expected to be longer than the previously estimated useful lives used for depreciation purposes. As a result, effective January 1, 2016, Renewables changed the estimates of the useful lives of certain assets from 25 years to 40 years, capped at the lease term if lower, to better reflect the estimated periods during which these assets are expected to remain in service. The weighted average useful life of our wind farm assets is now approximately 31 years. We are continuing to assess lease extensions with leaseholders to potentially increase the average useful life of our wind farm assets to more than 31 years. The effect of this change in estimate was to reduce depreciation and amortization expense by approximately \$52 million, reduce asset retirement obligation accretion expense recorded within operations and maintenance by approximately \$3 million, increase earnings from equity method investments by approximately \$4 million, increase income before income tax and net income by approximately \$59 million and approximately \$36 million, respectively, and increase basic and diluted earnings per share by approximately \$0.12 for the year ended December 31, 2016.

Accounting for Regulated Public Utilities

U.S. GAAP allows regulated entities to give accounting recognition to the actions of regulatory authorities. In order to apply such regulatory accounting treatment and record regulatory assets and liabilities, certain criteria must be met. In determining whether

the criteria are met for our operations, our management makes significant judgments, which involve (i) determining whether rates for services provided to customers are subject to approval by an independent, third-party regulator, (ii) determining whether the regulated rates are designed to recover specific costs of providing the regulated service, (iii) considering relevant historical precedents and recent decisions of the regulatory authorities and (iv) considering the fact that decisions made by regulatory commissions or legislative changes at a later date could vary from earlier interpretations made by management and that the impact of such variations could be material. Our regulated subsidiaries have deferred recognition of costs (a regulatory asset) or have recognized obligations (a regulatory liability) if it is probable that such costs will be recovered or obligations relieved in the future through the ratemaking process. Management regularly reviews our regulatory assets and liabilities to determine whether adjustments to its previous conclusions are necessary based on the current regulatory environment as well as recent rate orders. If our regulated subsidiaries, or a portion of their assets or operations, were to cease meeting the criteria for application of these accounting rules, accounting standards for businesses in general would become applicable and immediate recognition of any previously deferred costs would be required in the year in which such criteria are no longer met.

Accounting for Pensions and Other Post-retirement Benefits

We provide pensions and other post-retirement benefits for a significant number of employees, former employees and retirees. We account for these benefits in accordance with the accounting rules for retirement benefits. In accounting for its pension and other post-retirement benefit plans, or the AVANGRID plans, assumptions are made regarding the valuation of benefit obligations and the performance of plan assets. Delayed recognition of differences between actual results and those assumed allows for a smoother recognition of changes in benefit obligations and plan performance over the working lives of the employees who benefit under the AVANGRID plans. The primary assumptions include the discount rate, the expected return on plan assets, health care cost trend rate, mortality assumptions and demographic assumptions. We apply consistent estimation techniques regarding our actuarial assumptions, where appropriate, across the AVANGRID plans of our operating subsidiaries. The estimation technique utilized to develop the discount rate for the AVANGRID plans is based upon the settlement of such liabilities as of December 31, 2016, utilizing a hypothetical portfolio of actual, high quality bonds, which would generate cash flows required to settle the liabilities. We believe such an estimate of the discount rate accurately reflects the settlement value for plan obligations and results in cash flows which closely match the expected payments to participants.

We reflect all unrecognized prior service costs and credits and unrecognized actuarial gains and losses for the regulated utilities of Networks as regulatory assets or liabilities as it is probable that such items will be recovered through the ratemaking process in future periods.

During 2016, the Society of Actuaries issued updated mortality tables and projection scales. AVANGRID, in conjunction with its actuaries, performed an analysis to determine the appropriateness of adopting these tables and the related mortality projections. As a result, our pension and post-retirement plan liabilities as of December 31, 2016, reflect updated mortality assumptions.

Business Combinations

We apply the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair value of the assets transferred, the liabilities incurred by the acquirer to former owners of acquiree and the equity interests issued by the acquirer. Acquisition related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the consideration transferred over the fair value of the identifiable net assets acquired is recorded as goodwill. We recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

Goodwill

Goodwill is not amortized, but is subject to an assessment for impairment at least annually or more frequently if events occur or circumstances change that will more likely than not reduce the fair value of the reporting unit below its carrying amount. A reporting unit is an operating segment or one level below an operating segment and is the level at which goodwill is tested for impairment.

In assessing goodwill for impairment, we have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary, or step zero. If it is determined, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If we bypass step zero or perform the qualitative assessment but determine that it is more likely than not that its fair value is less than its carrying amount, a quantitative two step, fair value based test is performed. Step one compares the fair value of the reporting unit to its carrying amount, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, step two is performed. Step two requires an allocation of fair value to the individual assets and liabilities using business combination accounting guidance to determine the implied fair value of

goodwill. If the implied fair value of goodwill is less than its carrying amount, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense.

Our step zero qualitative assessment involves evaluating key events and circumstances that could affect the fair value of our reporting units, as well as other factors. Events and circumstances evaluated include macroeconomic conditions, industry, regulatory and market considerations, cost factors and their effect on earnings and cash flows, overall financial performance as compared with projected results and actual results of relevant prior periods, other relevant entity specific events, and events affecting a reporting unit.

Our step one impairment testing, and step two if required, includes various assumptions, primarily the discount rate, which is based on an estimate of our marginal, weighted average cost of capital, and forecasted cash flows. We test the reasonableness of the conclusions of our step one impairment testing using a range of discount rates and a range of assumptions for long term cash flows.

Networks

Provided recent relevant events, such as acquisition of UIL in December 2015 and approval of the proposal by the NYPSC, we conducted a quantitative analysis (step one) in 2016. Based on the results of our step one impairment test the estimated fair value of each of the Networks reporting units was substantially in excess of their respective carrying values.

Renewables

Based on the results of our step one impairment test for the Renewables reporting unit conducted in 2016, its estimated fair value was in excess of the carrying value. The assumptions used to estimate fair value were based on projections incorporated in our current operating plans as well as other available information. The current operating plans included significant assumptions and estimates associated with sales growth, profitability and related cash flows, along with cash flows associated with taxes and capital spending. The discount rate used to estimate fair value was risk adjusted in consideration of the economic conditions of the reporting unit. We also considered other assumptions that market participants may use. By their nature, projections are uncertain. Potential events and circumstances, such as declining wind energy output and prices obtained per MWh, changes in incentives established to promote renewable energies and increases in capital expenditures per MW could have an adverse effect on our assumptions.

Impairment of Long Lived Assets

We evaluate property, plant, and equipment and other long lived assets for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is required to be recognized if the carrying amount of the asset exceeds the undiscounted future net cash flows associated with that asset.

We determine the fair value of a long-lived asset (asset group) by applying the approaches prescribed under the fair value measurement accounting framework. Generally, the market approach and income approach are most relevant in the fair value measurement of our long-lived assets; however, due to the lack of available relevant observable market information in many circumstances, we often rely on the income approach. We develop the underlying assumptions consistent with our internal budgets and forecasts for such valuations. We use an internal discounted cash flow valuation model, or the DCF model, based on the principles of present value techniques, to estimate the fair value of our long-lived assets under the income approach. The DCF model estimates fair value by discounting AVANGRID's cash flow forecasts at an appropriate discount rate. Management applies considerable judgment in selecting several input assumptions during the development of our internal budgets and cash flow forecasts. Examples of the input assumptions that our budgets and forecasts are sensitive to include macroeconomic factors such as growth rates, industry demand, inflation, power prices and commodity prices. Whenever appropriate, management obtains these input assumptions from observable market data sources and extrapolates the market information if an input assumption is not observable for the entire forecast period. Many of these input assumptions are dependent on other economic assumptions, which are often derived from statistical economic models with inherent limitations such as estimation differences. Further, several input assumptions are based on historical trends which often do not recur. The input assumptions most significant to our budgets and cash flows are based on expectations of macroeconomic factors which may be volatile. The use of a different set of input assumptions could produce significantly different budgets and cash flow forecasts.

A considerable amount of judgment is also applied in the estimation of the discount rate used in the DCF model. To the extent practical, inputs to the discount rate are obtained from market data sources.

Fair value of a long-lived asset (asset group) is sensitive to both input assumptions related to our budgets and cash flow forecasts and the discount rate. Further, estimates of long-term growth and terminal value are often critical to the fair value determination. As part of the impairment evaluation process, management analyzes the sensitivity of fair value to various underlying

assumptions. The level of scrutiny increases as the gap between fair value and carrying amount decreases. Changes in any of these assumptions could result in management reaching a different conclusion regarding the potential impairment, which could be material. Our impairment evaluations inherently involve uncertainties from uncontrollable events that could positively or negatively impact the anticipated future economic and operating conditions.

Capitalization and Recovery of Project Development Costs

Development and construction of our various facilities are carried out in stages. Project costs are expensed during early stage development activities. Once certain development milestones are achieved and it is probable that we can obtain future economic benefits from a project, salaries and wages for persons directly involved in the project, and engineering, permits, licenses, wind measurement and insurance costs are capitalized.

Development projects in construction are reviewed periodically for any indications of impairment. Furthermore, we assess the recoverability of development costs that have been capitalized using several criteria to assess economic recoverability and probability of future economic benefit including energy prices, government regulation, and the internal rate of return to be earned on the project. If based on these factors, we conclude that we will not proceed with the related project, or that the project is no longer viable, the cost of the project is expensed in full.

Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in either the principal market for the asset or liability, or, in the absence of a principal market, in the most advantageous market for the asset or liability.

We use valuation techniques and methodologies that maximize the use of observable inputs and minimize the use of unobservable inputs. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices are not available, valuation models are applied to estimate the fair value using the available observable inputs. The valuation techniques involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

To increase consistency and enhance disclosure of the fair value of financial instruments, the fair value measurement standard includes a fair value hierarchy to prioritize the inputs used to measure fair value into three categories. An asset or liability's level within the fair value hierarchy is based on the lowest level of input significant to the fair value measurement, where Level 1 is the highest and Level 3 is the lowest.

Income Tax

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2016 tax period.

For the 2015 tax year, AVANGRID filed a consolidated federal income tax return, which included the UIL taxable income or loss for the period from December 17, 2015 to December 31, 2015. UIL filed a separate consolidated federal income tax return for the period from January 1, 2015 to December 16, 2015.

AVANGRID filed a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries (excluding UIL), including ARHI, which are 80% or more owned for the 2014 tax period. UIL filed separate consolidated federal income tax returns including the income or loss of its subsidiaries for all tax years including the most recently filed 2014 return.

AVANGRID (excluding ARHI and UIL), and ARHI filed separate consolidated federal income tax returns that included the taxable income or loss of all their respective subsidiaries, which are 80% or more owned, for all tax periods prior to 2013.

We use the liability method of accounting for income taxes. Deferred tax assets and liabilities reflect the expected future tax consequences based on enacted tax law of temporary differences between the tax basis of assets and liabilities and their financial reporting amounts. In accordance with U.S. GAAP for regulated industries, our regulated subsidiaries have established a regulatory asset for the net revenue requirements to be recovered from customers for the related future tax expense associated with certain of these temporary differences. The investment tax credits are deferred when used and amortized over the estimated lives of the related assets.

Deferred tax assets and liabilities are measured at the expected tax rate for the period in which the asset or liability will be realized or settled, based on legislation enacted as of the balance sheet date. Changes in deferred income tax assets and liabilities that are associated with components of other comprehensive income, or OCI, are charged or credited directly to OCI. Significant judgment is required in determining income tax provisions and evaluating tax positions. Our tax positions are evaluated under a more-likely-than-not recognition threshold before they are recognized for financial reporting purposes. Valuation allowances are recorded to reduce deferred tax assets when it is not more-likely-than-not that all or a portion of a tax benefit will be realized.

The excess of state franchise tax computed as the higher of a tax based on income or a tax based on capital is recorded in “Taxes other than income taxes” and “Taxes accrued” in the accompanying consolidated financial statements.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties. Interest and penalties related to unrecognized tax benefits are recorded within “Interest expense, net of capitalization” and “Other income and (expense)” of the consolidated statements of income.

Uncertain tax positions have been classified as noncurrent unless expected to be paid within one year. Our policy is to recognize interest and penalties on uncertain tax positions as a component of interest expense in the consolidated statements of income.

Federal production tax credits applicable to our renewable facilities, that are not part of a tax equity financing arrangement, are shown in the financial statements as a reduction in Income tax expense and as a reduction in deferred income tax liabilities.

Our income tax expense, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect management’s best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required in determining the consolidated income tax components of the financial statements.

Off-Balance Sheet Arrangements

As of December 31, 2016, we had approximately \$2.6 billion of standby letters of credit, surety bonds, guarantees and indemnifications outstanding. These instruments provide financial assurance to the business and trading partners of AVANGRID and its subsidiaries in their normal course of business. The instruments only represent liabilities if AVANGRID or its subsidiaries fail to deliver on contractual obligations. We therefore believe it is unlikely that any material liabilities associated with these instruments will be incurred and, accordingly, as of December 31, 2016, neither we nor our subsidiaries have any liabilities recorded for these instruments.

New Accounting Standards

Revenue from Contracts with Customers - In May 2014 the FASB issued an amendment related to the recognition of revenue from contracts with customers and required disclosures.

Fair Value Measurement Disclosures for Certain Investments - In May 2015 the FASB issued amendments that affect reporting entities that elect to estimate the fair value of certain investments within scope using the net asset value, or NAV, per share (or its equivalent) practical expedient, as specified.

Simplifying the Measurement of Inventory - In July 2015 the FASB issued amendments that require entities to measure inventory at the lower of cost and net realizable value, rather than the lower of cost or market.

Classifying and Measuring Financial Instruments - In January 2016 the FASB issued final guidance on the classification and measurement of financial instruments.

Simplifying the Accounting for Measurement-Period Adjustments - In September 2015 the FASB issued amendments that require an acquirer to recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

Leases - In February 2016 the FASB issued new guidance that affects all companies and organizations that lease assets, and requires them to record on their balance sheet assets and liabilities for the rights and obligations created by those leases.

Derivative contract novations - In March 2016 the FASB issued amendments concerning the effect of derivative contract novations on existing hedge accounting relationships.

Improvements to Employee Share-Based Payment Accounting - In March 2016 the FASB issued amendments regarding the simplification of several aspects of accounting for share-based payment transactions.

Measurement of credit losses on financial instruments - In June 2016 the FASB issued an accounting standards update that requires more timely recording of credit losses on loans and other financial instruments.

Certain classifications in the statement of cash flows - In August 2016 the FASB issued the amendments to address existing diversity in practice concerning eight cash flows issues.

Presentation of restricted cash in the statement of cash flows - In November 2016 the FASB issued the amendment to address existing diversity in the classification and presentation of changes in restricted cash on the statement of cash flows.

For further discussion of new accounting pronouncements affecting AVANGRID refer to Note 3 of our audited consolidated financial statements for the three years ended December 31, 2016, which are incorporated herein by reference.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to risks associated with adverse changes in commodity prices, interest rates and equity prices. Financial instruments and positions affecting our financial statements described below are held primarily for purposes other than trading. Market risk is measured as the potential loss in fair value resulting from hypothetical reasonably possible changes in commodity prices, interest rates or equity prices over the next year. Management has established risk management policies to monitor and manage such market risks, as well as credit risks.

Commodity Price Risk

Renewables and Gas face a number of energy market risk exposures, including fixed price, basis (both location and time), and heat rate risk.

Long-term supply contracts reduce our exposure to market fluctuations. We have electricity commodity purchases and sales contracts for energy (physical contracts) that have been designated and qualify for the normal purchase normal sale exemption in accordance with the accounting requirements concerning derivative instruments and hedging activities.

Renewables merchant wind facilities are subject to fixed price power risk, which is hedged with fixed price power trades. Its combined cycle power plant is subject to heat rate risk, which is hedged with fixed price power and fixed price gas and basis positions. Contracted natural gas storage exposures are affected by gas price differentials across time. We manage this exposure with fixed price, basis, and index gas derivatives. In addition, contracted transport positions are subject to gas price risk across location (i.e., the price differentials between the receipt and delivery points associated with the leased pipelines). We hedge this exposure with basis swaps. Those measures mitigate our commodity price exposure, but do not completely eliminate it. Some long term hedges do not qualify for hedge accounting. This introduces some Mark to Market volatility into yearly profit and losses accounts.

Renewables and Gas use a Monte Carlo simulation value-at-risk, or VaR, technique to measure and control the level of risk it undertakes. VaR is a statistical technique used to measure and quantify the level of risk within a portfolio over a given timeframe and within a specified level of confidence. VaR is primarily composed of three variables: the measured amount of potential loss, the probability of not exceeding the amount of potential loss, and the portfolio holding period.

Renewables and Gas use a 99% probability level over a five-day holding period, indicating that it can be 99% confident that losses over five days would not exceed that value. The average VaR for 2016 was \$17.7 million compared to a 2015 average of \$14.0 million.

As noted above, VaR is a statistical technique and is not intended to be a guarantee of the maximum loss ARHI may incur.

Networks also experiences commodity price risk, due to volatility in the wholesale energy markets. Networks manages that risk through a combination of regulatory mechanisms, such as the pass-through of the market price of electricity and natural gas to customers, and through comprehensive risk management processes. Those measures mitigate our commodity price exposure, but do not completely eliminate it. Networks also uses electricity contracts as deemed appropriate, both physical and financial, to manage

fluctuations in electricity commodity prices in order to provide price stability to customers. It also uses natural gas futures and forwards to manage fluctuations in natural gas commodity prices in order to provide price stability to customers. It includes the cost or benefit of those contracts in the amount expensed for electricity or natural gas purchased when the related electricity is sold.

Because all gains or losses on Networks' commodity contracts will ultimately be passed on to retail customers, no sensitivity analysis is performed for Networks. Further information regarding the derivative financial instruments and sensitivity analysis is provided in Notes 11 and 12 of our audited consolidated financial statements for the three years ended December 31, 2016, which are incorporated herein by reference.

Interest Rate Risk

Total debt outstanding, including tax equity of \$199 million and commercial paper of \$150 million, was \$5.2 billion at December 31, 2016, of which \$212 million had a floating interest rate; a change of 25 basis points in this interest rate would result in an interest expense fluctuation of approximately \$0.5 million annually. The estimated fair value of our debt excluding the debt associated with capital leases and tax equity at December 31, 2016 was \$5.1 billion, in comparison to a book value of \$4.7 billion.

There are no interest rate derivative contracts outstanding at December 31, 2016 and 2015.

Pension and Post-Retirement Plans

We provide pensions and other post-retirement benefits for a significant number of employees, former employees and retirees. In applying relevant accounting policies, we have made critical estimates related to actuarial assumptions, including assumptions of expected returns on plan assets, discount rates, health care cost trends and future compensation. The cost of pension and other post-retirement benefits in future periods will depend on actual returns on plan assets, assumptions for future periods, contributions and benefit experience. In 2016, we contributed \$44 million to our pension plans. Our contribution to the pension plans in 2017 is expected to be approximately \$33 million.

The discount rate used in accounting for pension and other benefit obligations in 2016 ranged from 3.90% to 4.24%. The expected rate of return on plan assets for qualified pension benefits in 2016 ranged from 5.50% to 7.75%. The following tables reflect the estimated sensitivity associated with a change in certain significant actuarial assumptions (each assumption change is presented mutually exclusive of other assumption changes):

	Change in Assumption	Impact on 2016 Pension Expense Increase (Decrease)	
		Pension Benefits	Post Retirement
		<i>(in millions)</i>	
Increase in discount rate	50 basis points	\$ (18)	\$ (3)
Decrease in discount rate	50 basis points	18	3
Increase in return on plan asset	50 basis points	(13)	(1)
Decrease in return on plan asset	50 basis points	13	1

Credit Risk

This risk is defined as the risk that a third party will not fulfill its contractual obligations and, therefore, generate losses for AVANGRID. Networks is exposed to nonpayment of customer bills. Standard debt recovery procedures are in place, in accordance with best practices and in compliance with applicable state regulations and embedded tariff mechanisms to manage uncollectable expense. Our credit department, based on guidelines approved by our board, establishes and manages its counterparty credit limits. We have developed a matrix of unsecured credit thresholds that are dependent on a counterparty's or the counterparty guarantor's applicable credit rating. Credit risk is mitigated by contracting with multiple counterparties and limiting exposure to individual counterparties or counterparty families to clearly defined limits based upon the risk of counterparty default. At the counterparty level, we employ specific eligibility criteria in determining appropriate limits for each prospective counterparty and supplement this with netting and collateral agreements, including margining, guarantees, letters of credit, and cash deposits, where appropriate.

Renewables and Gas are also exposed to credit risk through their energy management and gas storage operations. We manage counterparty credit risk for our subsidiaries with energy management and gas storage operations through established policies, including counterparty credit limits, and in some cases credit enhancements, such as cash prepayments, letters of credit, cash and other collateral and guarantees.

Some relevant considerations when assessing the credit risk exposure of the energy management and gas storage operations follows:

- Operations are primarily concentrated in the energy industry.
- Trade receivables and other financial instruments are predominately with energy, utility and financial services related companies, as well as municipalities, cooperatives and other trading companies in the U.S.
- Overall credit risk is managed through established credit policies by a Credit Risk Management group that is independent of the energy management and gas storage functions.
- Prospective and existing customers are reviewed for creditworthiness based upon established standards, with customers not meeting minimum standards providing various credit enhancements or secured payment terms, such as guarantees, letters of credit or the posting of margin cash collateral.
- Master netting agreements are used, where appropriate, to offset cash and non-cash gains and losses arising from derivative instruments with the same counterparty.

Based on our policies and risk exposures related to credit risk from its management and gas storage operations in ARHI, we do not anticipate a material adverse effect on our financial statements as a result of counterparty nonperformance. As of December 31, 2016, approximately 92% of our energy management and gas storage counterparty credit risk exposure is associated with companies that have investment grade credit ratings.

The following table displays the credit quality of our energy management and gas storage counterparties as of December 31, 2016:

	Credit Exposure Before Cash Collateral	Cash Collateral	Net Credit Exposure
	<i>(in millions)</i>		
A- and Greater	\$ 2,201	\$ —	\$ 2,201
BBB+ and BBB	636	—	636
BBB-	4	—	4
Total Investment Grade(1)	2,841	—	2,841
Non-investment grade(2) (3) (4) (5)	252	12	240
Total	\$ 3,093	\$ 12	\$ 3,081

- (1) This category includes counterparties with minimum credit ratings of Baa3 assigned by Moody's and BBB- assigned by Standard & Poor's, if rated by both agencies. The five largest counterparty exposures, combined, for this category represented approximately 32.7% of the total gross credit exposure.
- (2) This category includes counterparties with credit ratings that are below investment grade. The five largest counterparty exposures, combined, for this category represented approximately 5.2% of the total gross credit exposure.
- (3) This category includes counterparties that have not been rated by Moody's or Standard & Poor's, but are considered investment grade based on our evaluation of the counterparty's creditworthiness. The five largest counterparty exposures, combined, for this category represented approximately 0.8% of the total gross credit exposure.
- (4) This category includes counterparties that have not been rated by Moody's or Standard & Poor's, and are considered non-investment grade based on our evaluation of the counterparty's creditworthiness. The five largest counterparty exposures, combined, for this category represented approximately 1.7% of the total gross credit exposure.
- (5) This category includes exposure under two separate PPA agreements, the counterparty of which was downgraded to non-investment grade by Moody's and Standard & Poor's following their announcement to complete a strategic review of its competitive operations and alternatives for the certain generation assets. The targeted implementation of changes in connection with such strategic review could result in, among other things, material asset impairments or a potential bankruptcy filing. The current combined estimated exposure under the two PPAs represents approximately 5% of the total gross credit exposure

Treasury Management (including Liquidity Risk)

We manage our overall liquidity position as part of the broader Iberdrola Group and are a party to a notional cash pooling agreement with Bank Mendes Gans, N.V., or BMG, along with other members of the Iberdrola Group. We optimize our liquidity within the United States through a series of arms'-length intercompany lending arrangements with our subsidiaries and among the regulated utilities to provide for lending of surplus cash to subsidiaries with liquidity needs, subject to the limitation that the regulated utilities may not lend to unregulated affiliates. These arrangements minimize overall short-term funding costs and maximize returns on the temporary cash investments of the subsidiaries. We also have a bi-lateral demand note agreement with a Canadian affiliate of the Iberdrola Group. We have the capacity to borrow from third parties through Commercial Paper program and the \$1.5 billion AVANGRID Credit Facility which backstops the Commercial Paper program. For more information, see the section entitled "—Liquidity and Capital Resources—Liquidity Resources" of this Annual Report on Form 10-K.

Networks

Networks' regulated utilities fund their operations independently, except to the extent that they borrow on a short-term basis from unregulated affiliates and from each other when circumstances warrant in order to minimize short-term funding costs and maximize returns on temporary cash investments. The regulated utilities are prohibited by regulatory order from lending to unregulated affiliates. Networks' regulated utilities each independently access the investment grade debt capital markets for long-term funding and each are borrowers under the AVANGRID Credit Facility described in "—Liquidity and Capital Resources—Liquidity Resources" of this Annual Report on Form 10-K.

Networks' regulated utilities are subjected by regulatory order to certain credit quality maintenance measures, including minimum equity ratios, that are linked to the level of equity assumed in the establishment of revenue requirements. The companies maintain their equity ratios at or above the minimum through dividend declarations or, when necessary, capital contributions from AVANGRID.

Renewables

Prior to becoming a subsidiary of AVANGRID in November 2013, Renewables was principally funded by equity contributions from Iberdrola, S.A. The last such equity contribution of \$800 million was made in February 2013. Renewables has also raised a small percentage of its capital through tax equity partnerships, project loans and sale-leaseback arrangements. The balance of the outstanding tax equity financing arrangement at December 31, 2016, was \$199 million and the balance of leases and project financing was \$70 million. Presently, Renewables is a party to a cash pooling arrangement with Avangrid, Inc. All Renewables revenues are concentrated in and all Renewables disbursements are made from Avangrid, Inc. Net cash surpluses or deficits at Renewables are recorded as intercompany receivables or payables and these balances are periodically reduced to zero through dividends or capital contributions. In June 2016, Renewables recorded a net dividend of \$962 million to Avangrid, Inc. to zero out account balances that had principally accumulated prior to November 2013.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Avangrid, Inc.

We have audited the accompanying consolidated balance sheets of Avangrid, Inc. and subsidiaries (the “Company”) as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2016. Our audits also included the financial statement schedule listed in the Index at Item 15(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits. We did not audit the consolidated balance sheet of UIL Holdings Corporation, a wholly-owned subsidiary acquired in 2015, which statement reflects total assets of \$5,270 million as of December 31, 2015. That balance sheet was audited by other auditors whose report has been furnished to us, and our opinion, insofar as it relates to the balance sheet amounts included for UIL Holdings Corporation, is based solely on the report of other auditors.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits and the report of other auditors provide a reasonable basis for our opinion.

In our opinion, based on our audits and, as to the balance sheet at December 31, 2015, the report of other auditors, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Avangrid, Inc. and subsidiaries at December 31, 2016 and 2015, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Avangrid, Inc. and subsidiaries' internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 10, 2017 expressed an adverse opinion thereon.

/s/ Ernst & Young LLP

New York, New York
March 10, 2017

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Avangrid, Inc.

We have audited Avangrid, Inc. and subsidiaries' internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Avangrid, Inc. and subsidiaries' management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management's assessment. Management has identified material weaknesses in controls related to: (a) the accounting for the change in the estimated useful lives of certain components of the wind farms and with deficiencies in the documentation and execution of internal control procedures, specifically management review controls, within Avangrid Renewables, LLC, (b) the preparation of the consolidated financial statements, including disclosures within those consolidated financial statements, and (c) the recognition and measurement of income taxes. These control deficiencies resulted in part from ineffective training and oversight of process owners and the complexities associated with maintaining accounting records for numerous legal entities and jurisdictions. We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Avangrid, Inc. and subsidiaries as of December 31, 2016 and 2015 and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2016. These material weaknesses were considered in determining the nature, timing and extent of audit tests applied in our audit of the 2016 financial statements, and this report does not affect our report dated March 10, 2017, which expressed an unqualified opinion on those financial statements.

In our opinion, because of the effect of the material weaknesses described above on the achievement of the objectives of the control criteria, Avangrid, Inc. and subsidiaries has not maintained effective internal control over financial reporting as of December 31, 2016, based on the COSO criteria.

/s/ Ernst & Young LLP

New York, New York
March 10, 2017

Independent Auditor's Report

To the Board of Directors of UIL Holdings Corporation.

In our opinion, the consolidated balance sheet (not presented herein) presents fairly, in all material respects, the financial position of UIL Holdings Corporation and its subsidiaries at December 31, 2015 in conformity with accounting principles generally accepted in the United States of America. The balance sheet is the responsibility of the Company's management. Our responsibility is to express an opinion on the balance sheet based on our audit. We conducted our audit of this statement in accordance with the standards of the Public Company Accounting Oversight Board (United States) and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the balance sheet is free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the balance sheet, assessing the accounting principles used and significant estimates made by management, and evaluating the overall balance sheet presentation. We believe that our audit of the balance sheet provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Boston, MA
April 1, 2016

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Income

Years Ended December 31,	2016	2015	2014
(Millions, except for number of shares and per share data)			
Operating Revenues	\$ 6,018	\$ 4,367	\$ 4,594
Operating Expenses			
Purchased power, natural gas and fuel used	1,286	972	1,181
Operations and maintenance	2,206	1,808	1,560
Impairment of non-current assets	—	12	25
Depreciation and amortization	804	695	629
Taxes other than income taxes	528	367	314
Total Operating Expenses	4,824	3,854	3,709
Operating Income	1,194	513	885
Other Income and (Expense)			
Other income	76	55	52
Earnings from equity method investments	7	—	12
Interest expense, net of capitalization	(268)	(267)	(243)
Income Before Income Tax	1,009	301	706
Income tax expense	379	34	282
Net Income	630	267	424
Less: Net income attributable to noncontrolling interests	—	—	—
Net Income Attributable to Avangrid, Inc.	\$ 630	\$ 267	\$ 424
Earnings Per Common Share, Basic:	\$ 2.04	\$ 1.05	\$ 1.68
Earnings Per Common Share, Diluted:	\$ 2.04	\$ 1.05	\$ 1.68
Weighted-average Number of Common Shares Outstanding:			
Basic	309,512,553	254,588,212	252,235,232
Diluted	309,817,322	254,605,111	252,235,232
Cash Dividends Declared Per Common Share	\$ 1.728	\$ —	\$ —

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income

Years Ended December 31,	2016	2015	2014
(Millions)			
Net Income	\$ 630	\$ 267	\$ 424
Other Comprehensive Income			
Amounts arising during the year:			
Gain on defined benefit plans, net of income taxes of \$4.3, \$2.2 and \$0.6, respectively	7	4	1
Amortization of pension cost for nonqualified plans, net of income taxes of \$0.4, \$1.7 and \$(1.9), respectively	1	3	(3)
Unrealized gain (loss) during the year on derivatives qualifying as cash flow hedges, net of income taxes of \$(15.8), \$20.9 and \$(1.4), respectively	(26)	33	(2)
Reclassification to net income of (gains) losses on cash flow hedges, net of income taxes of \$(11.0), \$4.9 and \$4.1, respectively	(16)	7	5
Other Comprehensive (Loss) Income	(34)	47	1
Comprehensive Income	596	314	425
Less: Net income attributable to noncontrolling interests	—	—	—
Comprehensive Income Attributable to Avangrid, Inc.	\$ 596	\$ 314	\$ 425

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Balance Sheets

As of December 31,	2016	2015
(Millions)		
Assets		
Current Assets		
Cash and cash equivalents	\$ 91	\$ 427
Accounts receivable and unbilled revenues, net	1,119	974
Accounts receivable from affiliates	25	70
Notes receivable from affiliates	—	6
Derivative assets	99	88
Fuel and gas in storage	246	307
Materials and supplies	132	98
Prepayments and other current assets	255	285
Regulatory assets	285	219
Total Current Assets	2,252	2,474
Property, plant and equipment, at cost	27,063	25,745
Less: accumulated depreciation	(6,986)	(6,372)
Net Property, Plant and Equipment in Service	20,077	19,373
Construction work in progress	1,471	1,338
Total Property, Plant and Equipment (\$1,144 and \$1,206 related to VIEs, respectively)	21,548	20,711
Equity method investments	387	385
Other investments	55	64
Regulatory assets	3,091	3,314
Other Assets		
Goodwill	3,124	3,115
Intangible assets	538	556
Derivative assets	73	89
Other	241	35
Total Other Assets	3,976	3,795
Total Assets	\$ 31,309	\$ 30,743

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Balance Sheets

As of December 31,	2016	2015
(Millions, except share information)		
Liabilities		
Current Liabilities		
Current portion of debt	\$ 349	\$ 206
Tax equity financing arrangements - VIEs	96	107
Notes payable	151	163
Notes payable to affiliates	10	—
Interest accrued	60	61
Accounts payable and accrued liabilities	1,096	830
Accounts payable to affiliates	218	90
Dividends payable	134	—
Taxes accrued	52	55
Derivative liabilities	75	91
Other current liabilities	279	285
Regulatory liabilities	192	147
Total Current Liabilities	2,712	2,035
Regulatory liabilities	1,753	1,841
Deferred income taxes regulatory	565	519
Other Non-current Liabilities		
Deferred income taxes	2,976	2,798
Deferred income	1,483	1,553
Pension and other postretirement	1,106	1,202
Tax equity financing arrangements - VIEs	103	185
Derivative liabilities	78	94
Asset retirement obligations	161	184
Environmental remediation costs	398	406
Other	342	330
Total Other Non-current Liabilities	6,647	6,752
Non-current Debt	4,510	4,530
Total Non-current Liabilities	13,475	13,642
Total Liabilities	16,187	15,677
Commitments and Contingencies		
Equity		
Stockholders' Equity:		
Common stock, \$.01 par value, 500,000,000 shares authorized, 309,600,439 and 309,491,082 shares issued; 308,993,149 and 308,864,609 shares outstanding, respectively	3	3
Additional paid-in capital	13,653	13,653
Treasury Stock	(5)	—
Retained earnings	1,544	1,449
Accumulated other comprehensive loss	(86)	(52)
Total Stockholders' Equity	15,109	15,053
Noncontrolling interests	13	13
Total Equity	15,122	15,066
Total Liabilities and Equity	\$ 31,309	\$ 30,743

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Cash Flows

Years Ended December 31,	2016	2015	2014
(Millions)			
Cash Flow from Operating Activities			
Net income	\$ 630	\$ 267	\$ 424
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation and amortization	804	695	629
Impairment of non-current assets	—	12	25
Accretion expenses	10	14	14
Regulatory assets/liabilities amortization	49	101	(38)
Regulatory assets/liabilities carrying cost	13	41	35
Pension cost	110	115	74
Stock-based compensation	1	6	5
Earnings from equity method investments	(7)	—	(12)
Amortization of debt (premium) cost	(28)	4	2
Gain on disposal of property and equity method investment	(33)	—	—
Unrealized losses (gains) on marked to market derivative contracts	(4)	10	(116)
Deferred taxes	377	87	261
Other non-cash items	(23)	(5)	(3)
Changes in operating assets and liabilities:			
Accounts receivable and unbilled revenues	(158)	160	(1)
Inventories	46	4	58
Other assets	107	(39)	(100)
Cash distribution from equity method investments	14	—	—
Accounts payable and accrued liabilities	184	(10)	27
Other liabilities	(447)	(194)	(115)
Taxes accrued	(3)	21	(13)
Regulatory assets/liabilities	(81)	74	175
Net Cash Provided by Operating Activities	1,561	1,363	1,331
Cash Flow from Investing Activities			
Capital expenditures	(1,707)	(1,082)	(1,030)
Contributions in aid of construction	69	38	43
Government grants	—	17	4
Acquisition of business, net of \$48 million cash acquired	—	(547)	—
Proceeds from sale of equity method and other investment	57	3	31
Proceeds from sale of property, plant and equipment	50	—	—
Receipts from (payments to) affiliates	6	(6)	10
Cash distribution from equity method investments	6	12	19
Other investments and equity method investments, net	(8)	47	35
Net Cash Used in Investing Activities	(1,527)	(1,518)	(888)
Cash Flow from Financing Activities			
Non-current note issuance	493	350	—
Repayments of non-current debt	(355)	(141)	(27)
Proceeds (repayments) of other short-term debt, net	(2)	10	(14)
Repayments of capital leases	(12)	(12)	(21)
Payments on tax equity financing arrangements	(88)	(102)	(119)
Contribution from noncontrolling interests	—	—	4
Dividends to noncontrolling interests	—	(3)	(3)
Repurchase of common stock	(5)	—	—
Issuance of common stock	(2)	—	—
Dividends paid	(401)	—	—
Net Cash (Used in) Provided by Financing Activities	(372)	102	(180)
Net (Decrease) Increase in Cash, Cash Equivalents and Restricted Cash	(338)	(53)	263
Cash, Cash Equivalents and Restricted Cash, Beginning of Year	434	487	224
Cash, Cash Equivalents and Restricted Cash, End of Year	\$ 96	\$ 434	\$ 487
Supplemental Cash Flow Information			
Cash paid for interest, net of amounts capitalized	\$ 229	\$ 132	\$ 133
Cash paid for income taxes	9	7	21

The accompanying notes are an integral part of our consolidated financial statements.

Avangrid, Inc. and Subsidiaries
Consolidated Statements of Changes in Equity

(Millions, except for number of shares)	Avangrid, Inc. Stockholders						Total Stockholders' Equity	Non- controlling Interests	Total Equity
	Number of shares (*)	Common Stock	Additional paid-in capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)			
Balances, December 31, 2013	252,235,232	\$ 3	11,375	\$ —	758	(100)	\$ 12,036	\$ 15	\$ 12,051
Net income	—	—	—	—	424	—	424	—	424
Other comprehensive income, net of tax of \$1.4	—	—	—	—	—	1	1	—	1
Comprehensive income									425
Capital contribution from noncontrolling interests	—	—	—	—	—	—	—	4	4
Dividends to noncontrolling interests	—	—	—	—	—	—	—	(3)	(3)
Balances, December 31, 2014	252,235,232	3	11,375	—	1,182	(99)	12,461	16	12,477
Net income	—	—	—	—	267	—	267	—	267
Other comprehensive income, net of tax of \$29.7	—	—	—	—	—	47	47	—	47
Comprehensive income									314
Issuance of common stock	57,255,850	—	2,278	—	—	—	2,278	—	2,278
Common stock held in trust	(626,473)	—	—	—	—	—	—	—	—
Dividends to noncontrolling interests	—	—	—	—	—	—	—	(3)	(3)
Balances, December 31, 2015	308,864,609	3	13,653	—	1,449	(52)	15,053	13	15,066
Net income	—	—	—	—	630	—	630	—	630
Other comprehensive income, net of tax of \$22.1	—	—	—	—	—	(34)	(34)	—	(34)
Comprehensive income									596
Dividends declared	—	—	—	—	(535)	—	(535)	—	(535)
Release of common stock held in trust	135,014	—	—	—	—	—	—	—	—
Issuance of common stock	109,357	—	(2)	—	—	—	(2)	—	(2)
Repurchase of common stock	(115,831)	—	—	(5)	—	—	(5)	—	(5)
Stock-based compensation	—	—	2	—	—	—	2	—	2
Balances, December 31, 2016	308,993,149	\$ 3	\$ 13,653	\$ (5)	\$ 1,544	\$ (86)	\$ 15,109	\$ 13	\$ 15,122

(*) Par value of share amounts is \$.01

The accompanying notes are an integral part of our consolidated financial statements.

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Note 1. Background and Nature of Operations

Avangrid, Inc., formerly Iberdrola USA, Inc. (AVANGRID, we or the Company), is an energy services holding company engaged in the regulated energy distribution business through its principal subsidiary Avangrid Networks, Inc. (Networks). Effective as of April 30, 2016, UIL Holdings Corporation and its subsidiaries (UIL) were transferred to a wholly-owned subsidiary of Networks. AVANGRID is also in the renewable energy generation and gas storage and trading businesses through its principal subsidiary, Avangrid Renewables Holding, Inc. (ARHI). ARHI in turn holds subsidiaries including Avangrid Renewables LLC (Renewables) and Enstor Gas, LLC (Gas). Iberdrola, S.A. (Iberdrola), a corporation organized under the laws of the Kingdom of Spain, owns 81.5% of the outstanding common stock of AVANGRID. The remaining outstanding shares are publicly traded on the New York Stock Exchange and owned by various shareholders. AVANGRID was organized in 1997 as NGE Resources, Inc. under the laws of New York as the holding company for its principal operating utility companies.

Reorganization

On November 20, 2013, we completed a series of reorganizations (Reorganization) of entities under common control. The Reorganization included the transfer of ARHI from an affiliate of Iberdrola to AVANGRID, and the transfer of the principal operating utility companies from AVANGRID to Networks.

AVANGRID and ARHI were acquired by Iberdrola in 2008 and 2007, respectively, and they have been under common control of Iberdrola for all periods presented. Networks was formed as part of the Reorganization in November 2013. Networks is a public utility sub-holding company operating under the Public Utility Holding Company Act of 2005 with operations in New York, Maine, Connecticut and Massachusetts. The wholly owned subsidiaries and the operating utility companies of Networks include: CMP Group - Central Maine Power Company (CMP), RGS - New York State Electric & Gas Corporation (NYSEG), Rochester Gas and Electric Corporation (RG&E), Maine Natural Gas Company (MNG), The United Illuminating Company (UI), The Southern Connecticut Gas Company (SCG), Connecticut Natural Gas Corporation (CNG) and The Berkshire Gas Company (BGC). UI is also a party to a joint venture with certain affiliates of NRG Energy, Inc. (NRG affiliates) pursuant to which UI holds 50% of the membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC (collectively with GCE Holding LLC, GenConn) operates peaking generation plants in Devon, Connecticut (GenConn Devon) and Middletown, Connecticut (GenConn Middletown). ARHI is the sub-holding company of the unregulated energy business that includes the renewable energy and the gas trading and storage businesses.

The transfer of a business among entities under common control is accounted for at carrying amount with retrospective adjustment of prior period financial statements similar to the manner in which a pooling-of-interest was accounted for under accounting principles generally accepted in the United States of America (U.S. GAAP).

Acquisition of UIL

On December 16, 2015 (acquisition date), UIL Holdings Corporation, a Connecticut corporation (UIL), became a wholly-owned subsidiary of AVANGRID as a result of the merger of Green Merger Sub, Inc., a Connecticut corporation and a wholly-owned subsidiary of AVANGRID (Merger Sub), with UIL, with Merger Sub surviving as a wholly-owned subsidiary of AVANGRID (the acquisition). The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among AVANGRID, Merger Sub, and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation." In connection with the acquisition, we issued 309,490,839 shares of common stock of AVANGRID, out of which 252,234,989 shares were issued to Iberdrola through a stock dividend, accounted for as a stock split, with no change to par value, at par value of \$0.01 per share, and 57,255,850 shares (including those held in trust as treasury stock) were issued to UIL shareowners in addition to payment of \$10.50 in cash per each share of the common stock of UIL issued and outstanding at the acquisition date. Following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID and Iberdrola owned the remaining shares. See Note 4, Acquisition of UIL, for further details.

The regulated utility businesses of UIL consist of the electric distribution and transmission operations of UI and the natural gas transportation, distribution and sales operations of SCG, CNG and BGC.

UI is also a party to a joint venture with certain affiliates of NRG Energy, Inc. (NRG affiliates) pursuant to which UI holds 50% of the membership interests in GCE Holding LLC, whose wholly owned subsidiary, GenConn Energy LLC (collectively with GCE Holding

LLC, GenConn) operates peaking generation plants in Devon, Connecticut (GenConn Devon) and Middletown, Connecticut (GenConn Middletown).

Note 2. Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with U.S. GAAP and are presented on a consolidated basis, and therefore include the accounts of AVANGRID and its consolidated subsidiaries Networks and ARHI. Consolidated accounts of UIL have been included in the consolidated financial statements of AVANGRID since December 16, 2015, the date of acquisition of UIL. All intercompany transactions and accounts have been eliminated in all periods presented. All share and per share information included in the consolidated financial statements have been retroactively adjusted to reflect the impact of the stock dividend.

Revision of estimated useful lives of wind power station assets at Renewables

Renewables' wind power station assets in service less salvage value, if any, are depreciated using the straight-line method over their estimated useful lives. Renewables' effective depreciation rate, excluding decommissioning, was 4.0% in both 2015 and 2014. Renewables reviews the estimated useful lives of its fixed assets on an ongoing basis. In the first quarter of 2016, this review indicated that the actual lives of certain assets at wind power stations are expected to be longer than the previously estimated useful lives used for depreciation purposes. As a result, effective January 1, 2016, Renewables changed the estimates of the useful lives of certain assets from 25 years to 40 years, capped at the lease term if lower, to better reflect the estimated periods during which these assets are expected to remain in service. The weighted average useful life of our wind farm assets is now approximately 31 years. The effect of this change in estimate was to reduce depreciation and amortization expense by approximately \$52 million, reduce asset retirement obligation accretion expense recorded within operations and maintenance by approximately \$3 million, increase earnings from equity method investments by approximately \$4 million, increase income before income tax and net income by approximately \$59 million and approximately \$36 million, respectively, and increase basic and diluted earnings per share by approximately \$0.12 for the year ended December 31, 2016.

U Note 3. Summary of Significant Accounting Policies, New Accounting Pronouncements, and Use of Estimates

Significant Accounting Policies

We consider the following policies to be the most critical in understanding the judgments that are involved in preparing our consolidated financial statements:

(a) Principles of consolidation

We consolidate the entities in which we have a controlling financial interest, after the elimination of intercompany transactions. Investments in common stock where we have the ability to exercise significant influence, but not control, are accounted for using the equity method of accounting.

(b) Revenue recognition

Revenue from the sale of energy by our regulated utilities is recognized in the period during which the sale occurs. The calculation of revenue earned but not yet billed is based on the number of days not billed in the month, the estimated amount of energy delivered during those days and the estimated average price per customer class for that month. Differences between actual and estimated unbilled revenue are usually immaterial.

Revenues on sales of wholesale energy and energy related products and natural gas are recognized either when the service is provided or the product is delivered.

We also provide natural gas storage services to customers. The natural gas remains the property of these customers at all times. Customers pay a two part rate that includes (i) a fixed fee reserving the right to store natural gas in our facilities and, (ii) a per unit rate for volumes actually injected into or withdrawn from storage. The fixed fee component of the overall rate is recognized as revenue in the period the service is provided. The per-unit charge is recognized as revenue when the volumes are injected into or withdrawn from our storage facilities.

(c) Regulatory accounting

We account for our regulated utilities operations in accordance with the authoritative guidance applicable to entities with regulated operations that meet the following criteria: (i) rates are established or approved by a third-party regulator; (ii) rates are designed to recover the entity's cost of providing regulated services or products, and; (iii) there is a reasonable expectation that rates are set at levels that will recover the entity's costs and be collected from customers. Regulatory assets represent incurred costs that have been deferred because of their probable future recovery from customers through regulated rates. Regulatory liabilities represent: (i) the excess recovery of costs or accrued credits that have been deferred because it is probable such amounts will be returned to customers through future regulated rates; or (ii) billings in advance of expenditures for approved regulatory programs.

Regulatory assets and liabilities are amortized and the related expense or revenue is recognized in the consolidated statements of income consistent with the recovery or refund included in customer rates. We believe that it is probable that our currently recorded regulatory assets and liabilities will be recovered or settled in future rates.

(d) Business combinations

We apply the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair value of the assets transferred, the liabilities incurred by the acquirer to former owners of acquiree and the equity interests issued by the acquirer. Acquisition related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The excess of the consideration transferred over the fair value of the identifiable net assets acquired is recorded as goodwill. We recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

(e) Equity method investments

Joint ventures that do not meet consolidation criteria are accounted for using the equity method. Earnings (losses) recognized under the equity method are reflected in the consolidated statements of income as "Earnings (losses) from equity method investments." Dividends received from joint ventures are recognized as a reduction in the carrying amount of the investment and are not recognized as dividend income.

(f) Goodwill and other intangible assets

Goodwill represents future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred, the fair value of any noncontrolling interest and the acquisition date fair value of any previously held equity interest in the acquiree over the fair value of the net identifiable assets acquired and liabilities assumed.

Goodwill is not amortized, but is subject to an assessment for impairment at least annually or more frequently if events occur or circumstances change that will more likely than not reduce the fair value of the reporting unit to which goodwill is assigned below its carrying amount. A reporting unit is an operating segment or one level below an operating segment and is the level at which goodwill is tested for impairment. In assessing goodwill for impairment we have the option of first performing a qualitative assessment to determine whether a quantitative assessment is necessary (step zero). If it is determined, on the basis of qualitative factors, that the fair value of the reporting unit is more likely than not greater than the carrying amount, no further testing is required. If we bypass step zero or perform the qualitative assessment, but determine that it is more likely than not that its fair value is less than its carrying amount, a quantitative two step fair value based test is performed. Step one compares the fair value of the reporting unit to its carrying amount, including goodwill. If the carrying amount of the reporting unit exceeds its fair value, step two is performed. Step two requires an allocation of fair value to the individual assets and liabilities using business combination accounting guidance to determine the implied fair value of goodwill. If the implied fair value of goodwill is less than its carrying amount, an impairment loss is recorded as a reduction to goodwill and a charge to operating expense.

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and impairment losses. The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized on a straight-line basis over the useful economic life, which ranges from four to forty years, and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization

expense on intangible assets with finite lives is recognized in the consolidated statements of income as the expense category that is consistent with the function of the intangible assets.

(g) Property, plant and equipment

Property, plant and equipment are accounted for at historical cost. In cases where we are required to dismantle installations or to recondition the site on which they are located, the estimated cost of removal or reconditioning is recorded as an asset retirement obligation (ARO) and an equal amount is added to the carrying amount of the asset.

Development and construction of our various facilities are carried out in stages. Project costs are expensed during early stage development activities. Once certain development milestones are achieved and it is probable that we can obtain future economic benefits from a project, salaries and wages for persons directly involved in the project, and engineering, permits, licenses, wind measurement and insurance costs are capitalized. Development projects in construction are reviewed periodically for any indications of impairment.

Assets are transferred from “Construction work in progress” to “Property, plant and equipment” when they are available for service.

Wind turbine and related equipment costs, other project construction costs, and interest costs related to the project are capitalized during the construction period through substantial completion. AROs are recorded at the date projects achieve commercial operation.

The cost of plant, and equipment in use is depreciated on a straight-line basis, less any estimated residual value. The main asset categories are depreciated over the following estimated useful lives:

Major class	Asset Category	Estimated Useful Life (years)
Plant	Combined cycle plants	35
	Hydroelectric power stations	35-90
	Wind power stations	25-40
	Gas storage	25-40
	Transport facilities	40-56
	Distribution facilities	30-54
Equipment	Conventional meters and measuring devices	15-27
	Computer software	3-5
Other	Buildings	50-75
	Operations offices	4-50

Networks determines depreciation expense using the straight-line method, based on the average service lives of groups of depreciable property, which include estimated cost of removal, in service at each operating company. Consistent with FERC accounting requirements, Networks charges the original cost of utility plant retired or otherwise disposed of to accumulated depreciation.

We charge repairs and minor replacements to operating expenses, and capitalize renewals and betterments, including certain indirect costs.

(h) Impairment of long lived assets

We evaluate property, plant, and equipment and other long lived assets for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is required to be recognized if the carrying amount of the asset exceeds the undiscounted future net cash flows associated with that asset.

The impairment loss to be recognized is the amount by which the carrying amount of the long lived asset exceeds the asset’s fair value. Depending on the asset, fair value may be determined by use of a discounted cash flow model.

(i) Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place in either the principal market for the asset or liability, or, in the absence of a principal market, in the most advantageous market for the asset or liability.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest. A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset according to its highest and best use, or by selling it to another market participant that would use the asset according to its highest and best use.

We use valuation techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs. All assets and liabilities for which fair value is measured or disclosed in the consolidated financial statements are categorized within the fair value hierarchy based on the transparency of input to the valuation of an asset or liability as of the measurement date.

The three input levels of the fair value hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability either directly or indirectly, for substantially the full term of the contract.
- Level 3 - one or more inputs to the valuation methodology are unobservable or cannot be corroborated with market data.

Categorization within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

(j) Available for sale securities

Securities that do not qualify as either securities held-to-maturity or trading securities, and which have a readily available fair value, are classified as securities available-for-sale and reported at fair value, with unrealized gains and losses excluded from earnings and reported, net of taxes, in other comprehensive income or loss.

(k) Derivatives and hedge accounting

Derivatives are recognized on the balance sheets at their fair value, except for certain electricity commodity purchases and sales contracts for both capacity and energy (physical contracts) that qualify for, and are elected under, the normal purchases and normal sales exception. To be a derivative under the accounting standards for derivatives and hedging, an agreement would need to have a notional and an underlying, require little or no initial net investment and could be net settled. Changes in the fair value of a derivative contract are recognized in earnings unless specific hedge accounting criteria are met.

Derivatives that qualify and are designated for hedge accounting are classified as cash flow hedges. For cash flow hedges, the portion of the derivative gain or loss that is effective in offsetting the change in the hedged cash flows of the underlying exposure is deferred in Other Comprehensive Income (OCI) and later reclassified into earnings when the underlying transaction occurs. For all designated and qualifying hedges, we maintain formal documentation of the hedge and effectiveness testing in accordance with the accounting standards for derivatives and hedging. If we determine that the derivative is no longer highly effective as a hedge, hedge accounting will be discontinued prospectively. For cash flow hedges of forecasted transactions, we estimate the future cash flows of the forecasted transactions and evaluate the probability of the occurrence and timing of such transactions. If we determine it is probable that the forecasted transaction will not occur, hedge gains and losses previously recorded in OCI are immediately recognized in earnings.

Changes in conditions or the occurrence of unforeseen events could require discontinuance of the hedge accounting or could affect the timing of the reclassification of gains or losses on cash flow hedges from OCI into earnings. Gains and losses from the ineffective portion of any hedge are recognized in earnings immediately. Changes in the fair value of electric and natural gas hedge contracts are recorded to derivative assets or liabilities with an offset to regulatory assets or regulatory liabilities for our regulated operations.

We offset fair value amounts recognized for derivative instruments and fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral arising from derivative instruments executed with the same counterparty under a master netting arrangement.

(l) Cash and cash equivalents

Cash and cash equivalents comprises cash, bank accounts, and other highly-liquid short-term investments. We consider all highly liquid investments with a maturity date of three months or less when acquired to be cash equivalents and those investments are

included in “Cash and cash equivalents.” Restricted cash represents cash legally set aside for a specified purpose or as part of an agreement with a third party. Restricted cash is included in “Other non-current assets” on the consolidated balance sheets.

(m) Accounts receivable and unbilled revenue, net

We record accounts receivable at amounts billed to customers. Certain accounts receivable and payable related to our wholesale activities associated with generation and delivery of electric energy and associated environmental attributes, origination and marketing, natural gas storage, hub services, and energy management, are subject to master netting agreements with counterparties, whereby we have the legal right to offset the balances, which are settled on a net basis. Receivables and payables subject to such agreements are presented in our consolidated balance sheets on a net basis.

Accounts receivable include amounts due under Deferred Payment Arrangements (DPA). A DPA allows the account balance to be paid in installments over an extended period of time without interest, which generally exceeds one year, by negotiating mutually acceptable payment terms. The utility companies generally must continue to serve a customer who cannot pay an account balance in full if the customer (i) pays a reasonable portion of the balance; (ii) agrees to pay the balance in installments; and (iii) agrees to pay future bills within thirty days until the DPA is paid in full. Failure to make payments on a DPA results in the full amount of a receivable under a DPA being due. These accounts are part of the regular operating cycle and are classified as short term.

The allowance for bad debts account is established by using both historical average loss percentages to project future losses, and a specific allowance is established for known credit issues. Amounts are written off when we believe that a receivable will not be recovered.

(n) Tax equity financing arrangements-VIEs

We have undertaken several structured institutional partnership investment transactions that bring in external investors in certain of our wind farms in exchange for cash and notes receivable. Following an analysis of the economic substance of these transactions, we classify the consideration received at the inception of the arrangement as a liability in the consolidated balance sheets. Subsequently, this liability is amortized based on the cash and tax benefits provided to the tax equity investors.

We evaluate whether an entity is a variable interest entity (VIE) whenever reconsideration events as defined by the accounting guidance occur (See Note 19). An entity is considered to be a VIE when its total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support, or its equity investors, as a group, lack the characteristics of having a controlling financial interest. A reporting company is required to consolidate a VIE as its primary beneficiary when it has both the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, and the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE.

(o) Debentures, bonds and bank borrowings

Bonds, debentures and bank borrowings are recorded as a liability equal to the proceeds of the borrowings. The difference between the proceeds and the face amount of the issued liability is treated as discount or premium and is amortized as interest expense or income over the life of the instrument. Incremental costs associated with issuance of the debt instruments are deferred and amortized over the same period as debt discount or premium. Bonds, debentures and bank borrowings are presented net of unamortized discount, premium and debt issuance costs on the consolidated balance sheets.

(p) Inventory

Inventory comprises fuel and gas in storage and materials and supplies. Through our gas trading operations, we own natural gas that is stored in both self-owned and third-party owned underground storage facilities. This gas is recorded as inventory. Injections of inventory into storage are priced at the market purchase cost at the time of injection, and withdrawals of working gas from storage are priced at the weighted-average cost in storage. We continuously monitor the weighted-average cost of gas value to ensure it remains at, or below market value. Inventories to support gas operations are reported on the balance sheet within “Fuel and gas in storage.”

We also have materials and supplies inventories that are used for construction of new facilities and repairs of existing facilities. These inventories are carried and withdrawn at cost and reported on the balance sheets within “Materials and supplies.”

Inventory items are combined for the statement of cash flow presentation purposes.

(q) Government grants

Our unregulated subsidiaries record government grants related to depreciable assets within deferred income and subsequently amortize them to earnings consistent with the useful life of the related asset. Our regulated subsidiaries record government grants as a reduction to utility plant to be recovered through rate base, in accordance with the prescribed FERC accounting.

In accounting for government grants related to operating and maintenance costs, amounts receivable are recognized as an offset to expenses in the consolidated statements of income in the period in which the expenses are incurred.

(r) Deferred income

Apart from government grants, we occasionally receive revenues from transactions in advance of the resulting obligations arising from the transaction. It is our policy to defer such revenues on the consolidated balance sheets and amortize them to earnings consistent with the obligations.

(s) Asset retirement obligations

The fair value of the liability for an ARO and a conditional ARO is recorded in the period in which it is incurred, capitalizing the cost by increasing the carrying amount of the related long lived asset. The ARO is associated with our long lived assets and primarily consists of obligations related to removal or retirement of asbestos, polychlorinated biphenyl-contaminated equipment, gas pipeline, cast iron gas mains, and electricity generation facilities. The liability is adjusted periodically to reflect revisions to either the timing or amount of the original estimated undiscounted cash flows over time. The liability is accreted to its present value each period and the capitalized cost is depreciated over the useful life of the related asset. Upon settlement, the obligation will be either settled at its recorded amount or a gain or a loss will be incurred. Our regulated utilities defer any timing differences between rate recovery and depreciation expense and accretion as either a regulatory asset or a regulatory liability.

The term conditional ARO refers to an entity's legal obligation to perform an asset retirement activity in which the timing or method of settlement are conditional on a future event that may or may not be within the entity's control. If an entity has sufficient information to reasonably estimate the fair value of the liability for a conditional ARO, it must recognize that liability at the time the liability is incurred.

Our regulated utilities meet the requirements concerning accounting for regulated operations and we recognize a regulatory liability for the difference between removal costs collected in rates and actual costs incurred. These are classified as accrued removal obligations.

(t) Environmental remediation liability

In recording our liabilities for environmental remediation costs the amount of liability for a site is the best estimate, when determinable; otherwise it is based on the minimum liability or the lower end of the range when there is a range of estimated losses. Our environmental liabilities are recorded on an undiscounted basis. Our environmental liability accruals are expected to be paid through the year 2053.

(u) Post employment and other employee benefits

We sponsor defined benefit pension plans that cover the majority of our employees. We also provide health care and life insurance benefits through various postretirement plans for eligible retirees.

We evaluate our actuarial assumptions on an annual basis and consider changes based on market conditions and other factors. All of our qualified defined benefit plans are funded in amounts calculated by independent actuaries, based on actuarial assumptions proposed by management.

We account for defined benefit pension or other postretirement plans, recognizing an asset or liability for the overfunded or underfunded plan status. For a pension plan, the asset or liability is the difference between the fair value of the plan's assets and the projected benefit obligation. For any other postretirement benefit plan, the asset or liability is the difference between the fair value of the plan's assets and the accumulated postretirement benefit obligation. Our utility operations reflect all unrecognized prior service costs and credits and unrecognized actuarial gains and losses as regulatory assets rather than in other comprehensive income, as

management believes it is probable that such items will be recoverable through the ratemaking process. We use a December 31st measurement date for our benefits plans.

We amortize prior service costs for both the pension and other postretirement benefits plans on a straight-line basis over the average remaining service period of participants expected to receive benefits. For NYSEG, RG&E and UIL, we amortize unrecognized actuarial gains and losses over ten years from the time they are incurred as required by the NYPSC, PURA and DPU. For our other companies we use the standard amortization methodology under which amounts in excess of ten percent of the greater of the projected benefit obligation or market related value are amortized over the plan participants' average remaining service to retirement. Our policy is to calculate the expected return on plan assets using the market related value of assets. That value is determined by recognizing the difference between actual returns and expected returns over a five year period.

(v) Income tax

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2016 tax period.

For the 2015 tax year, AVANGRID filed a consolidated federal income tax return, which included the UIL taxable income or loss for the period from December 17, 2015 to December 31, 2015. UIL filed a separate consolidated federal income tax return for the period from January 1, 2015 to December 16, 2015.

AVANGRID filed a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries (excluding UIL), which are 80% or more owned for the 2014 tax period. UIL filed separate consolidated federal income tax returns including the income or loss of its subsidiaries for all tax years including the filed 2014 return.

AVANGRID (excluding ARHI and UIL), and ARHI filed separate consolidated federal income tax returns that included the taxable income or loss of all their respective subsidiaries, which are 80% or more owned, for all tax periods prior to 2013.

We use the asset and liability method of accounting for income taxes. Deferred tax assets and liabilities reflect the expected future tax consequences, based on enacted tax laws, of temporary differences between the tax basis of assets and liabilities and their financial reporting amounts. In accordance with generally accepted accounting principles for regulated industries, certain of our regulated subsidiaries have established a regulatory asset for the net revenue requirements to be recovered from customers for the related future tax expense associated with certain of these temporary differences. The investment tax credits are deferred when used and amortized over the estimated lives of the related assets.

Deferred tax assets and liabilities are measured at the expected tax rate for the period in which the asset or liability will be realized or settled, based on legislation enacted as of the balance sheet date. Changes in deferred income tax assets and liabilities that are associated with components of OCI are charged or credited directly to OCI. Significant judgment is required in determining income tax provisions and evaluating tax positions. Our tax positions are evaluated under a more-likely-than-not recognition threshold before they are recognized for financial reporting purposes. Valuation allowances are recorded to reduce deferred tax assets when it is not more-likely-than-not that all or a portion of a tax benefit will be realized. Deferred tax assets and liabilities are classified as non-current in the consolidated balance sheets.

The excess of state franchise tax computed as the higher of a tax based on income or a tax based on capital is recorded in "Taxes other than income taxes" and "Taxes accrued" in the accompanying consolidated financial statements.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties. Interest and penalties related to unrecognized tax benefits are recorded within "Interest expense, net of capitalization" and "Other income and (expense)" of the consolidated statements of income.

Uncertain tax positions have been classified as non-current unless expected to be paid within one year. Our policy is to recognize interest and penalties on uncertain tax positions as a component of interest expense in the consolidated statements of income.

Federal production tax credits applicable to our renewable energy facilities, that are not part of a tax equity financing arrangement, are recognized as a reduction in income tax expense with a corresponding reduction in deferred income tax liabilities.

Our income tax expense, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect management's best assessment of estimated current and future taxes to be paid. Significant judgments and estimates are required in determining the consolidated income tax components of the financial statements.

(w) Stock-based compensation

Stock-based compensation represents costs related to stock-based awards granted to employees. In the third quarter of 2016 we early adopted all the amendments to ASC 718, Compensation - Stock Compensation, issued in March 2016, to account for our stock based awards. We account for stock-based payment transactions based on the estimated fair value of awards reflecting forfeitures when they occur. The recognition period for these costs begin at either the applicable service inception date or grant date and continues throughout the requisite service period, or until the employee becomes retirement eligible, if earlier.

Reclassifications

Certain amounts have been reclassified in the consolidated statements of cash flow to conform to the 2016 presentation as well as in connection with retrospective adoption of amendments in the accounting standard related to presentation of restricted cash in the statement of cash flow.

New Accounting Standards and Interpretations

(a) Revenue from contracts with customers

In May 2014 the Financial Accounting Standards Board (FASB) issued ASC 606, Revenue from Contracts with Customers (ASC 606), replacing the existing accounting standard and industry specific guidance for revenue recognition with a five-step model for recognizing and measuring revenue from contracts with customers. The core principle is for an entity to recognize revenue to represent the transfer of goods or services to customers in amounts that reflect the consideration to which the entity expects to be entitled in exchange for those goods or services. The new standard also requires enhanced disclosures regarding the nature, amount, timing, and uncertainty of revenue and the related cash flows arising from contracts with customers. The original effective date for public entities was for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. In August 2015 the FASB issued an accounting standards update that defers by one year the original effective date of the revenue standard for all entities. Thus, the standard is now effective for annual reporting periods beginning after December 15, 2017, and interim periods therein, with early adoption as of the original effective date permitted. We do not plan to early adopt. Entities may apply the amendment retrospectively to each prior reporting period presented (full retrospective method) or retrospectively with a cumulative effect adjustment to retained earnings for initial application of the guidance at the date of initial adoption (modified retrospective method). We will apply the modified retrospective method. We are currently evaluating how our adoption of the amendments will affect our results of operations, financial position, cash flows, and disclosures. We are considering the effects of the amendments on our ability to recognize revenue for certain contracts for our regulated utilities where collectability is in question and our accounting for contributions in aid of construction for our regulated utilities. In addition, the amendments will require us to capitalize, rather than expense, any costs to acquire new contracts. Additionally, classification differences are also expected to result, including recording our tax equity investments as noncontrolling interests. Some revenue arrangements, such as alternative revenue programs, are expected to be excluded from the scope of ASC 606 and therefore, be accounted for and presented separately from revenues under ASC 606 on our consolidated financial statements. The FASB has issued various additional accounting standards updates, with the same deferred effective date, as follows: in March 2016 to amend and clarify the implementation guidance on principal versus agent considerations for reporting revenue gross rather than net, in April 2016 to address implementation questions on identifying performance obligations and accounting for licenses of intellectual property. We do not expect significant effects as a result of those updates. In May 2016 the FASB issued a final update concerning narrow-scope improvements and practical expedients. We are currently evaluating the effects of that update.

(b) Fair value measurement disclosures for certain investments

In May 2015 the FASB issued amendments that affect reporting entities that elect to estimate the fair value of certain investments within scope using the net asset value (NAV) per share (or its equivalent) practical expedient, as specified. The amendments remove the requirement to categorize within the fair value hierarchy all investments for which the fair value is measured at NAV using the practical expedient. They also remove certain disclosure requirements for eligible investments and limit the required disclosures to investments for which the entity has elected to measure the fair value using the practical expedient. Assets that calculate NAV per share (or its equivalent), but for which the practical expedient is not applied will continue to be included in the fair value hierarchy.

The amendments are effective for public entities for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years. The amendments permit early application, and require retrospective application to all periods presented. Retrospective application requires investments for which fair value is measured at NAV using the practical expedient to be removed from the fair value hierarchy in all periods presented. Our adoption of the amendments in 2016 did not affect our results of operations, financial position, or cash flows.

(c) Simplifying the measurement of inventory

In July 2015 the FASB issued amendments that require entities to measure inventory at the lower of cost and net realizable value, rather than the lower of cost or market. The amendments do not apply to inventory measured using last-in, first-out or the retail inventory method but apply to all other inventory, including inventory measured using first-in, first-out or average cost. Prior to this update, market value could be replacement cost, net realizable value, or net realizable value less an approximately normal profit margin. Net realizable value is the “estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.” The amendments do not change the methods of estimating the cost of inventory under U.S. GAAP. The amendments are effective for public entities for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. The amendments require prospective application and permit earlier application. We expect our adoption of the amendments will not affect our results of operations, financial position, or cash flows.

(d) Classifying and measuring financial instruments

In January 2016 the FASB issued final guidance on the classification and measurement of financial instruments. The new guidance requires that all equity investments in unconsolidated entities (other than those accounted for using the equity method of accounting) to be measured at fair value through earnings. There will no longer be an available-for-sale classification (changes in fair value reported in other comprehensive income) for equity securities with readily determinable fair values. For equity investments without readily determinable fair values, the cost method is also eliminated. However, entities (other than those following “specialized” accounting models, such as investment companies and broker-dealers) are able to elect to record equity investments without readily determinable fair values at cost, less impairment, and plus or minus subsequent adjustments for observable price changes. Changes in the basis of these equity investments will be reported in current earnings. That election only applies to equity investments that do not qualify for the NAV practical expedient. When the fair value option has been elected for financial liabilities, changes in fair value due to instrument-specific credit risk will be recognized separately in other comprehensive income. The accumulated gains and losses due to those changes will be reclassified from accumulated other comprehensive income to earnings if the financial liability is settled before maturity. Public entities are required to use the exit price notion when measuring the fair value of financial instruments measured at amortized cost for disclosure purposes. In addition, the new guidance requires financial assets and financial liabilities to be presented separately in the notes to the financial statements, grouped by measurement category (e.g., fair value, amortized cost, lower of cost or market) and form of financial asset (e.g., loans, securities).

The classification and measurement guidance is effective for public entities in fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. An entity will record a cumulative-effect adjustment to beginning retained earnings as of the beginning of the first reporting period in which the guidance is adopted, with two exceptions. The amendments related to equity investments without readily determinable fair values (including disclosure requirements) will be effective prospectively. The requirement to use the exit price notion to measure the fair value of financial instruments for disclosure purposes will also be applied prospectively. We expect our adoption of the guidance will not materially affect our results of operations, financial position, or cash flows.

(e) Business combinations: simplifying the accounting for measurement-period adjustments

In September 2015 the FASB issued amendments that require an acquirer to recognize adjustments to provisional amounts relating to a business combination that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. As a result, the acquirer is required to record, in the same period’s financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The entity is required to present separately on the face of the income statement or disclose in the notes the portion of the amount recorded in current-period earnings by line item that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date. The amendments are effective for public entities for fiscal years beginning after December 15, 2015, including interim periods within those fiscal years. The amendments require prospective application to provisional amounts that occur after the effective date of the amendment and permit earlier application. The effects of our adoption of the amendments on our results of operation, financial position, or cash flows as it relates to the business combination with UIL have been disclosed in Note 4, Acquisition of UIL.

(f) Leases

In February 2016 the FASB issued new guidance that affects all companies and organizations that lease assets, and requires them to record on their balance sheet assets and liabilities for the rights and obligations created by those leases. A lease is an arrangement that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Concerning lease expense recognition, after extensive consultation, the FASB has ultimately concluded that the economics of leases can vary for a lessee, and those economics should be reflected in the financial statements. As a result, the amendments retain a distinction between finance leases and operating leases, while requiring both types of leases to be recognized on the balance sheet. The classification criteria for distinguishing between finance leases and operating leases are substantially similar to the criteria for distinguishing between capital leases and operating leases in current GAAP. By retaining a distinction between finance leases and operating leases, the effect of leases on the statement of comprehensive income and the statement of cash flows is largely unchanged from previous GAAP. Lessor accounting will remain substantially the same as current GAAP, but with some targeted improvements to align lessor accounting with the lessee accounting model and with the revised revenue recognition guidance issued in 2014. The updated guidance is effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early application is permitted. We are currently reviewing our contracts and are in the process of determining the proper application of the standard to these contracts in order to determine the impact that the adoption will have on our consolidated financial statements. We expect our adoption of the new guidance will materially affect our financial position through the recording of operating leases on the balance sheet as a right-of-use asset.

(g) Derivative contract novations

In March 2016 the FASB issued amendments concerning the effect of derivative contract novations on existing hedge accounting relationships. As it relates to derivative instruments, novation refers to replacing one of the parties to a derivative instrument with a new party, which may occur for a variety of reasons such as: financial institution mergers, intercompany transactions, an entity exiting a particular derivatives business or relationship, or because of laws or regulatory requirements. The amendments clarify that a change in the counterparty to a derivative instrument that has been designated as the hedging instrument under the guidance for Derivatives and Hedging (Topic 815) does not, in and of itself, require dedesignation of that hedge accounting relationship provided that all other hedge accounting criteria continue to be met. The amendments are effective for public entities for financial statements issued for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. The amendments may be applied on either a prospective basis or a modified retrospective basis and early application is permitted. We expect our adoption will not materially affect our results of operations, financial position, and cash flows.

(h) Improvements to employee share-based payment accounting

The FASB issued amendments in March 2016 regarding the simplification of several aspects of accounting for share-based payment transactions, including income tax consequences, classification of awards as either equity or liabilities, policy election on accounting for forfeitures and classification on the statement of cash flows. Some areas of simplification apply only to nonpublic entities. The amendments are effective for public entities for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. Early adoption permitted in any interim or annual period, but must adopt all of the amendments in the same period. For the purpose of accounting for the stock-based compensation plans, in the third quarter of 2016 we early adopted all the above amendments and elected to account for forfeitures when they occur. Our adoption of the amendments did not materially affect our results of operations, financial position, or cash flows.

(i) Measurement of credit losses on financial instruments

The FASB issued an accounting standards update in June 2016 that requires more timely recording of credit losses on loans and other financial instruments. The amendments affect entities that hold financial assets and net investment in leases that are not accounted for at fair value through net income (loans, debt securities, trade receivables, net investments in leases, off-balance-sheet credit exposures, etc.). They require an entity to present a financial asset (or group of financial assets) that is measured at amortized cost basis at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset(s) to present the net carrying value at the amount expected to be collected on the financial asset. The income statement reflects the measurement of credit losses for newly recognized financial assets, as well as the expected increases or decreases of expected credit losses that have taken place during the period. The measurement of expected credit losses is based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectibility of the reported amount. An entity must use judgment in determining the relevant information and estimation methods appropriate in its circumstances. The amendments are effective for public entities that are SEC filers for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted. Entities are to apply the amendments on a modified retrospective basis for most instruments. We expect our adoption will not materially affect our results of operations, financial position, and cash flows.

(j) Certain classifications in the statement of cash flows

The FASB issued the amendments in August 2016 to address existing diversity in practice concerning eight cash flows issues. The guidance addresses classification as operating, investing or financing activities in the statement of cash flows for these issues: 1) Debt prepayment or debt extinguishment costs (financing), 2) Settlement of zero-coupon bonds (interest is operating, principal is financing), 3) Contingent consideration payments made after a business combination (investing or financing based on timing, or operating, as specified), 4) Proceeds from the settlement of insurance claims (based on the nature of the loss), 5) Proceeds from the settlement of corporate-owned life insurance policies (COLI) (investing; with cash payments for COLI premiums as investing, operating or a combination of investing/operating), 6) Distributions received from equity method investees (based on an entity's accounting policy election: either cumulative earnings or nature of distribution), 7) Beneficial interests in securitization transactions (noncash or investing as specified), 8) Separately identifiable cash flows and application of the predominance principle (cash receipts/payments with aspects of more than one classification by applying specific GAAP guidance; or if there is no guidance, based on the nature of the related activity or the activity that is the predominant source or use of the cash flows). The amendments are effective for public entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years, with early adoption permitted. The amendments are to be applied retrospectively to each prior period presented, unless impracticable for some issues and then the application would be prospective for those affected issues. We expect our adoption will not materially affect cash flows.

(k) Presentation of restricted cash in the statement of cash flows

The FASB issued the amendment in November 2016 to address existing diversity in the classification and presentation of changes in restricted cash on the statement of cash flows. The amendment requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendment does not provide a definition of restricted cash or restricted cash equivalents. The amendment is effective for public entities for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years, with early adoption permitted. The amendment should be applied using a retrospective transition method to each period presented. As permitted, we have early adopted the amendment as of the beginning of the fourth quarter of 2016 and have applied it retrospectively to all periods presented. Accordingly, the changes in restricted cash and restricted cash equivalents, presented previously in other assets of operating activities, were included in cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows, which increased by \$2 million and had no change in net cash provided by operating activities in the consolidated statements of cash flow, for both of the years ended December 31, 2015 and 2014, respectively.

Use of Estimates and Assumptions

The preparation of our consolidated financial statements in conformity with U.S. GAAP requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting periods. Significant estimates and assumptions are used for, but not limited to: (1) allowance for doubtful accounts and unbilled revenues; (2) asset

impairments, including goodwill; (3) depreciable lives of assets; (4) income tax valuation allowances; (5) uncertain tax positions; (6) reserves for professional, workers' compensation, and comprehensive general insurance liability risks; (7) contingency and litigation reserves; (8) fair value measurements; (9) earnings sharing mechanisms; (10) environmental remediation liabilities; and (11) AROs. Future events and their effects cannot be predicted with certainty; accordingly, our accounting estimates require the exercise of judgment. The accounting estimates used in the preparation of our consolidated financial statements will change as new events occur, as more experience is acquired, as additional information is obtained and as our operating environment changes. We evaluate and update our assumptions and estimates on an ongoing basis and may employ outside specialists to assist in our evaluations, as necessary. Actual results could differ from those estimates.

Union collective bargaining agreements

We have approximately 48% of the employees covered by a collective bargaining agreement. Agreements which will expire within the coming year apply to approximately 6% of our employees.

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Note 4. Acquisition of UIL

On December 16, 2015 (acquisition date), we completed our acquisition of UIL, a diversified energy company with its portfolio of regulated utility companies in Connecticut and Massachusetts that is expected to provide us with a greater flexibility to grow the combined regulated businesses through project development and create an enhanced platform to develop transmission and distribution projects in the Northeastern United States. In connection with the consummation of the acquisition we issued 309,490,839 shares of common stock of AVANGRID, out of which 252,234,989 shares were issued to Iberdrola through a stock dividend, accounted for as a stock split, with no change to par value, at par value of \$0.01 per share, and 57,255,850 shares (including those held in trust as treasury stock) were issued to UIL shareowners in addition to payment of \$595 million in cash. Following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID, and Iberdrola owned the remaining shares.

The acquisition was accounted for as a business combination. This method requires, among other things, that assets acquired and liabilities assumed in a business combination, with certain exceptions, be recognized at their fair values as of the acquisition date.

As UIL's common stock was publicly traded in an active market until the acquisition date, we determined that UIL's common stock is more reliably measurable than the common stock of AVANGRID to determine the fair value of the consideration transferred in the transaction.

The purchase consideration for UIL under the acquisition method is based on the stock price of UIL on the acquisition date multiplied by the number of shares issued by AVANGRID to the UIL shareowners after applying an equity exchange factor to the shares of vested restricted common stock of UIL (other than those UIL restricted shares that vest by their terms upon the consummation of the acquisition), performance shares and other shares awards under UIL 2008 Stock and Incentive Compensation Plan and the UIL Deferred Compensation Plan. The "equity exchange factor" is the sum of one plus a fraction, (i) the numerator of which is the cash consideration and (ii) the denominator of which is the average of the volume weighted averages of the trading prices of UIL common stock on each of the ten consecutive trading days ending on (and including) the trading day that immediately precedes the closing date of the acquisition minus \$10.50. The determination of the purchase price is based on a UIL stock price of \$50.10 per share, which represents the closing stock price on the acquisition date.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The fair value of shares of AVANGRID common stock issued to the UIL shareowners in the business combination represents the purchase consideration in the business combination, which was computed as follows:

	(millions, except share and unit data)
Common shares ⁽¹⁾	56,629,377
Price per share of UIL common stock as of the acquisition date	\$ 50.10
Subtotal value of common shares	\$ 2,837
Restricted stock units ⁽²⁾	476,198
Other shares ⁽³⁾	12,999
Equity exchange factor	1.2806
Total restricted and other shares ⁽³⁾ after applying an equity exchange factor	626,473
Price per share used ⁽⁵⁾	\$ 39.60
Subtotal value of restricted and other shares	\$ 25
Total shares of AVANGRID common stock issued to UIL shareowners (including held in trust as treasury stock)	57,255,850
Performance shares ⁽⁴⁾	211,904
Equity exchange factor	1.2806
Total performance shares after applying an equity exchange factor	271,368
Price per share used ⁽⁵⁾	\$ 39.60
Subtotal value of performance shares	\$ 11
Total consideration	\$ 2,873

(1) Based on UIL's common shares outstanding on December 16, 2015.

(2) Based on UIL's shares of vested restricted stock.

(3) Based on UIL's restricted shares that vested upon the change in control.

(4) Based on UIL's vested performance shares award.

(5) Based on the closing share price of UIL common stock on December 16, 2015, less the cash component of \$10.50, which is not applicable to restricted shares (other than those UIL restricted shares that vest by their terms upon the consummation of the acquisition), performance shares and other awards under the UIL 2008 Stock and Incentive Compensation Plan and the UIL Deferred Compensation Plan.

The following is a summary of the components of the consideration transferred to UIL's shareowners:

	(millions, except share data)
Cash (\$10.50 x number of UIL common shares outstanding at the acquisition date - 56,629,377)	\$ 595
Equity	2,278
Total consideration	\$ 2,873

We also paid \$37.5 million for transaction costs incurred in this business combination, which are recorded in "Operations and maintenance" in the consolidated statements of income for the year ended December 31, 2015.

The following unaudited pro forma financial information presents the combined results of operations as if the acquisition had been completed on January 1, 2014, the beginning of the comparable prior annual reporting period. The unaudited pro forma results include: (i) merger credit adjustments to operating revenue (see Merger Settlement Agreement below for further details); (ii) elimination of accrued transaction costs representing non-recurring expenses directly related to the transaction, and (iii) the associated tax impact on these unaudited pro forma adjustments.

The unaudited pro forma results do not reflect any cost saving synergies from operating efficiencies or the effect of the incremental costs incurred in integrating the two companies. Accordingly, these unaudited pro forma results are presented for informational

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

purpose only and are not necessarily indicative of what the actual results of operations of the combined company would have been if the acquisition had occurred at the beginning of the period presented, nor are they indicative of future results of operations:

	Year Ended December 31,	
	2015	2014
	(millions)	
Revenue	\$ 5,958	\$ 6,226
Net income	\$ 468	\$ 539

The revenue and net (loss) of UIL since the acquisition date included in the consolidated statements of income for the year ended December 31, 2015 were \$36 million and \$(36) million, respectively (see Merger Settlement Agreement below for further details).

We finalized the valuation of the assets acquired and liabilities assumed within the measurement period during 2016. For the majority of UIL's assets and liabilities, primarily property, plant and equipment, fair value was determined to be the respective carrying amounts of the predecessor entity. UIL's operations are conducted in a regulated environment where the regulatory authority allows an approved rate of return on the carrying amount of the regulated asset base. Measurement period adjustments that were recognized in the year ended December 31, 2016 relate to the adjustments of the allocation of the purchase price to the following: equity method investments; contracts; debt; contingent liabilities, including those related to certain environmental sites; income taxes; non-regulated property, plant and equipment and goodwill.

The following is a summary of the allocation of the purchase price as of the acquisition date and measurement period adjustments recognized in the year ended December 31, 2016:

	Provisional amounts reported in 2015	Measurement period adjustments (millions)	Finalized amounts
Current assets, including cash of \$48 million	\$ 500	\$ (7)	\$ 493
Other investments	114	22	136
Property, plant and equipment	3,552	(5)	3,547
Regulatory assets	966	36	1,002
Other assets	52	—	52
Current liabilities	(493)	—	(493)
Regulatory liabilities	(493)	—	(493)
Non-current debt	(1,878)	(27)	(1,905)
Other liabilities	(1,201)	(30)	(1,231)
Total net assets acquired at fair value	1,119	(11)	1,108
Goodwill – consideration transferred in excess of fair value assigned	1,754	11	1,765
Total consideration	\$ 2,873		\$ 2,873

Goodwill generated from the acquisition of UIL increased by \$11 million to the total amount of \$1,765 million as of the acquisition date as a result of the finalization of the purchase price allocation. Goodwill generated from the acquisition of UIL has been assigned to the reporting units under the Networks reportable segment and is primarily attributable to expected future growth of the combined regulated businesses and enhanced platform to develop transmission and distribution projects in the Northeastern United States. The goodwill generated from this acquisition is not deductible for tax purposes.

Merger Settlement Agreement

As part of the process of seeking and obtaining regulatory approval for the acquisition in Connecticut and Massachusetts, Iberdrola, S.A., AVANGRID and UIL reached settlement agreements with the Office of Consumer Counsel in Connecticut and with the Attorney General of the Commonwealth of Massachusetts and the Department of Energy Resources in Massachusetts, which settlement agreements included commitments of actions to be taken after the transaction closed.

As a result, the following commitments have been made in Connecticut, recognized in the period subsequent to the acquisition in 2015 unless otherwise noted, each of which is reasonably expected to be at a cost of \$500,000 or more:

- A one-time, \$20 million rate credit to customers in 2016, allocated among UI, SCG and CNG customers based on the total number of retail customers.
- Additional rate credits of \$1.25 million/year for ten years (2018-2027) to CNG customers.
- Additional rate credits of \$0.75 million/year for ten years (2018-2027) to SCG customers.
- \$1.6 million in savings to SCG customers, associated with SCG making additional infrastructure capital investments over a three-year period without seeking recovery until the next SCG rate case. These amounts will be recorded by the Company as incurred in future periods.
- Agreement not to seek to increase UI distribution base rates effective before January 1, 2017, and agreement not to seek to increase CNG and SCG distribution base rates effective before January 1, 2018.
- Contribution of \$2 million/year for three years to the DEEP, to stimulate investment in energy efficiency and clean energy technologies.
- \$5 million in benefits to customers resulting from UI recovering only the debt rate rather than the equity return for two years, on an increased \$50 million of investment in storm resiliency programs. These amounts will be recorded by the Company as incurred in future periods.
- Contribution of \$1 million for disaster relief entities.
- Maintaining charitable contribution at historical contribution levels (between \$500,000 and \$800,000) for at least four years.
- Upon the resolution of all appeals of the PURA decision approving the acquisition, UI will withdraw its appeals of two PURA dockets relating to PURA's disallowance of certain reconciliation amounts. The appeals were withdrawn by UI in June 2016.

In connection with the acquisition proceeding, UI signed the consent order that, pursuant to the terms and conditions in the consent order, requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. To the extent that the investigation and remediation is less than \$30 million, UI would remit to the State of Connecticut the difference between such costs and \$30 million for a public purpose as determined in the discretion of the Governor the Attorney General of Connecticut and the Commissioner of DEEP. Pursuant to the consent order UI is obligated to comply with the consent order, even if the cost of such compliance exceeds \$30 million. The state will discuss options with UI on recovering or funding any cost above \$30 million such as through public funding or recovery from third parties, however it is not bound to agree to or support any means of recovery or funding (See Note 14, Environmental Liabilities – English Station, for further details).

As of December 31, 2016 and 2015 we reserved \$28.3 million and \$20.5 million, respectively, for this matter and have accrued the remaining \$1.7 million and \$9.5 million in accordance with the settlement with PURA approving the acquisition. The difference of \$7.8 million pre-tax has been reflected as the reversal of an expense in our 2016 results, reversing the amounts recorded in 2015, to adjust the allocation of the purchase price as a measurement period adjustment from the acquisition of UIL. The adjustment to the reserve during 2016 was recorded in the "Operations and maintenance" line of the consolidated statement of income as a measurement period adjustment based on additional information obtained for the site regarding circumstances of the site as of the acquisition date of UIL.

As part of the final allocation of the purchase price we have determined a fair value of contingent liabilities of approximately \$46.0 million relating to certain environmental sites.

The following commitments have been made in Massachusetts, recognized in the period subsequent to the acquisition in 2015 unless otherwise noted, each of which is reasonably expected to be at a cost of \$500,000 or more:

- Customers of BGC will receive a total of \$4.0 million in rate credits, to be spread over the months of November through April 2016-2017 and November through April 2017-2018.
- BGC will contribute \$1 million to alternative heating programs.
- BGC will not seek to increase distribution base rates effective before June 1, 2018.

As a result of the merger settlement agreement we have recorded \$44 million as regulatory liabilities relating to the rate credits and an additional \$19.8 million as liabilities, which primarily resulted in the net loss for UIL in the period following the acquisition date in 2015.

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Note 5. Industry Regulation

Electricity and Natural Gas Distribution – Maine and New York

The Maine distribution rate stipulation, the Maine transmission Federal Energy Regulatory Commission (FERC) Return on Equity (ROE) case, the New York rate plans, Reforming Energy Vision (REV), and the New York Transmission Company (New York TransCo) filings are some of the most important specific regulatory processes that affect Networks.

The revenues of Networks companies are essentially regulated, being based on tariffs established in accordance with administrative procedures set by the various regulatory bodies. The tariffs applied to regulated activities in the U.S. are approved by the regulatory commissions of the different states and are based on the cost of providing service. The revenues of each regulated utility are set to be sufficient to cover all its operating costs, including energy costs, finance costs, and the costs of equity, the last of which reflect our capital ratio and a reasonable ROE.

Energy costs that are set on the New York and New England wholesale markets are passed on to consumers. The difference between energy costs that are budgeted and those that are actually incurred by the utilities is offset by applying compensation procedures that result in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional, such as the effects of extreme weather conditions, environmental factors, regulatory and accounting changes, and treatment of vulnerable customers, that are offset in the tariff process. Any New York revenues that allow a utility to exceed target returns, usually the result of better than expected cost efficiency, are generally shared between the utility and its customers, resulting in future tariff reductions.

Each of the four Networks' New York and Maine supply companies must comply with regulatory procedures that differ in form but in all cases conform to the basic framework outlined above. Generally, tariff reviews cover various years and provide for a reasonable ROE, protection, and automatic adjustments for exceptional costs incurred and efficiency incentives.

CMP Distribution Rate Stipulation and New Renewable Source Generation

On May 1, 2013, CMP submitted its required distribution rate request with the Maine Public Utilities Commission (MPUC). On July 3, 2014, after a fourteen month review process, CMP filed a rate stipulation agreement on the majority of the financial matters with the MPUC. The stipulation agreement was approved by the MPUC on August 25, 2014. The stipulation agreement also noted that certain rate design matters would be litigated, which the MPUC ruled on October 14, 2014.

The rate stipulation agreement provided for an annual CMP distribution tariff increase of 10.7% or \$24.3 million. The rate increase was based on a 9.45% ROE and 50% equity capital. CMP was authorized to implement a Rate Decoupling Mechanism (RDM) which protects CMP from variations in sales due to energy efficiency and weather. CMP also adjusted its storm costs recovery mechanism whereby it is allowed to collect in rates a storm allowance and to defer actual storm costs when such storm event costs exceed \$3.5 million. CMP and customers share storm costs that exceed a certain balance on a fifty-fifty basis, with CMP's exposure limited to \$3.0 million annually.

CMP has made a separate regulatory filing for a new customer billing system replacement. In accordance with the stipulation agreement, a new billing system is needed and CMP made its filing on February 27, 2015 to request a separate rate recovery mechanism. On October 20, 2015, the MPUC issued an order approving a stipulation agreement authorizing CMP to proceed with the customer billing system investment. The approved stipulation allows CMP to recover the system costs effective with its implementation, currently expected in mid-2017.

The rate stipulation does not have a predetermined rate term. CMP has the option to file for new distribution rates at its own discretion. The rate stipulation does not contain service quality targets or penalties. The rate stipulation also does not contain any earning sharing requirements.

Under Maine law 35-A M.R.S.A §§ 3210-C, 3210-D, the MPUC is authorized to conduct periodic requests for proposals seeking long-term supplies of energy, capacity or Renewable Energy Certificates, or RECs, from qualifying resources. The MPUC is further authorized to order Maine Transmission and Distribution Utilities to enter into contracts with sellers selected from the MPUC's competitive solicitation process. Pursuant to a MPUC Order dated October 8, 2009, CMP entered into a 20-year agreement with Evergreen Wind Power III, LLC, on March 31, 2010, to purchase capacity and energy from Evergreen's 60 MW Rollins wind farm in Penobscot County, Maine. CMP's purchase obligations under the Rollins contract are approximately \$7 million per year. In accordance with subsequent MPUC orders, CMP periodically auctions the purchased Rollins energy to wholesale buyers in the New England regional market. Under applicable law, CMP is assured recovery of any differences between power purchase costs and achieved market revenues through a reconcilable component of its retail distribution rates. Although the MPUC has conducted multiple requests for proposals under M.R.S.A §3210-C and has tentatively accepted long-term proposals from other sellers, these selections have not yet resulted in additional currently effective contracts with CMP.

Transmission - FERC ROE Proceeding

See Note 13, Commitments and Contingent Liabilities, for a further discussion.

CMP's and UI's transmission rates are determined by a tariff regulated by the FERC and administered by ISO New England, Inc. (ISO-NE). Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, and for a return of and on investment in assets.

On December 28, 2015, the FERC issued an order instituting section 206 proceedings and establishing hearing and settlement judge procedures. Pursuant to section 206 of the FPA, the FERC instituted proceedings because it found that ISO-NE Transmission, Markets, and Services Tariff is unjust, unreasonable, and unduly discriminatory or preferential. The FERC stated that ISO-NE's Tariff lacks adequate transparency and challenge procedures with regard to the formula rates for ISO-NE Participating Transmission Owners, including UI, Maine Electric Power Corporation (MEPCO) and CMP. The FERC also found that the current Regional Network Service, or RNS and Local Network Service, or LNS, formula rates appear to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful as the formula rates appear to lack sufficient detail in order to determine how certain costs are derived and recovered in the formula rates. A settlement judge has been appointed and a settlement conference has convened. We are unable to predict the outcome of this proceeding at this time.

NYSEG and RG&E Rate Plans

On September 16, 2010, the New York Public Service Commission (NYPSC) approved a new rate plan for electric and natural gas service provided by NYSEG and RG&E effective from August 26, 2010 through December 31, 2013. The rate plans contain continuation provisions beyond 2013 if NYSEG and RG&E do not request new rates to go into effect and the current base rates will stay in place. The rates stayed effective until May 1, 2016, at which time a newly approved rate plan became effective.

The 2010 revenue requirements were based on a 10% allowed ROE applied to an equity ratio of 48%. If annual earnings exceed the allowed return, a tiered Earnings Sharing Mechanism (ESM) will capture a portion of the excess for the ratepayers' benefit. The ESM is subject to specified downward adjustments if NYSEG and RG&E fail to meet certain reliability and customer service measures. Key components of the rate plan include electric reliability performance mechanisms, natural gas safety performance measures, customer service quality metrics and targets, and electric distribution vegetation management programs that establish threshold performance targets. There will be downward revenue adjustments if NYSEG and RG&E fail to meet the targets.

The 2010 rate plans established revenue decoupling mechanism (RDM), intended to remove company disincentives to promote increased energy efficiency. Under RDM, electric revenues are based on revenue per customer class rather than billed revenue, while natural gas revenues are based on revenue per customer. Any shortfalls or excesses between billed revenues and allowed revenues will be accrued for future recovery or refund.

In August 2010, NYSEG began amortizing \$15.2 million per year of its \$303.9 million theoretical excess depreciation reserve. On September 1, 2012, RG&E began amortizing \$5.3 million per year of its \$105 million theoretical excess depreciation reserve. Both amortization amounts reflect a twenty year amortization period. Theoretical excess depreciation is the difference between actual

accumulated depreciation taken to date and a theoretical reserve. The actual accumulated depreciation is the result of depreciation rates allowed in prior rate orders based on estimates of useful lives and net salvage values as determined in those cases. The theoretical reserve is the amount that would have accumulated if the depreciation rates in the new rate plan had been in place for the entire useful lives of the affected assets. Differences between the actual reserve and the theoretical reserve are normal aspects of utility ratemaking. The usual treatment is to flow any excess or deficiency back as an adjustment to depreciation expense over the remaining life of the property. However, in accordance with the new rate plan, NYSEG and RG&E moderate electric rates by recording the theoretical reserve amortization as a debit to accumulated depreciation and a credit to other revenues, and normalize a portion of the amortization from a tax perspective.

On May 20, 2015, NYSEG and RG&E filed electric and gas rate cases with the NYPSC. The companies requested rate increases for NYSEG electric, NYSEG gas and RG&E gas. RG&E electric proposed a rate decrease.

On February 19, 2016, NYSEG, RG&E and other signatory parties filed a Joint Proposal (proposal) with the NYPSC for a three-year rate plan for electric and gas service at NYSEG and RG&E commencing May 1, 2016. The proposal, which was approved by the NYPSC on June 15, 2016, balanced the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The proposal reflects many customer benefits including: acceleration of the companies' natural gas leak prone main replacement programs and increased funding for electric vegetation management to provide continued safe and reliable service. The delivery rate increase in the proposal can be summarized as follows:

Utility	May 1, 2016		May 1, 2017		May 1, 2018	
	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %	Rate Increase (Millions)	Delivery Rate Increase %
NYSEG Electric	\$ 29.6	4.10%	\$ 29.9	4.10%	\$ 30.3	4.10%
NYSEG Gas	13.1	7.30%	13.9	7.30%	14.8	7.30%
RG&E Electric	3.0	0.70%	21.6	5.00%	25.9	5.70%
RG&E Gas	8.8	5.20%	7.7	4.40%	9.5	5.20%

The allowed rate of return on common equity for NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas is 9.00%. The equity ratio for each company is 48%. The proposal includes an Earnings sharing mechanism (ESM) applicable to each company. The customer share of earnings would increase at higher ROE levels, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10.0% and 10.5% of ROE, respectively, in the first rate year. Earnings sharing is based on the lower of actual equity of 50%. Earnings thresholds increase in subsequent rate years.

The proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately \$262 million, of which \$123 million is being amortized over ten years and the remaining \$139 million is being amortized over five years. The proposal also continues reserve accounting for qualifying Major Storms (\$21.4 million annually for NYSEG Electric and \$2.5 million annually for RG&E Electric). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided they meet certain thresholds.

The proposal maintains NYSEG's and RG&E's current electric reliability performance measures (and associated potential negative revenue adjustments for failing to meet established performance levels) which include the system average interruption frequency index (SAIFI) and the customer average interruption duration index (CAIDI). The Proposal also modifies certain gas safety performance measures at the companies, including those relating to the replacement of leak prone main, leak backlog management, emergency response, and damage prevention. The proposal establishes threshold performance levels for designated aspects of customer service quality and continues and expands NYSEG's and RG&E's bill reduction and arrears forgiveness Low Income Programs with increased funding levels included in the proposal. The proposal provides for the implementation of NYSEG's Energy Smart Community ("ESC") Project in the Ithaca region which will serve as a test-bed for implementation and deployment of Reforming the Energy Vision (REV) initiatives. The ESC Project will be supported by NYSEG's planned Distribution Automation upgrades and Advanced Metering Infrastructure (AMI) implementation for customers on circuits in the Ithaca region. The companies will also pursue Non-Wires Alternative projects as described in the proposal. Other REV-related incremental costs and fees will be included in the Rate Adjustment Mechanism (RAM) to the extent cost recovery is not provided for elsewhere. Under the proposal, each company will implement the RAM, which will be applicable to all customers, to return or collect RAM Eligible Deferrals and Costs, including: (1) property taxes; (2) Major Storm deferral balances; (3) gas leak prone pipe replacement; (4) REV costs and fees which are not covered by other recovery mechanisms; and (5) NYSEG Electric Pole Attachment revenues.

The proposal provides for partial or full reconciliation of certain expenses including, but not limited to: pensions, other postretirement benefits; property taxes; variable rate debt and new fixed rate debt; gas research and development; environmental remediation costs; Major Storms; nuclear electric insurance limited credits; economic development; and Low Income Programs. The proposal also includes a downward-only Net Plant reconciliation. In addition, the proposal includes downward-only reconciliations for the costs of: electric distribution and gas vegetation management; pipeline integrity; and incremental maintenance. The proposal provides that NYSEG and RG&E continue their electric RDMs on a total revenue per class basis and their gas RDMs on a revenue per customer basis.

Electric and Gas regulated utilities – Connecticut and Massachusetts

The distribution rates and allowed ROEs for Networks' regulated utilities in Connecticut and Massachusetts are subject to regulation by the Connecticut Public Utilities Regulatory Authority (PURA) and the Massachusetts Department of Public Utilities (DPU), respectively.

Under Connecticut law, UI's retail electricity customers are able to choose their electricity supplier while UI remains their electric distribution company. UI purchases power for those of its customers under standard service rates who do not choose a retail electric supplier and have a maximum demand of less than 500 kilowatts and its customers under supplier of last resort service for those who are not eligible for standard service and who do not choose to purchase electric generation service from a retail electric supplier. The cost of the power is a "pass-through" to those customers through the GSC charge on their bills.

UI has wholesale power supply agreements in place for its entire standard service load for the first half of 2017, 80% of its standard service load for the second half of 2017 and 20% of its standard service load for the first half of 2018. Supplier of last resort service is procured on a quarterly basis, however, from time to time there are no bidders in the procurement process for supplier of last resort service and in such cases UI manages the load directly.

In December 2016, PURA approved new distribution rate schedules for UI for three years which became effective January 1, 2017 and which, among other things, decreased the UI distribution and CTA allowed ROE from 9.15% to 9.10%, continued UI's existing earnings sharing mechanism by which UI and customers share on a 50/50 basis all distribution earnings above the allowed ROE in a calendar year, continued the existing decoupling mechanism, and approved the continuation of the requested storm reserve.

On January 22, 2014, PURA approved new base delivery rates for CNG, with an effective date of January 10, 2014, which, among other things, approved an allowed ROE of 9.18%, a decoupling mechanism, and two separate ratemaking mechanisms that reconcile actual revenue requirements related to CNG's cast iron and bare steel replacement program and system expansion. Additionally, the final decision requires the establishment of an earnings sharing mechanism by which CNG and customers share on a 50/50 basis all earnings above the allowed ROE in a calendar year. In accordance with the approval by PURA of the acquisition, SCG and CNG agreed not to initiate a rate case for new rates effective before at least January 1, 2018.

BGC's rates are established by the DPU. BGC's 10-year rate plan, which was approved by the DPU and included an approved ROE of 10.5%, expired on January 31, 2012. BGC continues to charge the rates that were in effect at the end of the rate plan. In accordance with the approval by the DPU of the acquisition, BGC agreed not to initiate a rate case for new rates effective before at least June 1, 2018.

REV

In April 2014, the NYPSC commenced a proceeding entitled REV, which is a wide ranging initiative to reform New York state's energy industry and regulatory practices. REV has been divided into two tracks, Track 1 for Market Design and Technology, and Track 2 for Regulatory Reform. REV and its related proceedings have and will continue to propose regulatory changes that are intended to promote more efficient use of energy, deeper penetration of renewable energy resources such as wind and solar and wider deployment of distributed energy resources, such as micro grids, on-site power supplies and storage.

REV is also intended to promote greater use of advanced energy management products to enhance demand elasticity and efficiencies. Track 1 of this initiative involves a collaborative process to examine the role of distribution utilities in enabling market based deployment of distributed energy resources to promote load management and greater system efficiency, including peak load reductions. NYSEG and RG&E are participating in the initiative with other New York utilities and are providing their unique perspective. The NYPSC issued a 2015 order in Track 1, which acknowledges the utilities' role as a Distribution System Platform (DSP) provider, and required the utilities to file an initial Distribution System Implementation Plan (DSIP) by June 30, 2016. The

companies filed the DSIP, which also included information regarding the potential deployment of Automated Metering Infrastructure (AMI) across its entire service territory. The companies, in December 2016, filed a petition to the NYPSC requesting approval for cost recovery associated with the full deployment of AMI, and a collaborative associated with this petition is expected to begin in the first quarter of 2017.

Other various proceedings have also been initiated by the NYPSC which are REV related, and each proceeding has its own schedule. These proceedings include the Clean Energy Standard, Value of DER and Net Energy Metering, Demand Response Tariffs, and Community Choice Aggregation. As part of the Clean Energy Standard proceeding, all electric utilities were ordered to begin payments to NYSERDA for Renewable Energy Credits and Zero Emissions Credits beginning in 2017.

Track 2 of the REV initiative is also underway, and through a NYPSC Staff Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York state and NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 order was issued in May 2016, and includes guidance related to the potential for Earnings Adjustment Mechanisms (EAMs), Platform Service Revenues, innovative rate designs, and data utilization and security. The companies, in December 2016, filed a proposal for the implementation of EAMs in the areas of System Efficiency, Energy Efficiency, Interconnections, and Clean Air. A collaborative process to review the companies' petition is expected to begin in the first quarter of 2017.

Ginna Reliability Support Service Agreement

Ginna Nuclear Power Plant, LLC (GNPP), which is a subsidiary of Constellation Energy Nuclear Group, LLC (CENG), owns and operates the R.E. Ginna Nuclear Power Plant (Ginna Facility and together with GNPP, Ginna), a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, the New York Independent System Operator (NYISO) produced a Reliability Study, confirming that the Ginna Facility needs to remain in operation to avoid bulk transmission and non-bulk local distribution system reliability violations in 2015 and 2018. In July, 2014, GNPP filed a petition requesting that the NYPSC initiate a proceeding to examine a proposal for the continued operation of the Ginna Facility.

In November 2014, the NYPSC ruled that GNPP had demonstrated that the Ginna Facility is required to maintain system reliability and that its actions with respect to meeting the relevant retirement notice requirements were satisfactory. The NYPSC also accepted the findings of the 2014 Reliability Study and stated that it established "the reliability need for continued operation of the Ginna Facility that is the essential prerequisite to negotiating a Reliability Support Services Agreement (RSSA)." As such, the NYPSC ordered RG&E and GNPP to negotiate an RSSA.

On February 13, 2015, RG&E submitted to the NYPSC an executed RSSA between RG&E and GNPP. RG&E requested that the NYPSC accept the RSSA and approve cost recovery by RG&E from its customers of all amounts payable to GNPP under the RSSA utilizing the cost recovery surcharge mechanism.

On October 21, 2015, RG&E, GNPP, New York Department of Public Service, Utility Intervention Unit and Multiple Intervenors filed a Joint Proposal with the NYPSC for approval of the RSSA, as modified. The Joint Proposal provides a term of the RSSA from April 1, 2015 through March 31, 2017. RG&E shall make monthly payments to Ginna in the amount of \$15.4 million. RG&E will be entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna will be entitled to 30% of such revenues. The signatory parties recommend that the NYPSC authorize RG&E to implement a rate surcharge effective January 1, 2016, to recover amounts paid to Ginna pursuant to the RSSA. RG&E's payment obligation to Ginna did not begin until the rate surcharge was in effect and FERC issued an order authorizing the FERC Settlement agreement in the Settlement Docket. RG&E will use deferred rate credit amounts (regulatory liabilities) to offset the full amount of the Deferred Collection Amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed \$2.3 million per month, not to exceed a total use of credits in the amount of \$110 million, applicable through June 30, 2017. To the extent that the available credits are insufficient to satisfy the final payment from RG&E to Ginna then the RSSA surcharge would continue past March 31, 2017, to recover up to \$2.3 million per month until the final payment has been recovered by RG&E from ratepayers. In the month following the expiration of the term on March 31, 2017, Ginna shall prepare and issue an invoice to RG&E for, and RG&E shall pay to Ginna, a one-time payment in the amount of \$11.5 million, which will be recovered from ratepayers. If Ginna continues to deliver energy to the NYISO transmission system or makes available capacity to the NYISO markets after seventy-five days following March 31, 2017, Ginna shall pay RG&E a capital recovery balance in eight quarterly installments as long as Ginna is continuing to deliver energy or making available capacity throughout this period. The estimated capital recovery balance that is expected to be in place on March 31, 2017 is \$20.1 million and will accrue interest unless amounts are prepaid by Ginna. The capital recovery balance will be refunded to ratepayers, to the extent collected, which is based on the term of the delivery of energy or capacity being made available by Ginna. On February 23, 2016, the

NYPSC unanimously adopted the Joint Proposal in the Ginna RSSA proceeding as in the public interest. On March 1, 2016, FERC issued an Order approving the contested Settlement agreement, subject to conditions.

New York TransCo

Networks holds an approximately 20% ownership interest in the New York TransCo, LLC (New York TransCo). New York TransCo was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. In December 2014, New York TransCo filed for regulatory approval of its rates, terms, and conditions with the FERC. The filing requests a formula base ROE of 10.6%, one-hundred fifty basis points ROE incentives, construction work in progress, a formula rate mechanism, and a proposed cost allocation. Various parties, including the NYPSC, have protested the filing with the FERC, including the base ROE, the ROE incentives, and the cost allocation. New York TransCo will not make final decisions on transmission project development until a FERC decision.

On April 2, 2015, the FERC issued an order granting, inter alia, New York TransCo's owners' request for a 50 basis point adder for New York TransCo's membership in the NYISO regional transmission organization (RTO), subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected New York TransCo's owners' cost allocation method for the Transmission Owner Transmission Solutions (TOTS) Projects because it would allocate costs to Power Supply Long Island (LIPA) and New York Power Authority (NYPA) that they did not voluntarily agree to pay.

On November 5, 2015, the New York Transco's owners, filed the Settlement with the FERC to resolve all outstanding issues associated with the TOTS Projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed TOTS Projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the New York Independent System Operator, Inc. (NYISO) Open Access Transmission Tariff (OATT) for the TOTS Projects. On March 17, 2016, the FERC approved the Settlement.

Minimum Equity Requirements for Regulated Subsidiaries

Our regulated utility subsidiaries of Maine and New York (NYSEG, RG&E, CMP and MNG) are each subject to a minimum equity ratio requirement that is tied to the capital structure assumed in establishing revenue requirements. Pursuant to these requirements, each of NYSEG, RG&E, CMP and MNG must maintain a minimum equity ratio equal to the ratio in its currently effective rate plan or decision measured using a trailing 13-month average. On a monthly basis, each utility must maintain a minimum equity ratio of no less than 300 basis points below the equity ratio used to set rates. The minimum equity ratio requirement has the effect of limiting the amount of dividends that may be paid and may, under certain circumstances, require that the parent contribute equity capital. The regulated utility subsidiaries are prohibited by regulation from lending to unregulated affiliates. The regulated utility subsidiaries have also agreed to minimum equity ratio requirements in certain borrowing agreements. These requirements are lower than the regulatory requirements.

Pursuant to agreements with the relevant utility commission, UI, SCG, CNG and BGC are restricted from paying dividends if paying such dividend would result in a common equity ratio lower than 300 basis points below the equity percentage used to set rates in the most recent distribution rate proceeding as measured using a trailing 13-month average calculated as of the most recent quarter end. In addition, UI, SCG, CNG and BGC are prohibited from paying dividends to their parent if the utility's credit rating as rated by any of the three major credit rating agencies, falls below investment grade, or if the utility's credit rating, as determined by two of the three major credit rating agencies falls to the lowest investment grade and there is a negative watch or review downgrade notice.

We had restricted net assets of approximately \$4,291 million associated with the minimum equity requirements as of December 31, 2016.

Movement of capital from our wholly owned unregulated subsidiaries is unrestricted.

New Renewable Source Generation

Under Connecticut law Public Act (PA 11-80), Connecticut electric utilities are required to enter into long-term contracts to purchase Connecticut Class I Renewable Energy Certificates, or RECs, from renewable generators located on customer premises. Under this

program, UI is required to enter into contracts totaling approximately \$200 million in commitments over an approximate 21-year period. The obligations will phase in over a six-year solicitation period, and are expected to peak at an annual commitment level of about \$13.6 million per year after all selected projects are online. Upon purchase, UI accounts for the RECs as inventory. UI expects to partially mitigate the cost of these contracts through the resale of the RECs. PA 11-80 provides that the remaining costs (and any benefits) of these contracts, including any gain or loss resulting from the resale of the RECs, are fully recoverable from (or credited to) customers through electric rates.

On October 23, 2013, PURA approved UI's renewable connections program filed in accordance with PA 11-80, through which UI will develop up to 10 MW of renewable generation. The costs for this program will be recovered on a cost of service basis. PURA established a base ROE to be calculated as the greater of: (A) the current UI authorized distribution ROE (currently 9.10%) plus 25 basis points and (B) the current authorized distribution ROE for Connecticut Light and Power Company, or CL&P (currently 9.17%), less target equivalent market revenues (reflected as 25 basis points). In addition, UI will retain a percentage of the market revenues from the project, which percentage is expected to equate to approximately 25 basis points on a levelized basis over the life of the project. UI expects the cost of this program, a planned 2.8 MW fuel cell facility in New Haven, solar photovoltaic and fuel cell facilities totaling 5 MW in Bridgeport, and a 2.2 MW fuel cell facility in Woodbridge to be approximately \$47 million.

Pursuant to Section 8 of Public Act 13-303, "An Act Concerning Connecticut's Clean Energy Goals," (PA 13-303), in January 2014, at DEEP's direction, UI entered into three contracts for the purchase of RECs associated with an aggregate of 5.7 MW of energy production from biomass plants in New England. The costs of these agreements will be fully recoverable through electric rates.

Equity Investment in Peaking Generation

UI is party to a 50-50 joint venture with NRG affiliates in GenConn, which operates two peaking generation plants in Connecticut. The two peaking generation plants, GenConn Devon and GenConn Middletown, are both participating in the ISO-New England markets. PURA has approved revenue requirements for the period from January 1, 2017 through December 31, 2017 of \$28.8 million and \$35.7 million for GenConn Devon and GenConn Middletown, respectively. PURA has ruled previously that GenConn project capital costs incurred were prudently incurred. Such costs are included in the 2017 approved revenue requirements.

Note 6. Regulatory Assets and Liabilities

Pursuant to the requirements concerning accounting for regulated operations, our utilities capitalize, as regulatory assets, incurred and accrued costs that are probable of recovery in future electric and natural gas rates. We base our assessment of whether recovery is probable on the existence of regulatory orders that allow for recovery of certain costs over a specific period, or allow for reconciliation or deferral of certain costs. When costs are not treated in a specific order we use regulatory precedent to determine if recovery is probable. Our operating utilities also record, as regulatory liabilities, obligations to refund previously collected revenue or to spend revenue collected from customers on future costs. Substantially all assets or liabilities for which funds have been expended or received are either included in the rate base or are accruing a carrying cost until they will be included in the rate base. The primary items that are not included in the rate base or accruing carrying costs are the regulatory assets for qualified pension and other postretirement benefits, which reflect unrecognized actuarial gains and losses, debt premium, environmental remediation costs which is primarily the offset of accrued liabilities for future spending, unfunded future income taxes, which are the offset to the unfunded future deferred income tax liability recorded, asset retirement obligations, hedge losses and contracts for differences. The total amount of these items is approximately \$2,357 million.

Regulatory assets and other regulatory liabilities shown in the tables below result from various regulatory orders that allow for the deferral and/or reconciliation of specific costs. Regulatory assets and regulatory liabilities are classified as current when recovery or refund in the coming year is allowed or required through a specific order or when the rates related to a specific regulatory asset or regulatory liability are subject to automatic annual adjustment.

On June 15, 2016, the NYPSC approved the proposal in connection with a three-year rate plan for electric and gas service at NYSEG and RG&E effective May 1, 2016. Following the approval of the proposal most of these items related to NYSEG are amortized over a five-year period, except the portion of storm costs to be recovered over ten years, and plant related tax items which are amortized over the life of associated plant. Annual amortization expense for NYSEG is approximately \$16.5 million per rate year. RG&E items that are being amortized are plant related tax items, which are amortized over the life of associated plant, and unfunded deferred taxes being amortized over a period of fifty years. A majority of the other items related to RG&E, which net to a regulatory liability, remains deferred and will not be amortized until future proceedings or will be used to recover costs of the Ginna RSSA. Following the approval of the proposal by the NYPSC, unfunded future income taxes were adjusted for the amount of \$126 million to reflect the

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

change from a flow through to normalization method, which has been recorded as an increase to income tax expense and an offsetting increase to revenue, during the year ended December 31, 2016. The amounts will be collected over a period of fifty years.

Current and non-current regulatory assets as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Current		
Pension and other post-retirement benefits cost deferrals	\$ 22	\$ 8
Pension and other post-retirement benefits	7	13
Storm costs	40	8
Temporary supplemental assessment surcharge	4	7
Reliability support services	27	—
Revenue decoupling mechanism	15	6
Transmission revenue reconciliation mechanism	12	5
Electric supply reconciliation	13	—
Hedges losses	10	37
Contracts for differences	14	18
Hardship programs	16	13
Deferred property tax	10	—
Plant decommissioning	6	—
Deferred purchased gas	14	12
Deferred transmission expense	13	12
Environmental remediation costs	14	37
Other	48	43
Total Current Regulatory Assets	285	219
Non-current		
Pension and other post-retirement benefits cost deferrals	134	151
Pension and other post-retirement benefits	1,320	1,509
Storm costs	187	251
Deferred meter replacement costs	32	34
Unamortized losses on reacquired debt	20	23
Environmental remediation costs	287	271
Unfunded future income taxes	542	549
Asset retirement obligations	18	24
Deferred property tax	33	45
Federal tax depreciation normalization adjustment	161	158
Merger capital expense target customer credit	11	15
Debt premium	151	141
Plant decommissioning	14	7
Contracts for differences	61	50
Hardship programs	18	29
Other	102	57
Total Non-current Regulatory Assets	\$ 3,091	\$ 3,314

“Pension and other post-retirement benefits” represent the actuarial losses on the pension and other post-retirement plans that will be reflected in customer rates when they are amortized and recognized in future pension expenses. “Pension and other post-retirement benefits cost deferrals” include the difference between actual expense for pension and other post-retirement benefits and the amount provided for in rates for certain of our regulated utilities. The recovery of these amounts will be determined in future proceedings.

“Storm costs” for CMP, NYSEG, and RG&E are allowed in rates based on an estimate of the routine costs of service restoration. The companies are also allowed to defer unusually high levels of service restoration costs resulting from major storms when they meet certain criteria for severity and duration. The portion of storm costs for the amount of \$123 million is being recovered over ten-year period and the remaining portion is being amortized over five years following the approval of the proposal by the NYPSC. CMP’s total deferral, including carrying costs, was \$2 million and \$12 million as of December 31, 2016 and 2015, respectively. UI is allowed to defer costs associated with any storm totaling \$1 million or greater for future recovery. UI’s storm regulatory asset balance was \$0 as of December 31, 2016.

“Deferred meter replacement costs” represent the deferral of the book value of retired meters which were replaced by advanced metering infrastructure meters. This amount is being amortized over the initial depreciation period of related retired meters.

“Unamortized losses on reacquired debt” represent deferred losses on debt reacquisitions that will be recovered over the remaining original amortization period of the reacquired debt.

“Environmental remediation costs” includes spending that has occurred and is eligible for future recovery in customer rates. Environmental costs are currently recovered through a reserve mechanism whereby projected spending is included in rates with any variance recorded as a regulatory asset or a regulatory liability. The amortization period will be established in future proceedings and will depend upon the timing of spending for the remediation costs. It also includes the anticipated future rate recovery of costs that are recorded as environmental liabilities since these will be recovered when incurred. Because no funds have yet been expended for the regulatory asset related to future spending, it does not accrue carrying costs and is not included within rate base.

“Unfunded future income taxes” represent unrecovered federal and state income taxes primarily resulting from regulatory flow through accounting treatment and are the offset to the unfunded future deferred income tax liability recorded. The income tax benefits or charges for certain plant related timing differences, such as removal costs, are immediately flowed through to, or collected from, customers. This amount is being amortized as the amounts related to temporary differences that give rise to the deferrals are recovered in rates. Following the approval of the proposal by the NYPSC, these amounts will be collected over a period of fifty years and the NYPSC Staff will perform an audit of the unfunded future income taxes and other tax assets to verify the balances.

“Asset retirement obligations” (ARO) represents the differences in timing of the recognition of costs associated with our AROs and the collection of such amounts through rates. This amount is being amortized at the related depreciation and accretion amounts of the underlying liability.

“Deferred property taxes” represents the customer portion of the difference between actual expense for property taxes and the amount provided for in rates. The New York (NY) amount is being amortized over a five year period following the approval of the proposal by the NYPSC.

“Federal tax depreciation normalization adjustment” represents the revenue requirement impact of the difference in the deferred income tax expense required to be recorded under the IRS normalization rules and the amount of deferred income tax expense that was included in cost of service for rates years covering 2011 forward. The recovery period in NY is from 27 to 39 years and for CMP this will be determined in future Maine Public Utility Commission (MPUC) rate proceedings.

“Debt premium” represents the regulatory asset recorded to offset the fair value adjustment to the regulatory component of the non-current debt of UIL at the acquisition date. This amount is being amortized to interest expense over the remaining term of the related outstanding debt instruments.

“Hardship Programs” represent hardship customer accounts deferred for future recovery to the extent they exceed the amount in rates.

“Deferred Purchased Gas” represents the difference between actual gas costs and gas costs collected in rates.

“Contracts for Differences” represent the deferral of unrealized gains and losses on contracts for differences derivative contracts. The balance fluctuates based upon quarterly market analysis performed on the related derivatives. The amounts, which do not earn a return, are fully offset by a corresponding derivative asset/liability.

“Deferred Transmission Expense” represents deferred transmission income or expense and fluctuates based upon actual revenues and revenue requirements.

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Current and non-current regulatory liabilities as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Current		
Reliability support services (Cayuga)	\$ 3	\$ 16
Non by-passable charges	22	7
Energy efficiency portfolio standard	45	33
Gas supply charge and deferred natural gas cost	6	6
Transmission revenue reconciliation mechanism	5	16
Pension and other post-retirement benefits	3	3
Pension and other post-retirement benefits cost deferrals	14	—
Carrying costs on deferred income tax bonus depreciation	15	—
Carrying costs on deferred income tax - Mixed Services 263(a)	5	—
Yankee DOE refund	24	5
Merger-related rate credits	3	20
Revenue decoupling mechanism	9	14
Other	38	27
Total Current Regulatory Liabilities	192	147
Non-current		
Accrued removal obligations	1,117	1,084
Asset sale gain account	9	8
Carrying costs on deferred income tax bonus depreciation	95	116
Economic development	35	36
Merger capital expense target customer credit account	15	17
Pension and other post-retirement benefits	76	90
Positive benefit adjustment	42	51
New York state tax rate change	9	17
Post term amortization	3	25
Theoretical reserve flow thru impact	24	31
Deferred property tax	19	15
Net plant reconciliation	10	10
Variable rate debt	28	32
Carrying costs on deferred income tax - Mixed Services 263(a)	25	31
Rate refund – FERC ROE proceeding	22	21
Transmission congestion contracts	18	—
Merger-related rate credits	21	24
Accumulated deferred investment tax credits	15	10
Asset retirement obligation	13	13
Earning sharing provisions	12	—
Middletown/Norwalk local transmission network service collections	19	19
Excess generation service charge	—	21
Low income programs	46	42
Unfunded future income taxes	—	27
Non-firm margin sharing credits	7	8
Deferred income taxes regulatory	565	519
Other	73	93
Total Non-current Regulatory Liabilities	\$ 2,318	\$ 2,360

“Reliability support services (Cayuga)” represents the difference between actual expenses for reliability support services and the amount provided for in rates. This will be refunded to customers within the next year.

“Non by-passable charges” represent the non by-passable charge paid by all customers. An asset or liability is recognized resulting from differences between actual revenues and the underlying cost being recovered. This liability will be refunded to customers within the next year.

“Energy efficiency portfolio standard” represents the difference between revenue billed to customers through an energy efficiency charge and the costs of our energy efficiency programs as approved by the state authorities. This may be refunded to customers within the next year.

“Accrued removal obligations” represent the differences between asset removal costs recorded and amounts collected in rates for those costs. The amortization period is dependent upon the asset removal costs of underlying assets and the life of the utility plant.

“Asset sale gain account” represents the gain on NYSEG’s 2001 sale of its interest in Nine Mile Point 2 nuclear generating station. The net proceeds from the Nine Mile Point 2 nuclear generating station were placed in this account and will be used to benefit customers. The amortization period is five years following the approval of the proposal by the NYPSC.

“Carrying costs on deferred income tax bonus depreciation” represent the carrying costs benefit of increased accumulated deferred income taxes created by the change in tax law allowing bonus depreciation. The amortization period is five years following the approval of the proposal by the NYPSC.

“Economic development” represents the economic development program which enables NYSEG and RG&E to foster economic development through attraction, expansion, and retention of businesses within its service territory. If the level of actual expenditures for economic development allocated to NYSEG and RG&E varies in any rate year from the level provided for in rates, the difference is refunded to ratepayers. The amortization period is five years following the approval of the proposal by the NYPSC.

“Merger capital expense target customer credit” account was created as a result of NYSEG and RG&E not meeting certain capital expenditure requirements established in the order approving the purchase of Energy East by Iberdrola. The amortization period is five years following the approval of the proposal by the NYPSC.

“Pension and other postretirement benefits” represent the actuarial gains on other postretirement plans that will be reflected in customer rates when they are amortized and recognized in future expenses. Because no funds have yet been received for this a regulatory liability is not reflected within rate base. They also represent the difference between actual expense for pension and other postretirement benefits and the amount provided for in rates. Recovery of these amounts will be determined in future proceedings.

“Positive benefit adjustment” resulted from Iberdrola’s 2008 acquisition of Energy East. This is being used to moderate increases in rates. The amortization period is five years following the approval of the proposal by the NYPSC and included in the Ginna RSSA settlement.

“New York state tax rate change” represents excess funded accumulated deferred income tax balance caused by the 2014 New York state tax rate change from 7.1% to 6.5%. The amortization period is five years following the approval of the proposal by the NYPSC.

“Post term amortization” represents the revenue requirement associated with certain expired joint proposal amortization items. The amortization period is five years following the approval of the proposal by the NYPSC.

“Theoretical reserve flow thru impact” represents the differences from the rate allowance for applicable federal and state flow through impacts related to the excess depreciation reserve amortization. It also represents the carrying cost on the differences. The amortization period is five years following the approval of the proposal by the NYPSC.

“Merger-related rate credits” resulted from the acquisition of UIL. This is being used to moderate increases in rates. See Merger Settlement Agreement in Note 4 for further details. In the year ended December 31, 2016, \$20 million of rate credits was applied against customer bills.

“Excess generation service charge” represents deferred generation-related and non by-passable federally mandated congestion costs or revenues for future recovery from or return to customers. The amount fluctuates based upon timing differences between revenues collected from rates and actual costs incurred.

“Low Income Programs” represent various hardship and payment plan programs approved for recovery.

“Other” includes cost of removal being amortized through rates and various items subject to reconciliation including variable rate debt, Medicare subsidy benefits and stray voltage collections.

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Note 7. Goodwill and Intangible assets

Goodwill by reportable segment as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Networks	\$ 2,744	\$ 2,733
Renewables	380	380
Gas	—	—
Other (a)	—	2
Total	\$ 3,124	\$ 3,115

(a) Does not represent a reportable segment. It includes Corporate.

As of December 31, 2016, the gross amounts of goodwill were \$2,744 million, for Networks reportable segment, \$3,340 million for Renewables and Gas reportable segments and no goodwill for Corporate, (which does not represent a segment), with accumulated impairment losses of \$2,960 million for Renewables and Gas reporting segments. As of December 31, 2015, the gross amounts of goodwill were \$2,733 million, for Networks reportable segment, \$3,340 million for Renewables and \$2 million for Corporate, with accumulated impairment losses of \$2,960 million for Renewables and Gas reporting segments. During the year ended December 31, 2015 goodwill in Networks reportable segment increased by \$1,754 million due to acquisition of UIL based on preliminary allocation of the purchase price. During the year ended December 31, 2016, upon finalization of the valuation of assets acquired and liabilities assumed, goodwill in Networks reportable segment related to the acquisition of UIL increased by \$11 million to a total amount of \$1,765 million as of December 31, 2016 (See Note 4 – Acquisition of UIL – for further details).

During the year ended December 31, 2016, we reversed \$2 million of goodwill in Corporate as a result of the sale of our interest in equity investment (See Note 21).

Goodwill Impairment Assessment

For impairment testing purposes our reporting units are the same as operating segments, except for Networks, which contained three reporting units, Maine, New York and UIL. The goodwill for the Maine reporting unit resulted from the purchase of CMP by Energy East in 2000 and amounted to \$325 million. Separately, the goodwill for the New York reporting unit resulted primarily from the purchase of RG&E by Energy East in 2002 and amounted to \$654 million. The goodwill for the UIL reporting unit was generated from the acquisition of UIL on December 16, 2015 and amounted to \$1,765 million as of December 31, 2016, based on the finalized valuation of assets acquired and liabilities assumed.

Our annual impairment testing takes place as of October 1. Our step zero qualitative assessment involves evaluating key events and circumstances that could affect the fair value of our reporting units, as well as other factors. Events and circumstances evaluated include macroeconomic conditions, industry, regulatory and market considerations, cost factors and their effect on earnings and cash flows, overall financial performance as compared with projected results and actual results of relevant prior periods, other relevant entity specific events, and events affecting a reporting unit.

Our step one impairment testing includes various assumptions, primarily the discount rate, which is based on an estimate of our marginal, weighted average cost of capital, and forecasted cash flows. We test the reasonableness of the conclusions of our step one impairment testing using a range of discount rates and a range of assumptions for long term cash flows.

2016

We had no impairment of goodwill in 2016 as a result of our impairment testing.

Networks

Provided recent relevant events (acquisition of UIL in December 2015 and approval of the proposal by the NYPSC, see Note 4 and 5, respectively) we conducted a quantitative analysis (step one) in 2016. Based on the results of our step one impairment test the estimated fair value of each of the Networks reporting units was in excess of their respective carrying values.

Renewables

Based on the results of our step one impairment test for the Renewables reporting unit conducted in 2016, its estimated fair value was in excess of the carrying value. The assumptions used to estimate fair value were based on projections incorporated in our current operating plans as well as other available information. The current operating plans included significant assumptions and estimates associated with sales growth, profitability and related cash flows, along with cash flows associated with taxes and capital spending. The discount rate used to estimate fair value was risk adjusted in consideration of the economic conditions of the reporting unit. We also considered other assumptions that market participants may use. By their nature, projections are uncertain. Potential events and circumstances, such as declining wind energy output and prices obtained per MWh, changes in incentives established to promote renewable energies and increases in capital expenditures per MW could have an adverse effect on our assumptions.

2015

We had no impairment of goodwill in 2015 as a result of our impairment testing.

Networks

As a result of our step zero qualitative assessment, it was not more likely than not that the fair value of each of the Networks reporting units was less than its carrying amount and it was not necessary to perform the two-step goodwill impairment test. The step zero qualitative assessment was performed in 2015 considering the substantial excess of fair value over the carrying value that was demonstrated in the 2014 impairment test. The qualitative assessment considered key factors such as the level of interest rates, the regulatory environment including the allowed rate of return, and projections of future sales and capital spending. In 2015 the impairment testing of goodwill for Networks includes Maine and New York reporting units.

Renewables

Based on the results of our step one impairment test for the Renewables reporting unit conducted in 2015, its estimated fair value exceeded carrying value. The assumptions used to estimate fair value were based on projections incorporated in our current operating plans as well as other available information. The current operating plans included significant assumptions and estimates associated with sales growth, profitability and related cash flows, along with cash flows associated with taxes and capital spending. The discount rate used to estimate fair value was risk adjusted in consideration of the economic conditions of the reporting unit. We also considered other assumptions that market participants may use. By their nature, projections are uncertain. Potential events and circumstances, such as declining wind energy output and prices obtained per MWh, changes in incentives established to promote renewable energies and increases in capital expenditures per MW could have an adverse effect on our assumptions.

Intangible assets

Intangible assets include those assets acquired in business acquisitions and intangible assets acquired and developed from external third parties and from affiliated companies. Following is a summary of intangible assets:

As of December 31, 2016	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
(Millions)			
Gas Storage rights	\$ 319	\$ (120)	\$ 199
Wind development	587	(254)	333
Other	17	(11)	6
Total Intangible Assets	\$ 923	\$ (385)	\$ 538

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Notes to Consolidated Financial Statements (Continued)

As of December 31, 2015	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
(Millions)			
Gas Storage rights	\$ 324	\$ (116)	\$ 208
Wind development	584	(243)	341
Other	15	(8)	7
Total Intangible Assets	\$ 923	\$ (367)	\$ 556

Gas Storage rights are being amortized on a straight-line basis over a 40-year estimated life. Wind development costs, with the exception of future 'pipeline' development costs, are amortized on a straight-line basis in accordance with the life of the related assets. Amortization expense for the years ended December 31, 2016, 2015 and 2014 amounted to \$25 million, \$54 million and \$66 million, respectively. We believe our future cash flows will support the recoverability of our intangible assets.

We expect amortization expense for the five years subsequent to December 31, 2016, to be as follows:

Year ending December 31,	
(Millions)	
2017	\$ 16
2018	16
2019	18
2020	17
2021	21

As a result of writing off fully amortized intangible assets relating to Gas Storage rights, \$4.1 million and \$6.5 million were removed from both cost and accumulated amortization during the years ended December 31, 2016 and 2015, respectively.

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Note 8. Property, Plant and Equipment

Property, plant and equipment as of December 31, 2016, consisted of:

As of December 31, 2016	Regulated	Nonregulated	Total
(Millions)			
Electric generation, distribution, transmission and other	\$ 10,343	\$ 10,384	\$ 20,727
Natural gas transportation, distribution and other	4,803	613	5,416
Other common operating property	877	43	920
Total Property, Plant and Equipment in Service (a)	16,023	11,040	27,063
Total accumulated depreciation (b)	(3,970)	(3,016)	(6,986)
Total Net Property, Plant and Equipment in Service	12,053	8,024	20,077
Construction work in progress	979	492	1,471
Total Property, Plant and Equipment	\$ 13,032	\$ 8,516	\$ 21,548

- (a) Includes capitalized leases of \$208 million primarily related to electric generation, distribution, transmission and other.
(b) Includes accumulated amortization of capitalized leases of \$60 million.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Property, plant and equipment as of December 31, 2015, consisted of:

As of December 31, 2015 (Millions)	Regulated	Nonregulated	Total
Electric generation, distribution, transmission and other	\$ 11,506	\$ 10,058	\$ 21,564
Natural gas transportation, distribution and other	2,673	651	3,324
Other common operating property	817	40	857
Total Property, Plant and Equipment in Service (a)	14,996	10,749	25,745
Total accumulated depreciation (b)	(3,727)	(2,645)	(6,372)
Total Net Property, Plant and Equipment in Service	11,269	8,104	19,373
Construction work in progress	1,094	244	1,338
Total Property, Plant and Equipment	\$ 12,363	\$ 8,348	\$ 20,711

(a) Includes capitalized leases of \$178 million primarily related to electric generation, distribution, transmission and other.

(b) Includes accumulated amortization of capitalized leases of \$53 million.

Capitalized interest costs were \$20 million, \$13 million, and \$12 million for the years ended December 31, 2016, 2015 and 2014, respectively.

There was no impairment or write off recorded during the year ended December 31, 2016. We impaired or wrote off amounts of \$12 million and \$24 million for the years ended December 31, 2015 and 2014, respectively, resulting from reassessment of the economic feasibility of our various Renewables development projects in construction.

Depreciation expense for the years ended December 31, 2016, 2015 and 2014, amounted to \$779 million, \$641 million and \$563 million, respectively.

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Note 9. Asset retirement obligations

AROs are intended to meet the costs for dismantling and restoration work that we have committed to carry out at our operational facilities.

The reconciliation of ARO carrying amounts for the years ended December 31, 2016 and 2015 consisted of:

(Millions)	
As of December 31, 2014	\$ 234
Liabilities settled during the year	(16)
Liabilities incurred during the year	—
Accretion expense	14
Revisions in estimated cash flows	(48)
As of December 31, 2015	\$ 184
Liabilities settled during the year	(7)
Liabilities incurred during the year	3
Accretion expense	10
Revisions in estimated cash flows	(29)
As of December 31, 2016	\$ 161

Several of the wind generation facilities have restricted cash for purposes of settling AROs. Restricted cash related to AROs was \$2.0 million and \$1.8 million as of December 31, 2016 and 2015, respectively. These amounts have been included as other non-current assets in the consolidated balance sheets. Accretion expenses are included in "Operations and maintenance" in the consolidated statements of income.

We have AROs for which a liability has not been recognized because the fair value cannot be reasonably estimated due to indeterminate settlement dates, including for the removal of hydroelectric dams due to structural inadequacy or for decommissioning;

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Notes to Consolidated Financial Statements (Continued)

the removal of property upon termination of an easement, right-of-way or franchise; and costs for abandonment of certain types of gas mains.

As a result of the revision of the estimated useful lives of wind power station assets in 2016 updated weighted average lease terms were used to value AROs. This revision resulted in lower discounted AROs, which we estimate will result in approximately \$3 million annual reduction in expense going forward.

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Note 10. Debt

Long-term debt as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	Maturity Dates	2016		2015	
		Balances	Interest Rates	Balances	Interest Rates
First mortgage bonds - fixed (a)	2018-2045	\$ 1,752	3.07%-10.60%	\$ 1,815	3.07%-10.60%
Unsecured pollution control notes - fixed	2020	200	2.00%-2.375%	200	2.00%-2.375%
Unsecured pollution control notes – variable	2032	62	1.32%	219	0.195%-1.181%
Other various non-current debt - fixed	2017-2045	2,772	2.89%-10.48%	2,440	2.89%-10.48%
Obligations under capital leases	2017-2023	104	4%-4.44%	87	4%-4.44%
Unamortized debt issuance costs and discount		(31)		(25)	
Total Debt		4,859		4,736	
Less: debt due within one year, included in current liabilities		349		206	
Total Non-current Debt		\$ 4,510		\$ 4,530	

(a) The first mortgage bonds have pledged collateral of substantially all the respective utility's in service properties of approximately \$5,886 million.

In November 2016, NYSEG issued \$500 million in aggregate principal amount of 3.25% notes maturing in 2026. The proceeds of the offering were used to reduce balances owed to AVANGRID under an intercompany revolving demand note agreement, to refinance \$100 million of NYSEG debt that matured on December 15, 2016, and to repurchase, at par value, \$96 million of outstanding auction rate securities on December 19, 2016.

On December 19, 2016, AVANGRID, its subsidiary, UIL, and The Bank of New York Mellon, entered into a supplemental indenture, pursuant to which AVANGRID assumed from UIL all the obligations under the indenture dated as of October 7, 2010 between UIL and The Bank of New York Mellon and all obligations relating to \$450 million in aggregate principal amount of 4.625% notes due 2020 issued by the predecessor company to UIL in 2010.

On December 27, 2016, UI repurchased, at par value, \$64 million of auction rate securities using cash on hand and borrowing under an intercompany demand note agreement with AVANGRID.

Non-current debt, including sinking fund obligations and capital lease payments, due over the next five years consists of:

(Millions)	2017	2018	2019	2020	2021	Total
\$	349	\$ 180	\$ 358	\$ 723	\$ 308	\$ 1,918

We make certain standard covenants to lenders in our third-party debt agreements, including, in certain agreements, covenants regarding the ratio of indebtedness to total capitalization. A breach of any covenant in the existing credit facilities or the agreements governing our other indebtedness would result in an event of default. Certain events of default may trigger automatic acceleration. Other events of default may be remedied by the borrower within a specified period or waived by the lenders and, if not remedied or waived, give the lenders the right to accelerate. Neither we nor any of our subsidiaries were in breach of covenants or of any obligation that could trigger the early redemption of our debt as of December 31, 2016 and 2015.

Fair Value of Debt

The estimated fair value of debt amounted to \$5,204 million and \$4,985 million as of December 31, 2016 and 2015, respectively. The estimated fair value was determined, in most cases, by discounting the future cash flows at market interest rates. The interest rate curve used to make these calculations takes into account the risks associated with the electricity industry and the credit ratings of the borrowers in each case. The fair value hierarchy pertaining to the fair value of debt is considered as Level 2, except for unsecured pollution control notes-variable with a fair value of \$61 million and \$204 million as of December 31, 2016 and 2015, respectively, which are considered Level 3. The fair value of these unsecured pollution control notes-variable are determined using unobservable interest rates as the market for these notes is inactive.

Short-term Debt

Outstanding Notes Payable

AVANGRID had \$161 million and \$163 million of notes payable as of December 31, 2016 and 2015, respectively. As of December 31, 2015, the balance consisted of \$160 million of borrowings under the UIL credit facility and \$3 million in other notes payable. As of December 31, 2016 the balance consisted of \$150 million of commercial paper, \$10 million in notes payable to affiliates and \$1 million in other notes payable. AVANGRID's commercial paper program was established on May 13, 2016, has a limit of \$1 billion and is backstopped by the AVANGRID credit facility described below.

AVANGRID Credit Facility

On April 5, 2016, AVANGRID and its subsidiaries, NYSEG, RG&E, CMP, UI, CNG, SCG and BGC entered into a revolving credit facility with a syndicate of banks, or the AVANGRID credit facility, that provides for maximum borrowings of up to \$1.5 billion in the aggregate.

Under the terms of the AVANGRID credit facility, each joint borrower has a maximum borrowing entitlement, or sublimit, which can be periodically adjusted to address specific short-term capital funding needs, subject to the maximum limit established by the banks. AVANGRID's maximum sublimit is \$1 billion, NYSEG, RG&E, CMP and UI have maximum sublimits of \$250 million, CNG, and SCG have maximum sublimits of \$150 million and BGC has a maximum sublimit of \$25 million. Under the AVANGRID credit facility, each of the borrowers will pay an annual facility fee that is dependent on their credit rating. The facility fees will range from 10.0 to 17.5 basis points. The maturity date for the AVANGRID credit facility is April 5, 2021.

As a condition of closing on the AVANGRID credit facility, three existing credit facilities were terminated: the AVANGRID revolving credit facility, which provided for maximum borrowings of up to \$300M and had a scheduled termination date in May 2019; the joint utility revolving credit facility, to which NYSEG, RG&E and CMP were parties, which provided for borrowings of up to \$600 million and which had a scheduled termination date in July 2018; the UIL credit facility, to which UIL, UI, SCG, CNG and BG were parties, which provided for maximum borrowings of \$400 million and which had a scheduled termination date in November 2016.

As of December 31, 2016 the AVANGRID credit facility is undrawn, but the capacity to borrow under the facility is reduced by the amount of outstanding commercial paper, leaving available credit of \$1,350 million.

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Note 11. Fair Value of Financial Instruments and Fair Value Measurements

We determine the fair value of our derivative assets and liabilities and available for sale non-current investments associated with Networks' activities utilizing market approach valuation techniques:

- We measure the fair value of our noncurrent investments using quoted market prices in active markets for identical assets and include the measurements in Level 1. The available for sale investments which are Rabbi Trusts for deferred compensation plans primarily consist of money market funds and are included in Level 1 fair value measurement.
- NYSEG and RG&E enter into electric energy derivative contracts to hedge the forecasted purchases required to serve their electric load obligations. They hedge their electric load obligations using derivative contracts that are settled based upon Locational Based Marginal Pricing published by the New York Independent System Operator (NYISO). RG&E hedges all its electric load obligations using contracts for a NYISO location where an active market exists. The forward market prices used to value RG&E's open electric energy derivative contracts are based on quoted prices in active markets for identical assets or liabilities with no adjustment required and therefore we include the fair value in Level 1. NYSEG has a combination of Level 1 and Level 2 fair values for its electric energy derivative contracts. A portion of its electric load obligations are exchange traded contracts in a NYISO location where an active market exists. The forward market prices used to value NYSEG's open electric energy derivative contracts are based on quoted prices in active markets for identical assets or liabilities with no adjustment required and therefore we include the fair value in Level 1. A portion of NYSEG's electric energy derivative contracts are non-exchange traded contracts that are valued using inputs that are directly observable for the asset or liability, or indirectly observable through corroboration with observable market data and therefore we include the fair value in Level 2.
- NYSEG and RG&E enter into natural gas derivative contracts to hedge their forecasted purchases required to serve their natural gas load obligations. The forward market prices used to value open natural gas derivative contracts are exchange-based prices for the identical derivative contracts traded actively on the New York Mercantile Exchange (NYMEX). Because we use prices quoted in an active market we include the fair value measurements in Level 1.
- NYSEG, RG&E and CMP enter into fuel derivative contracts to hedge their unleaded and diesel fuel requirements for their fleet vehicles. Exchange-based forward market prices are used but because an unobservable basis adjustment is added to the forward prices we include the fair value measurement for these contracts in Level 3.
- Contracts for differences (CfDs) entered into by UI are marked-to-market based on a probability-based expected cash flow analysis that is discounted at risk-free interest rates and an adjustment for non-performance risk using credit default swap rates. We include the fair value measurement for these contracts in Level 3 (See Note 12 for further discussion on CfDs).

We determine the fair value of our derivative assets and liabilities associated with Renewables and Gas activities utilizing market approach valuation techniques. Exchange-traded transactions, such as NYMEX futures contracts, that are based on quoted market prices in active markets for identical product with no adjustment are included in the Level 1 fair value. Contracts with delivery periods of two years or less which are traded in active markets and are valued with or derived from observable market data for identical or similar products such as over-the-counter NYMEX, foreign exchange swaps, and fixed price physical and basis and index trades are included in Level 2 fair value. Contracts with delivery periods exceeding two years or that have unobservable inputs or inputs that cannot be corroborated with market data for identical or similar products are included in Level 3 fair value. The unobservable inputs include historical volatilities and correlations for tolling arrangements and extrapolated values for certain power swaps. The valuation for this category is based on our judgments about the assumptions market participants would use in pricing the asset or liability since limited market data exists.

The carrying amounts for cash and cash equivalents, accounts receivable, accounts payable, notes payable and interest accrued approximate their estimated fair values and are considered as Level 1.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The financial instruments measured at fair value as of December 31, 2016 and 2015 consisted of:

As of December 31, 2016 (Millions)	Level 1	Level 2	Level 3	Netting	Total
Securities portfolio (available for sale)	\$ 40	\$ —	\$ —	\$ —	\$ 40
Derivative assets					
Derivative financial instruments - power	11	48	58	(42)	75
Derivative financial instruments - gas	180	32	104	(239)	77
Contracts for differences	—	—	20	—	20
Total	191	80	182	(281)	172
Derivative liabilities					
Derivative financial instruments - power	(24)	(27)	(3)	39	(15)
Derivative financial instruments - gas	(213)	(34)	(53)	257	(43)
Contracts for differences	—	—	(95)	—	(95)
Total	\$ (237)	\$ (61)	\$ (151)	\$ 296	\$ (153)
As of December 31, 2015 (Millions)	Level 1	Level 2	Level 3	Netting	Total
Securities portfolio (available for sale)	\$ 39	\$ —	\$ —	\$ —	\$ 39
Derivative assets					
Derivative financial instruments - power	10	81	48	(71)	68
Derivative financial instruments - gas	267	25	68	(280)	80
Contracts for differences	—	—	29	—	29
Total	277	106	145	(351)	177
Derivative liabilities					
Derivative financial instruments - power	(43)	(12)	(14)	55	(14)
Derivative financial instruments - gas	(193)	(40)	(51)	212	(72)
Contracts for differences	—	—	(96)	—	(96)
Derivative financial instruments - other	—	—	(3)	—	(3)
Total	\$ (236)	\$ (52)	\$ (164)	\$ 267	\$ (185)

The reconciliations of changes in the fair value of financial instruments based on Level 3 inputs for the years ended December 31, 2016, 2015 and 2014 consisted of:

(Millions)	2016	2015	2014
Fair value as of January 1,	\$ (19)	\$ 57	\$ 53
Gains for the year recognized in operating revenues	67	33	11
Losses for the year recognized in operating revenues	—	(8)	(1)
Total gains or losses for the period recognized in operating revenues	67	25	10
Gains recognized in OCI	1	2	—
Losses recognized in OCI	—	(3)	(3)
Total gains or losses recognized in OCI	1	(1)	(3)
Net change recognized in regulatory assets and liabilities	(8)	—	—
Purchases	3	(73)	14
Settlements	(9)	(14)	(26)
Transfers out of Level 3 (a)	(4)	(13)	9
Fair value as of December 31,	\$ 31	\$ (19)	\$ 57
Gains for the year included in operating revenues attributable to the change in unrealized gains relating to financial instruments still held at the reporting date	\$ 67	\$ 25	\$ 10

(a) Transfers out of Level 3 were the result of increased observability of market data.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

For assets and liabilities that are recognized in the consolidated financial statements at fair value on a recurring basis, we determine whether transfers have occurred between levels in the hierarchy by re-assessing categorization based on the lowest level of input that is significant to the fair value measurement as a whole at the end of each reporting period. There have been no transfers between Level 1 and Level 2 during the years reported.

Level 3 Fair Value Measurement

The tables below illustrate the significant sources of unobservable inputs used in the fair value measurement of our Level 3 derivatives, and the variability in prices for those transactions classified as Level 3 derivatives.

As of December 31, 2016							
Instruments	Instrument Description	Valuation Technique	Valuation Inputs	Index	Avg.	Max.	Min.
Fixed price power and gas swaps with delivery period > two years	Transactions with delivery periods exceeding two years	Transactions are valued against forward market prices on a discounted basis	Observable and extrapolated forward gas and power prices not all of which can be corroborated by market data for identical or similar products	NYMEX (\$/MMBtu) SP15 (\$/MWh) Mid C (\$/MWh) Cinergy (\$/MWh)	\$ 4.27 \$ 44.23 \$ 35.44 \$ 36.40	\$ 7.37 \$ 80.28 \$ 83.93 \$ 77.49	\$ 1.64 \$ 14.25 \$ 3.60 \$ 18.53

Our Level 3 valuations primarily consist of NYMEX gas and fixed price power swaps with delivery periods extending through 2024 and 2032, respectively. The gas swaps are used to hedge both gas inventory in firm storage and merchant wind positions. The power swaps are used to hedge merchant wind production in the West and Midwest.

We performed a sensitivity analysis around the Level 3 gas and power positions to changes in the valuation inputs. Given the nature of the transactions in Level 3, the only material input to the valuation is the market price of gas or power for transactions with delivery periods exceeding two years. The fixed price power swaps are economic hedges of future power generation, with decreases in power prices resulting in unrealized gains and increases in power prices resulting in unrealized losses. The gas swaps are economic hedges of gas storage inventory and merchant generation, with decreases in gas prices resulting in unrealized gains and increases in gas prices resulting in unrealized losses. As all transactions are economic hedges of the underlying position, any changes in the fair value of these transactions will be offset by changes in the anticipated purchase/sales price of the underlying commodity.

Two elements of the analytical infrastructure employed in valuing transactions are the price curves used in calculation of market value and the models themselves. We maintain and document authorized trading points and associated forward price curves, and we develop and document models used in valuation of the various products.

Transactions are valued in part on the basis of forward price, correlation, and volatility curves. We maintain and document descriptions of these curves and their derivations. Forward price curves used in valuing the transactions are applied to the full duration of the transaction.

The determination of fair value of the CfDs (see Note 12 for further details on CfDs) was based on a probability-based expected cash flow analysis that was discounted at risk-free interest rates, as applicable, and an adjustment for non-performance risk using credit default swap rates. Certain management assumptions were required, including development of pricing that extended over the term of the contracts. We believe this methodology provides the most reasonable estimates of the amount of future discounted cash flows associated with the CfDs. Additionally, on a quarterly basis, we perform analytics to ensure that the fair value of the derivatives is consistent with changes, if any, in the various fair value model inputs. Significant isolated changes in the risk of non-performance, the discount rate or the contract term pricing would result in an inverse change in the fair value of the CfDs. Additional quantitative information about Level 3 fair value measurements of the CfDs is as follows:

Unobservable Input	Range at December 31, 2016
Risk of non-performance	0.68% - 0.81%
Discount rate	1.47% - 2.45%
Forward pricing (\$ per MW)	\$3.15 - \$9.55

Note 12. Derivative Instruments and Hedging

Our Networks, Renewables and Gas activities are exposed to certain risks, which are managed by using derivative instruments. All derivative instruments are recognized as either assets or liabilities at fair value on the consolidated balance sheets in accordance with the accounting requirements concerning derivative instruments and hedging activities.

(a) Networks activities

NYSEG and RG&E have an electric commodity charge that passes through rates costs for the market price of electricity. They use electricity contracts, both physical and financial, to manage fluctuations in electricity commodity prices in order to provide price stability to customers. We include the cost or benefit of those contracts in the amount expensed for electricity purchased when the related electricity is sold. We record changes in the fair value of electric hedge contracts to derivative assets and / or liabilities with an offset to regulatory assets and / or regulatory liabilities, in accordance with the accounting requirements concerning regulated operations.

The amount recognized in regulatory assets for electricity derivatives was a loss of \$12.3 million and \$34.3 million as of December 31, 2016 and 2015, respectively. The loss reclassified from regulatory assets into income, which is included in electricity purchased, was \$66.7 million, \$46.9 million, and \$21.3 million for the years ended December 31, 2016, 2015 and 2014, respectively.

NYSEG and RG&E have purchased gas adjustment clauses that allow them to recover through rates any changes in the market price of purchased natural gas, substantially eliminating their exposure to natural gas price risk. NYSEG and RG&E use natural gas futures and forwards to manage fluctuations in natural gas commodity prices to provide price stability to customers. We include the cost or benefit of natural gas futures and forwards in the commodity cost that is passed on to customers when the related sales commitments are fulfilled. We record changes in the fair value of natural gas hedge contracts to derivative assets and or liabilities with an offset to regulatory assets and or regulatory liabilities in accordance with the accounting requirements for regulated operations.

The amount recognized in regulatory assets for natural gas hedges was a gain of \$3.5 million and a loss of \$3.1 million as of December 31, 2016 and 2015, respectively. The loss reclassified from regulatory assets into income, which is included in natural gas purchased, was \$1.9 million, \$6.3 million, and \$2.2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Pursuant to PURA, UI and Connecticut's other electric utility, CL&P, each executed two long-term CfDs with certain incremental capacity resources, each of which specifies a capacity quantity and a monthly settlement that reflects the difference between a forward market price and the contract price. The costs or benefits of each contract will be paid by or allocated to customers and will be subject to a cost-sharing agreement between UI and CL&P pursuant to which approximately 20% of the cost or benefit is borne by or allocated to UI customers and approximately 80% is borne by or allocated to CL&P customers.

PURA has determined that costs associated with these CfDs will be fully recoverable by UI and CL&P through electric rates, and UI has deferred recognition of costs (a regulatory asset) or obligations (a regulatory liability). For those CfDs signed by CL&P, UI records its approximate 20% portion pursuant to the cost-sharing agreement noted above. As of December 31, 2016, UI has recorded a gross derivative asset of \$19 million (\$0 of which is related to UI's portion of the CfD signed by CL&P), a regulatory asset of \$75 million, a gross derivative liability of \$95 million (\$70 million of which is related to UI's portion of the CfD signed by CL&P) and a regulatory liability of \$0. As of December 31, 2015, UI has recorded a gross derivative asset of \$29 million (\$1 million of which is

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Notes to Consolidated Financial Statements (Continued)

related to UI's portion of the CfD signed by CL&P), a regulatory asset of \$68 million, a gross derivative liability of \$96 million (\$61 million of which is related to UI's portion of the CfD signed by CL&P) and a regulatory liability of \$1 million.

The unrealized gains and losses from fair value adjustments to these derivatives, which are recorded in regulatory assets or regulatory liabilities, for the year ended December 31, 2016 and for the period from December 17, 2015 to December 31, 2015, respectively, were as follows:

(Millions)	Year Ended December 31, 2016	Period from December 17, 2015 to December 31, 2015
Regulatory Assets - Derivative liabilities	\$ 7	\$ 1
Regulatory Liabilities - Derivative assets	\$ 1	\$ —

The net notional volumes of the outstanding derivative instruments associated with Networks activities as of December 31, 2016 and 2015, respectively, consisted of:

As of December 31, (Millions)	2016	2015
Wholesale electricity purchase contracts (MWh)	5.6	6.7
Natural gas purchase contracts (Dth)	5.8	4.8
Fleet fuel purchase contracts (Gallons)	2.3	3.8

The offsetting of derivatives, location in the consolidated balance sheet and amounts of derivatives associated with Networks activities as of December 31, 2016 and 2015, respectively, consisted of:

As of December 31, 2016 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 19	\$ 16	\$ 7	\$ 5
Derivative liabilities	(7)	(5)	(40)	(79)
	12	11	(33)	(74)
Designated as hedging instruments				
Derivative assets	—	—	—	—
Derivative liabilities	—	—	—	—
	—	—	—	—
Total derivatives before offset of cash collateral	12	11	(33)	(74)
Cash collateral receivable	—	—	10	2
Total derivatives as presented in the balance sheet	\$ 12	\$ 11	\$ (23)	\$ (72)
As of December 31, 2015 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 11	\$ 18	\$ —	\$ —
Derivative liabilities	—	—	(28)	(68)
	11	18	(28)	(68)
Designated as hedging instruments				
Derivative assets	3	6	3	6
Derivative liabilities	(3)	(6)	(42)	(7)
	—	—	(39)	(1)
Total derivatives before offset of cash collateral	11	18	(67)	(69)
Cash collateral receivable	—	—	37	—
Total derivatives as presented in the balance sheet	\$ 11	\$ 18	\$ (30)	\$ (69)

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The effect of derivatives in cash flow hedging relationships on OCI and income for the years ended December 31, 2016, 2015 and 2014, respectively, consisted of:

Year Ended December 31, (Millions)	(Loss) Recognized in OCI on Derivatives Effective Portion (a)	Location of Loss Reclassified from Accumulated OCI into Income Effective Portion (a)	Loss Reclassified from Accumulated OCI into Income
2016			
Interest rate contracts	\$ —	Interest expense	\$ 8
Commodity contracts	—	Operating expenses	2
Total	\$ —		\$ 10
2015			
Interest rate contracts	\$ —	Interest expense	\$ 9
Commodity contracts	(3)	Operating expenses	3
Total	\$ (3)		\$ 12
2014			
Interest rate contracts	\$ —	Interest expense	\$ 9
Commodity contracts	(4)	Operating expenses	1
Total	\$ (4)		\$ 10

(a) Changes in OCI are reported in pre-tax dollars, the reclassified amounts of commodity contracts are included within "Purchase power, natural gas and fuel used" line item within operating expenses in the consolidated statements of income.

The net loss in accumulated OCI related to previously settled forward starting swaps and accumulated amortization is \$76.7 million, \$84.9 million, and \$93.5 million for the years ended December 31, 2016, 2015 and 2014, respectively. We recorded \$8.0 million, \$8.6 million, and \$8.9 million in net derivative losses related to discontinued cash flow hedges for the years ended December 31, 2016, 2015 and 2014, respectively. We will amortize approximately \$8.0 million of discontinued cash flow hedges in 2017. During the years ended December 31, 2016, 2015 and 2014, there was no ineffective portion for cash flow hedges.

The unrealized loss of \$0.4 million on hedge derivatives is reported in OCI because the forecasted transaction is considered to be probable as of December 31, 2016. We expect that \$0.4 million of those losses will be reclassified into earnings within the next twelve months. The maximum length of time over which we are hedging our exposure to the variability in future cash flows for forecasted fleet fuel transactions is twelve months.

(b) Renewables and Gas activities

We sell fixed-price gas and power forwards to hedge our merchant wind assets from declining commodity prices for our Renewables business. We also purchase fixed-price gas and basis swaps and sell fixed-price power in the forward market to hedge the spark spread or heat rate of our merchant thermal assets. We also enter into tolling arrangements to sell the output of our thermal generation facilities.

Our gas business purchases and sells both fixed-price gas and basis swaps to hedge the value of contracted storage positions. The intent of entering into these swaps is to fix the margin of gas injected into storage for subsequent resale in future periods. We also enter into basis swaps to hedge the value of our contracted transport positions. The intent of buying and selling these basis swaps is to fix the location differential between the price of gas at the receipt and delivery point of the contracted transport in future periods.

Both Renewables and Gas have proprietary trading operations that enter into fixed-price power and gas forwards in addition to basis swaps. The intent is to speculate on fixed-price commodity and basis volatility in the U.S. commodity markets.

Renewables will periodically designate derivative contracts as cash flow hedges for both its thermal and wind portfolios. To the extent that the derivative contracts are effective in offsetting the variability of cash flows associated with future power sales and gas purchases, the fair value changes are recorded in OCI. Any hedge ineffectiveness is recorded in current period earnings. For thermal operations, Renewables will periodically designate both fixed price NYMEX gas contracts and AECO basis swaps that hedge the fuel requirements of its Klamath facility. Renewables will also designate fixed price power swaps at various locations in the U.S. market to hedge future power sales from its Klamath facility and various wind farms.

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Notes to Consolidated Financial Statements (Continued)

Gas also periodically designates NYMEX fixed price derivative contracts as cash flow hedges related to its firm storage trading activities. To the extent that the derivative contracts are effective in offsetting the variability of cash flows associated with future gas sales and purchases, the fair value changes are recorded in OCI. Any hedge ineffectiveness is recorded in current period earnings. Derivative contracts entered into to hedge the gas transport trading activities are not designated as cash flow hedges, with all changes in fair value of such derivative contracts recorded in current period earnings.

The net notional volumes of outstanding derivative instruments associated with Renewables and Gas activities as of December 31, 2016 and 2015, respectively, consisted of:

As of December 31, (MWh/Dth in Millions)	2016	2015
Wholesale electricity purchase contracts	3	3
Wholesale electricity sales contracts	7	6
Foreign exchange forward purchase contracts	—	4
Natural gas and other fuel purchase contracts	329	332
Financial power contracts	8	7
Basis swaps - purchases	49	67
Basis swaps - sales	45	80

The fair values of derivative contracts associated with Renewables and Gas activities as of December 31, 2016 and 2015, respectively, consisted of:

As of December 31, (Millions)	2016	2015
Wholesale electricity purchase contracts	\$ (2)	\$ (13)
Wholesale electricity sales contracts	6	35
Foreign exchange forward purchase contracts	—	(1)
Natural gas and other fuel purchase contracts	30	10
Financial power contracts	56	32
Basis swaps- purchases	3	1
Basis swaps- sales	(2)	(2)
Total	\$ 91	\$ 62

The offsetting of derivatives, location in the consolidated balance sheet and amounts of derivatives associated with Renewables and Gas activities as of December 31, 2016 and 2015, respectively, consisted of:

As of December 31, 2016 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 198	\$ 108	\$ 78	\$ 7
Derivative liabilities	(118)	(4)	(132)	(16)
	80	104	(54)	(9)
Designated as hedging instruments				
Derivative assets	25	4	—	—
Derivative liabilities	(1)	—	(39)	(21)
	24	4	(39)	(21)
Total derivatives before offset of cash collateral	104	108	(93)	(30)
Cash collateral receivable (payable)	(17)	(46)	41	24
Total derivatives as presented in the balance sheet	\$ 87	\$ 62	\$ (52)	\$ (6)

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Notes to Consolidated Financial Statements (Continued)

As of December 31, 2015 (Millions)	Current Assets	Noncurrent Assets	Current Liabilities	Noncurrent Liabilities
Not designated as hedging instruments				
Derivative assets	\$ 186	\$ 113	\$ 117	\$ 4
Derivative liabilities	(85)	(14)	(169)	(29)
	101	99	(52)	(25)
Designated as hedging instruments				
Derivative assets	56	13	—	—
Derivative liabilities	—	—	(9)	—
	56	13	(9)	—
Total derivatives before offset of cash collateral	157	112	(61)	(25)
Cash collateral receivable (payable)	(80)	(41)	—	—
Total derivatives as presented in the balance sheet	\$ 77	\$ 71	\$ (61)	\$ (25)

The effect of trading and non-trading derivatives, respectively, associated with Renewables and Gas activities for the years ended December 31, 2016, 2015 and 2014 consisted of:

Years Ended December 31, (Millions)	2016	2015	2014
Wholesale electricity purchase contracts	\$ 3	\$ 6	\$ (9)
Wholesale electricity sales contracts	(7)	(5)	9
Financial power contracts	4	—	(2)
Financial and natural gas contracts	(22)	(26)	125
Total (Loss) Gain	\$ (22)	\$ (25)	\$ 123

Years Ended December 31, (Millions)	2016	2015	2014
Wholesale electricity purchase contracts	\$ 9	\$ (8)	\$ (8)
Wholesale electricity sales contracts	(20)	(5)	15
Financial power contracts	(10)	24	30
Natural gas and other fuel purchase contracts	34	18	(1)
Total Gain	\$ 13	\$ 29	\$ 36

Such gains and losses are included in “Operating revenues” and in “Purchased power, natural gas and fuel used” operating expenses in the consolidated statements of income, depending upon the nature of the transaction.

In 2015 we began designating those derivatives contracts at Renewables and Gas businesses that qualify as hedges. This designation was made prospectively, and in accordance with all the requirements of hedge accounting. The effect of derivatives in cash flow hedging relationships on OCI and income for the years ended December 31, 2016 and 2015 consisted of:

Year Ended December 31, (Millions)	(Loss) Gain Recognized in OCI on Derivatives Effective Portion (a)	Location of Gain Reclassified from Accumulated OCI into Income Effective Portion (a)	(Gain) Reclassified from Accumulated OCI into Income
2016			
Commodity contracts	\$ (42)	Revenues	\$ (43)
	\$ (42)		\$ (43)
2015			
Commodity contracts	\$ 57	Revenues	\$ (2)
Total	\$ 57		\$ (2)

(a) Changes in OCI are reported on a pre-tax basis.

Amounts will be reclassified from accumulated OCI into income in the period during which the transaction being hedged affects earnings or when it becomes probable that a forecasted transaction being hedged would not occur. Notwithstanding future changes in prices, approximately \$13.6 million of losses included in accumulated OCI at December 31, 2016 is expected to be reclassified into earnings within the next 12 months. During the years ended December 31, 2016 and 2015, we recorded a net loss of \$6.8 million and a net gain \$4.8 million, respectively, in earnings as a result of ineffectiveness from cash flow hedges. We recorded \$0.4 million and \$2.3 million in net derivative gain related to discontinued cash flow hedge for the years ended December 31, 2016 and 2015.

(c) Counterparty credit risk management

NYSEG and RG&E face risks related to counterparty performance on hedging contracts due to counterparty credit default. We have developed a matrix of unsecured credit thresholds that are dependent on the counterparty's or the counterparty's guarantor's applicable credit rating, normally Moody's or Standard & Poor's. When our exposure to risk for a counterparty exceeds the unsecured credit threshold, the counterparty is required to post additional collateral or we will no longer transact with the counterparty until the exposure drops below the unsecured credit threshold.

The wholesale power supply agreements of UI contain default provisions that include required performance assurance, including certain collateral obligations, in the event that UI's credit rating on senior debt were to fall below investment grade. If such an event had occurred as of December 31, 2016, UI would have had to post an aggregate of approximately \$12.8 million in collateral.

We have various master netting arrangements in the form of multiple contracts with various single counterparties that are subject to contractual agreements that provide for the net settlement of all contracts through a single payment. Those arrangements reduce our exposure to a counterparty in the event of default on or termination of any single contract. For financial statement presentation purposes, we offset fair value amounts recognized for derivative instruments and fair value amounts recognized for the right to reclaim or the obligation to return cash collateral arising from derivative instruments executed with the same counterparty under a master netting arrangement. The amounts of cash collateral under master netting arrangements that have not been offset against net derivative positions were \$20 million and \$11 million as of December 31, 2016 and 2015, respectively. Derivative instruments settlements and collateral payments are included in "Other assets" and "Other liabilities" of operating activities in the consolidated statements of cash flows.

Certain of our derivative instruments contain provisions that require us to maintain an investment grade credit rating on our debt from each of the major credit rating agencies. If our debt were to fall below investment grade, we would be in violation of those provisions and the counterparties to the derivative instruments could request immediate payment or demand immediate and ongoing full overnight collateralization on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit risk related contingent features that are in a liability position as of December 31, 2016 is \$12 million, for which we have posted collateral.

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Note 13. Commitments and Contingent Liabilities

We are party to various legal disputes arising as part of our normal business activities. We do not provide for accrual of legal costs expected to be incurred in connection with a loss contingency.

MNG Rate Case

On March 5, 2015, MNG filed a rate case in order to further recover future investments and provide safe and adequate service.

On May 3, 2016, all active parties to the case filed a stipulation that settled all matters at issue in the case and reflected a 10-year rate plan through April 30, 2026. The MPUC approved the stipulation on May 17, 2016, for new rates effective June 1, 2016. The settlement structure for non-Augusta customers includes a 34.6% delivery revenue increase over five years with an allowed 9.55% ROE and 50% common equity ratio. The settlement structure for Augusta customers includes a 10-year rate plan with existing Augusta customers being charged rates equal to non-Augusta customers plus a surcharge that increases annually for five years. New Augusta customers will have rates set based on an alternate fuel market model. In year seven of the rate plan MNG will submit a cost of service filing for the Augusta area to determine if the rate plan should continue. This cost of service filing will exclude \$15 million of initial 2012/2013 gross plant investment, however the stipulation allows for accelerated depreciation of these assets. If the Augusta area's cost of service filing illustrates results above a 14.55% ROE then the rate plan may cease, otherwise the rate plan would continue. A disallowance for the initial 2012/2013 gross plant investment is not part of the approved stipulation. The reserve of \$6 million for this case was reversed in May 2016.

Transmission - ROE Complaint – CMP and UI

On September 30, 2011, the Massachusetts Attorney General, Massachusetts Department of Public Utilities, Connecticut Public Utilities Regulatory Authority, New Hampshire Public Utilities Commission, Rhode Island Division of Public Utilities and Carriers, Vermont Department of Public Service, numerous New England consumer advocate agencies and transmission tariff customers collectively filed a complaint (Complaint I) with the FERC pursuant to sections 206 and 306 of the Federal Power Act. The filing parties seek an order from the FERC reducing the 11.14% base return on equity used in calculating formula rates for transmission service under the ISO-New England Open Access Transmission Tariff (OATT) to 9.2%. CMP and UI are New England Transmission Owners (NETOs) with assets and service rates that are governed by the OATT and will thereby be affected by any FERC order resulting from the filed complaint.

On June 19, 2014, the FERC issued its decision in Complaint I, establishing a methodology and setting an issue for a paper hearing. On October 16, 2014, FERC issued its final decision in the Complaint I setting the base ROE at 10.57%, and a maximum total ROE of 11.74% (base plus incentive ROE) for the October 2011 – December 2012 period as well as prospectively from October 16, 2014 and ordered the NETOs to file a refund report. On November 17, 2014 the NETOs filed a refund report.

On March 3, 2015, the FERC issued an order on requests for rehearing of its October 16, 2014 decision. The March order upheld the FERC's June 19, 2014 decision and further clarified that the 11.74% ROE cap will be applied on a project specific basis and not on a transmission owner's total average return. In June 2015 the NETOs filed an appeal in the U.S. Court of Appeals for the District of Columbia of the FERC's final order. The appeal is currently pending, and we cannot predict the outcome of this appeal.

On December 26, 2012, a second, ROE complaint (Complaint II) for a subsequent rate period was filed requesting the ROE be reduced to 8.7%. On June 19, 2014, FERC accepted Complaint II, established a 15-month refund effective date of December 27, 2012, and set the matter for hearing using the methodology established in the Complaint I.

On July 31, 2014, a third, ROE complaint (Complaint III) was filed for a subsequent rate period requesting the ROE be reduced to 8.84%. On November 24, 2014, FERC accepted the Complaint III, established a 15-month refund effective date of July 31, 2014, and set this matter consolidated with Complaint II for hearing in June 2015. Hearings were held in June 2015 on Complaints II and III before a FERC Administrative Law Judge, relating to the refund periods and going forward period. On July 29, 2015, post-hearing briefs were filed by parties and on August 26, 2015 reply briefs were filed by parties. On July 13, 2015, the NETOs filed a petition for review of FERC's orders establishing hearing and consolidation procedures for Complaints II and III with the U.S. Court of Appeals. The FERC Administrative Law Judge issued an Initial Decision on March 22, 2016. The Initial Decision determined that: (1) for the 15-month refund period in Complaint II, the base ROE should be 9.59% and that the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and (2) for the 15 month refund period in Complaint III and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The Initial Decision is the Administrative Law Judge's recommendation to the FERC Commissioners. The FERC is expected to make its final decision in mid-2017.

CMP and UI reserved for refunds for Complaints I, II and III consistent with the FERC's March 3, 2015 final decision in Complaint I. The CMP and UI total reserve associated with Complaints I, II and III is \$21.6 million and \$4.4 million, respectively, as of December 31, 2016. If adopted as final, the impact of the initial decision would be an additional aggregate reserve for Complaints II and III of \$17.1 million, which is based upon currently available information for these proceedings. We cannot predict the outcome of the Complaint II and III proceedings.

On April 29, 2016, a fourth ROE complaint (Complaint IV) was filed for a rate period subsequent to prior complaints requesting the base ROE be 8.61% and ROE Cap be 11.24%. The NETOs filed a response to the Complaint IV on June 3, 2016. On September 20, 2016, FERC accepted the Complaint IV, established a 15-month refund effective date of April 29, 2016, and set the matter for hearing and settlement judge procedures. A range of possible outcomes is not able to be determined at this time due to the preliminary state of this matter. We cannot predict the outcome of the Complaint IV proceeding. Hearings are being held later this year with an expected Initial Decision from the Administrative Law Judge in 2017.

Yankee Nuclear Spent Fuel Disposal Claim

CMP has an ownership interest in Maine Yankee Atomic Power Company, Connecticut Yankee Atomic Power Company, and Yankee Atomic Electric Company, (the Yankee Companies), three New England single-unit decommissioned nuclear reactor sites, and UI has an ownership interest in Connecticut Yankee Atomic Power Company. Every six years, pursuant to the statute of limitations, the Yankee Companies file a lawsuit to recover damages from the Department of Energy (DOE or Government) for breach of the Nuclear Spent Fuel Disposal Contract to remove Spent Nuclear Fuel (SNF) and Greater than Class C Waste (GTCC) as required by contract

and the Nuclear Waste Policy Act beginning in 1998. The damages are the incremental costs for the Government's failure to take the spent nuclear fuel.

In 2012, the U.S. Court of Appeals issued a favorable decision in the Yankee Companies' claim for the first six year period (Phase I). Total damages awarded to the Yankee Companies were nearly \$160 million. The Yankee Companies won on all appellate points in the U.S. Court of Appeals for the Federal Circuit's unanimous decision. The Federal Appeals Court affirmed the September 2010 U.S. Court of Federal Claims award of \$39.7 million to Connecticut Yankee Atomic Power Company; affirmed the Court of Federal Claims award of \$81.7 million to Maine Yankee Atomic Power Company; and increased Yankee Atomic Electric Company's damages award from \$21.4 million to \$38.3 million. The Phase I damage award became final on December 4, 2012. The Yankee Companies received payment from DOE in January 2013. CMP's share of the award was approximately \$36.5 million which was credited back to customers. UI's share of the award was \$3.8 million which was credited back to customers.

In November 2013 the U.S. Court of Claims issued its decision in the Phase II case (the second 6 year period). The Trial Court decision awards the Yankee Companies a combined \$235.4 million (Connecticut Yankee \$126.3 million, Maine Yankee \$37.7 million, and Yankee Atomic \$73.3 million). The Phase II period covers January 1, 2002 through December 31, 2008 for Connecticut Yankee and Yankee Atomic, and January 1, 2003 through December 31, 2008 for Maine Yankee. Maine Yankee's damage award was lower because it recovered a larger amount in the Phase I case (\$82 million) and its decommissioning was both less expensive and completed sooner than the other Yankee Companies. The damage awards flow through the Yankees to shareholders (including CMP and UI) to reduce retail customer charges. In January 2014 the government informed the Yankee Companies it would not appeal the Trial Court decision, as a result the Yankee Companies received full payment in April 2014. CMP's share of the award was approximately \$28.2 million which was credited back to customers. UI received approximately \$12 million of such award which was applied, in part, against the remaining storm regulatory asset balance. The remaining regulatory liability balance was applied to the GSC "working capital allowance" and will be returned to customers through the non-by-passable federally mandated congestion charge.

In August 2013, the Yankees filed a third round of claims against the government seeking damages for the years 2009-2014 (Phase III). The Phase III trial was completed in July 2015 and the Court has issued its decision on March 25, 2016 awarding the Yankee Companies a combined \$76.8 million (Connecticut Yankee \$32.6 million, Maine Yankee \$24.6 million and Yankee Atomic \$19.6 million). The damage awards will potentially flow through the Yankee Companies to shareholders, including CMP and UI, upon FERC approval, and will reduce retail customer charges or otherwise as specified by law. CMP and UI will receive their proportionate share of the awards that flow through based on percentage ownership. On July 18, 2016, the notice of appeal period expired and the Phase III trial award became final. On October 14, 2016, the Yankee Companies received the Government's payment of the damage award of a combined \$41.6 million (Connecticut Yankee \$18.4 million, Maine Yankee \$3.6 million and Yankee Atomic \$19.6 million). In December 2016 CMP and UI received their proportionate share of \$4.2 million of the Phase III damage awards, based on percentage ownership, and CMP received an additional \$21.5 million for SNF trust refund relating to excess funds of Maine Yankee unrelated to Phase III. All amounts will flow through to customers.

NYPSC Staff Review of Earnings Sharing Calculations and Other Regulatory Deferrals

In December 2012, the NYPS Staff (Staff) informed NYSEG and RG&E that the Staff had conducted an audit of the companies' annual compliance filings (ACF) for 2009 through August 31, 2010, and the first rate year of the current rate plan, September 1, 2010 through August 31, 2011. The Staff's preliminary findings indicated adjustments to deferred balances primarily associated with storm costs and the treatment of certain incentive compensation costs for purposes of the 2011 ACF. The Staff's findings approximate \$9.8 million of adjustments to deferral balances and customer earnings sharing accruals. NYSEG and RG&E reviewed the Staff's adjustments and work papers and provided a response in early 2013. NYSEG and RG&E disagreed with certain Staff conclusions and as a result recorded a \$3.4 million reserve in December 2012 in anticipation of settling the Staff issues. In the proposal approved by the NYPS (see Note 5) the parties agreed that in full and final resolution of all years through 2012, and in full and final resolution of storm-related deferrals through 2014, the companies will add \$2.4 million to the customer share of earnings sharing. Staff indicated in December 2016 that it had completed its review 2013 and 2014 compliance filings and no issues were identified.

California Energy Crisis Litigation

Two California agencies brought a complaint in 2001 against a long-term power purchase agreement entered into by Renewables, as seller, to the California Department of Water Resources, as purchaser, alleging that the terms and conditions of the power purchase agreement were unjust and unreasonable. FERC dismissed Renewables from the proceedings; however, the Ninth Circuit Court of Appeals reversed FERC's dismissal of Renewables.

Joining with two other parties, Renewables filed a petition for certiorari in the United States Supreme Court on May 3, 2007. In an order entered on June 27, 2008, the Supreme Court granted Renewables' petition for certiorari, vacated the appellate court's judgment, and remanded the case to the appellate court for further consideration in light of the Supreme Court's decision in a similar case. In light of the Supreme Court's order, on December 4, 2008, the Ninth Circuit Court of Appeals vacated its prior opinion and remanded the complaint proceedings to the FERC for further proceedings consistent with the Supreme Court's rulings. In 2014 FERC assigned an administrative law judge to conduct evidentiary hearings. Following discovery, the FERC Trial Staff recommended that the complaint against Renewables be dismissed.

A hearing was held before an administrative law judge of FERC in November and early December 2015. A preliminary proposed ruling by the administrative law judge was issued on April 12, 2016. The proposed ruling found no evidence that Renewables had engaged in any unlawful market contract that would justify finding the Renewables power purchase agreements unjust and unreasonable. However, the proposed ruling did conclude that price of the power purchase agreements imposed an excessive burden on customers in the amount of \$259 million. Renewables position, as presented at hearings and agreed by FERC Trial Staff, is that Renewables entered into bilateral power purchase contracts appropriately and complied with all applicable legal standards and requirements. The parties have submitted to FERC briefs on exceptions to the administrative law judge's proposed ruling. There is no specific timetable to FERC's ruling. We cannot predict the outcome of this proceeding.

Leases

Operating lease expense relating to operational facilities, office building leases, and vehicle and equipment leases was \$70.6 million, \$47.7 million and \$48.7 million for the years ended December 31, 2016, 2015 and 2014, respectively. Amounts related to contingent payments predominantly linked to electricity generation at the respective facilities was \$22.2 million, \$22.2 million and \$20.4 million for the years ended December 31, 2016, 2015 and 2014, respectively. Leases for most of the land on which wind farm facilities are located have various renewal and termination clauses.

On January 16, 2014, as required by the NYPSC, NYSEG renewed a Reliability Support Services Agreement (RSS Agreement) with Cayuga Operating Company, LLC (Cayuga) for Cayuga to provide reliability support services to maintain necessary system reliability through June 2017. Cayuga owns and operates the Cayuga Generating Facility (Facility), a coal-fired generating station that includes two generating units. Cayuga will operate and maintain the RSS units and manage and comply with scheduling deadlines and requirements for maintaining the Facility and the RSS units as eligible energy and capacity providers and will comply with dispatch instructions. NYSEG will pay Cayuga a monthly fixed price and will also pay for capital expenditures for specified capital projects. NYSEG will be entitled to a share of any capacity and energy revenues earned by Cayuga. We account for this arrangement as an operating lease. The net expense incurred under this operating lease was \$37.8 million, \$25.5 million and \$19.8 million for the years ended December 31, 2016, 2015 and 2014, respectively.

On December 31, 2014, we concluded the sale of our ten-percent undivided interest in Unit 1 of the Springville power plant to Tucson Electric Power for \$19.6 million. We had previously accounted for this plant as an operating lease. This transaction was recorded in "Other income and (expense)."

On October 21, 2015, RG&E, GNPP and multiple intervenors filed a Joint Proposal with the regulator for approval of the modified RSS Agreement for the continued operation of the Ginna Facility through March 2017. RG&E shall make monthly payments to GNPP in the amount of \$15.4 million. RG&E will be entitled to 70% of revenues from GNPP's sales into the energy and capacity markets, while GNPP will be entitled to 30% of such revenues. We account for this arrangement as an operating lease. The net expense incurred under this operating lease was \$114.9 million and \$79.9 million for the years ended December 31, 2016 and 2015, respectively.

Total future minimum lease payments as of December 31, 2016 consisted of:

Year	Operating Leases	Capital Leases (Millions)	Total
2017	\$ 106	\$ 30	\$ 136
2018	28	6	34
2019	28	7	35
2020	26	7	33
2021	28	4	32
2022 and thereafter	487	50	537
Total	\$ 703	\$ 104	\$ 807

Power, Gas, and Other Arrangements

Power and Gas Supply Arrangements – Networks

NYSEG and RG&E are the providers of last resort for customers. As a result, the companies buy physical energy and capacity from the NYISO. In accordance with the NYPSC's February 26, 2008 Order, NYSEG and RG&E are required to hedge on behalf of non-demand billed customers. The physical electric capacity purchases we make from parties other than the NYISO are to comply with the hedge requirement for electric capacity. The companies enter into financial swaps to comply with the hedge requirement for physical electric energy purchases. Other purchases, from some Independent Power Producers (IPPs) and NYPA are from contracts entered into many years ago when the companies made purchases under contract as part of their supply portfolio to meet their load requirement. More recent IPP purchases are required to comply with the companies' Public Utility Regulatory Policies Act (PURPA) purchase obligation.

NYSEG, RG&E, SCG, CNG and BGC (collectively the Regulated Gas Companies) satisfy their natural gas supply requirements through purchases from various producers and suppliers, withdrawals from natural gas storage, capacity contracts and winter peaking supplies and resources. The Regulated Gas Companies operate diverse portfolios of gas supply, firm transportation capacity, gas storage and peaking resources. Actual gas costs incurred by each of the Regulated Gas Companies are passed through to customers through state regulated purchased gas adjustment mechanisms, subject to regulatory review.

The Regulated Gas Companies purchase the majority of their natural gas supply at market prices under seasonal, monthly or mid-term supply contracts and the remainder is acquired on the spot market. The Regulated Gas Companies diversify their sources of supply by amount purchased and location and primarily acquire gas at various locations in the US Gulf of Mexico region, in the Appalachia region and in Canada.

The Regulated Gas Companies acquire firm transportation capacity on interstate pipelines under long-term contracts and utilize that capacity to transport both natural gas supply purchased and natural gas withdrawn from storage to the local distribution system.

The Regulated Gas Companies acquire firm underground natural gas storage capacity using long-term contracts and fill the storage facilities with gas in the summer months for subsequent withdrawal in the winter months.

Winter peaking resources are primarily attached to the local distribution systems and are either owned or are contracted for by the Regulated Gas Companies, each of which is a Local Distribution Company. Each Regulated Gas Company owns or has rights to the natural gas stored in an LNG facility directly attached to its distribution system.

Other arrangements include UI's long-term contracts to purchase RECs.

Power, Gas, and Other Arrangements – Renewables and Gas

Gas purchase commitments include multi-year contracted storage and transport capacity contracts that allow the Gas business to participate in seasonal and locational gas price differentials. The agreements contain fixed payment obligations for the use of both storage and transport capacity throughout the U.S. Power purchase commitments include the following: (i) a 55MW Biomass Power Purchase Agreement (PPA) for 12 years (five years remaining) with a guaranteed output of 34.4MW flat and a schedule of fixed price rates depending on season and time of day, (ii) long-term firm transmission agreements with fixed monthly capacity payments that allow the delivery of electricity from wind and thermal generation sources to various customers and (iii) a three year purchase of hydro capacity and energy to provide balancing services to the NW wind assets that has monthly fixed payments (two years remaining). Power sales commitments include: (i) a 55MW Biomass off-take agreement for 12 years (five years remaining) with guaranteed annual production of 34.4MW flat with a schedule of fixed price rates depending on season and time of day, (ii) fixed price, fixed volume power sales off the Klamath Cogen facility in addition to tolling arrangements that have fixed capacity charges and (iii) fixed price, fixed volume renewable energy credit sales off merchant wind facilities.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Forward purchases and sales commitments under power, gas, and other arrangements as of December 31, 2016 consisted of:

Year	Purchases				Sales			
	Gas	Power	Other	Total	Gas	Power	Other	Total
	(Millions)							
2017	\$ 284	\$ 168	\$ 35	\$ 487	\$ 23	\$ 132	\$ 4	\$ 159
2018	245	108	23	376	4	76	4	84
2019	205	68	14	287	5	53	1	59
2020	161	65	12	238	5	42	—	47
2021	127	52	12	191	—	33	—	33
Thereafter	520	379	109	1,008	—	26	—	26
Totals	\$ 1,542	\$ 840	\$ 205	\$ 2,587	\$ 37	\$ 362	\$ 9	\$ 408

Guarantee Commitments to Third Parties

As of December 31, 2016, we had approximately \$2.6 billion of standby letters of credit, surety bonds, guarantees and indemnifications outstanding. These instruments provide financial assurance to the business and trading partners of AVANGRID and its subsidiaries in their normal course of business. The instruments only represent liabilities if AVANGRID or its subsidiaries fail to deliver on contractual obligations. We therefore believe it is unlikely that any material liabilities associated with these instruments will be incurred and, accordingly, as of December 31, 2016, neither we nor our subsidiaries have any liabilities recorded for these instruments.

Property, Plant and Equipment

We have made future commitments to purchase property, plant, and equipment in order to continue to develop and grow our business. The amount of such future commitments was \$493 million as of December 31, 2016.

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Note 14. Environmental Liabilities

Environmental laws, regulations and compliance programs may occasionally require changes in our operations and facilities and may increase the cost of electric and natural gas service. We do not provide for accruals of legal costs expected to be incurred in connection with loss contingencies.

Waste sites

The Environmental Protection Agency and various state environmental agencies, as appropriate, have notified us that we are among the potentially responsible parties that may be liable for costs incurred to remediate certain hazardous substances at twenty-five waste sites, which do not include sites where gas was manufactured in the past. Fifteen of the twenty-five sites are included in the New York State Registry of Inactive Hazardous Waste Disposal Sites; six sites are included in Maine's Uncontrolled Sites Program and one site is included on the Massachusetts Non- Priority Confirmed Disposal Site list. The remaining sites are not included in any registry list. Finally, nine of the twenty-five sites are also included on the National Priorities list. Any liability may be joint and severable for certain sites.

We have recorded an estimated liability of \$6 million related to ten of the twenty-five sites. We have paid remediation costs related to the remaining fifteen sites and do not expect to incur additional liabilities. Additionally, we have recorded an estimated liability of \$8 million related to another ten sites where we believe it is probable that we will incur remediation costs and or monitoring costs, although we have not been notified that we are among the potentially responsible parties or that we are regulated under State Resource Conservation and Recovery Act programs. It is possible the ultimate cost to remediate these sites may be significantly more than the accrued amount. Our estimate for costs to remediate these sites ranges from \$12 million to \$22 million as of December 31, 2016. Factors affecting the estimated remediation amount include the remedial action plan selected, the extent of site contamination, and the portion of remediation attributed to us.

Manufactured Gas Plants

We have a program to investigate and perform necessary remediation at our fifty-three sites where gas was manufactured in the past (Manufactured Gas Plants, or MGPs). Eight sites are included in the New York State Registry; eleven sites are included in the New York Voluntary Cleanup Program; three sites are part of Maine's Voluntary Response Action Program and with two of such sites being part of Maine's Uncontrolled Sites Program. The remaining sites are not included in any registry list. We have entered into consent orders with various environmental agencies to investigate and where necessary remediate forty-nine of the fifty-three sites.

Our estimate for all costs related to investigation and remediation of the fifty-three sites ranges from \$221 million to \$465 million as of December 31, 2016. Our estimate could change materially based on facts and circumstances derived from site investigations, changes in required remedial actions, changes in technology relating to remedial alternatives, and changes to current laws and regulations.

As of December 31, 2016 and 2015, the liability associated with MGP sites in Connecticut, the remediation costs of which could be significant and will be subject to a review by PURA as to whether these costs are recoverable in rates, was \$97 million and \$99 million, respectively.

The liability to investigate and perform remediation at the known inactive MGP sites was \$388 million and \$397 million as of December 31, 2016 and 2015, respectively. We recorded a corresponding regulatory asset, net of insurance recoveries and the amount collected from FirstEnergy, as described below, because we expect to recover the net costs in rates. Our environmental liability accruals are recorded on an undiscounted basis and are expected to be paid through the year 2053.

Certain other Connecticut and Massachusetts regulated gas companies own or have previously owned properties where MGPs had historically operated. MGP operations have led to contamination of soil and groundwater with petroleum hydrocarbons, benzene and metals, among other things, at these properties, the regulation and cleanup of which is regulated by the federal Resource Conservation and Recovery Act as well as other federal and state statutes and regulations. Each of the companies has or had an ownership interest in one or more such properties contaminated as a result of MGP-related activities. Under the existing regulations, the cleanup of such sites requires state and at times, federal, regulators' involvement and approval before cleanup can commence. In certain cases, such contamination has been evaluated, characterized and remediated. In other cases, the sites have been evaluated and characterized, but not yet remediated. Finally, at some of these sites, the scope of the contamination has not yet been fully characterized; no liability was recorded in respect of these sites as of December 31, 2016 and no amount of loss, if any, can be reasonably estimated at this time. In the past, the companies have received approval for the recovery of MGP-related remediation expenses from customers through rates and will seek recovery in rates for ongoing MGP-related remediation expenses for all of their MGP sites.

FirstEnergy

NYSEG sued FirstEnergy under the Comprehensive Environmental Response, Compensation, and Liability Act to recover environmental cleanup costs at sixteen former manufactured gas sites, which are included in the discussion above. In July 2011, the District Court issued a decision and order in NYSEG's favor. Based on past and future clean-up costs at the sixteen sites in dispute, FirstEnergy would be required to pay NYSEG approximately \$60 million if the decision were upheld on appeal. On September 9, 2011, FirstEnergy paid NYSEG \$30 million, representing their share of past costs of \$27 million and pre-judgment interest of \$3 million.

FirstEnergy appealed the decision to the Second Circuit Court of Appeals. On September 11, 2014, the Second Circuit Court of Appeals affirmed the District Court's decision in NYSEG's favor, but modified the decision for nine sites, reducing NYSEG's damages for incurred costs from \$27 million to \$22 million, excluding interest, and reducing FirstEnergy's allocable share of future costs at these sites. NYSEG refunded FirstEnergy the excess \$5 million in November 2014.

FirstEnergy remains liable for a substantial share of clean up expenses at nine MPG sites. In January 2015, NYSEG sent FirstEnergy a demand for \$16 million representing FirstEnergy's share of clean-up expenses incurred by NYSEG at the nine sites from January 2010 to November 2014 while the District Court appeal was pending. Nearly all of this amount has been paid by FirstEnergy. FirstEnergy would also be liable for a share of post 2014 costs, which, based on current projections, would be \$26 million. This amount is being treated as a contingent asset and has not been recorded as either a receivable or a decrease to the environmental provision. Any recovery will be flowed through to NYSEG ratepayers.

Century Indemnity and OneBeacon

On August 14, 2013, NYSEG filed suit in federal court against two excess insurers, Century Indemnity and OneBeacon, who provided excess liability coverage to NYSEG. NYSEG seeks payment for clean-up costs associated with contamination at twenty-two former manufactured gas plants. Based on estimated clean-up costs of \$282 million, the carriers' allocable share is approximately \$89 million, excluding pre-judgment interest, although this amount may change substantially depending upon the determination of various factual matters and legal issues during the case.

Century Idemnity and One Beacon have answered admitting issuance of the excess policies, but contesting coverage and providing documentation proving they received notice of the claims in the 1990s. We cannot predict the outcome of this matter, however, any recovery will be flowed through to NYSEG ratepayers.

English Station

In January 2012, Evergreen Power, LLC (Evergreen Power) and Asnat Realty LLC (Asnat), then and current owners of a former generation site on the Mill River in New Haven (the English Station site) that UI sold to Quinnipiac Energy in 2000, filed a lawsuit in federal district court in Connecticut against UI seeking, among other things: (i) an order directing UI to reimburse the plaintiffs for costs they have incurred and will incur for the testing, investigation and remediation of hazardous substances at the English Station site and (ii) an order directing UI to investigate and remediate the site. This proceeding had been stayed in 2014 pending resolutions of other proceedings before DEEP concerning the English Station site. In December 2016, the court administratively closed the file without prejudice to reopen upon the filing of a motion to reopen by any party. In December 2013, Evergreen and Asnat filed a subsequent lawsuit in Connecticut state court seeking among other things: (i) remediation of the property; (ii) reimbursement of remediation costs; (iii) termination of UI's easement rights; (iv) reimbursement for costs associated with securing the property; and (v) punitive damages This lawsuit had been stayed in May 2014 pending mediation. Due to lack of activity in the case, the court terminated the stay and scheduled a status conference on or before August 1, 2017.

On April 8, 2013, DEEP issued an administrative order addressed to UI, Evergreen Power, Asnat and others, ordering the parties to take certain actions related to investigating and remediating the English Station site. Mediation of the matter began in the fourth quarter of 2013 and concluded unsuccessfully in April 2015. This proceeding was stayed while DEEP and UI continue to work through the remediation process pursuant to the consent order described below. A status report was filed with the court in December 2016 and the next status report is due in May 2017.

On August 4, 2016, DEEP issued the consent order that, subject to its terms and conditions, requires UI to investigate and remediate certain environmental conditions within the perimeter of the English Station site. Under the consent order, to the extent that the cost of this investigation and remediation is less than \$30 million, UI will remit to the State of Connecticut the difference between such cost and \$30 million to be used for a public purpose as determined in the discretion of the Governor of the State of Connecticut, the Attorney General of the State of Connecticut, and the Commissioner of DEEP. UI is obligated to comply with the terms of the consent order even if the cost of such compliance exceeds \$30 million. Under the terms of the consent order, the State will discuss options with UI on recovering or funding any cost above \$30 million such as through public funding or recovery from third parties; however, it is not bound to agree to or support any means of recovery or funding.

In connection with the consent order, on August 4, 2016, DEEP also issued a Consent Order to Evergreen Power, Asnat, and certain related parties that provides UI access to investigate and remediate the English Station site consistent with the consent order. UI has initiated its process to investigate and remediate the environmental conditions within the perimeter of the English Station site pursuant to the consent order.

As of December 31, 2016 and 2015 we reserved \$28.3 million and \$20.5 million, respectively, for this matter and have accrued the remaining \$1.7 million and \$9.5 million in accordance with the settlement with PURA approving the acquisition. The difference of \$7.8 million pre-tax has been reflected as the reversal of an expense in our 2016 results, reversing the amounts recorded in 2015, to adjust the allocation of the purchase price as a measurement period adjustment from the acquisition of UIL. The adjustment to the reserve during 2016 was recorded in the "Operations and maintenance" line of the consolidated statement of income as a measurement period adjustment based on additional information obtained for the site regarding circumstances of the site as of the acquisition date of UIL.

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AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Note 15. Income Taxes

Current and deferred taxes charged to (benefit) expense for the years ended December 31, 2016, 2015 and 2014 consisted of:

Years Ended December 31, (Millions)	2016	2015	2014
Current			
Federal	\$ (6)	\$ (20)	\$ (10)
State	8	(33)	31
Current taxes charged to (benefit) expense	2	(53)	21
Deferred			
Federal	414	136	218
State	2	(6)	82
Deferred taxes charged to expense	416	130	300
Production tax credits	(38)	(42)	(37)
Investment tax credits	(1)	(1)	(2)
Total Income Tax Expense	\$ 379	\$ 34	\$ 282

The differences between tax expense per the statements of income and tax expense at the 35% statutory federal tax rate for the years ended December 31, 2016, 2015 and 2014 consisted of:

Years Ended December 31, (Millions)	2016	2015	2014
Tax expense at federal statutory rate	\$ 353	\$ 105	\$ 247
Depreciation and amortization not normalized	61	15	15
Investment tax credit amortization	(1)	(1)	(2)
Tax return related adjustments	(2)	6	2
Production tax credits	(38)	(42)	(37)
Tax equity financing arrangements	(25)	(36)	(11)
Change in tax reserves	—	—	3
Changes in New York tax law	—	—	41
State tax expense (benefit), net of federal benefit	7	(25)	32
Non-deductible acquisition costs	—	9	—
Other, net	24	3	(8)
Total Income Tax Expense	\$ 379	\$ 34	\$ 282

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Deferred tax assets and liabilities as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Non-current Deferred Income Tax Liabilities (Assets)		
Property related	\$ 5,195	\$ 4,763
Unfunded future income taxes	216	211
Federal and state tax credits	(417)	(367)
Accumulated deferred investment tax credits	14	15
Federal and state NOL's	(1,397)	(1,367)
Joint ventures/partnerships	651	655
Nontaxable grant revenue	(581)	(595)
Other	(171)	(17)
Non-current Deferred Income Tax Liabilities	3,510	3,298
Add: Valuation allowance	31	19
Total Non-current Deferred Income Tax Liabilities	3,541	3,317
Less amounts classified as regulatory liabilities		
Non-current deferred income taxes	565	519
Non-current Deferred Income Tax Liabilities	\$ 2,976	\$ 2,798
Deferred tax assets	\$ 2,565	\$ 2,346
Deferred tax liabilities	6,106	5,663
Net Accumulated Deferred Income Tax Liabilities	\$ 3,541	\$ 3,317

Valuation allowances are recorded to reduce deferred tax assets when it is not more-likely-than not that all or a portion of a tax benefit will be realized. A valuation allowance for the entire \$9 million (net of federal benefit) carryforward of Maine Research and Development Super credits generated in tax years 2007 through 2012 was established as of December 31, 2012 with no change in this balance as of December 31, 2015. A valuation allowance of \$10 million was established on various state NOLs as of December 31, 2015 and 2016, respectively. The \$12 million increase in valuation allowances established in 2016 represents a full valuation allowance of \$15 million (net of federal benefit) on Connecticut state tax credits, partially offset by a reduction of \$3 million related to the Maine Research and Development Super credits.

The reconciliation of unrecognized income tax benefits for the years ended December 31, 2016, 2015 and 2014 consisted of:

Years ended December 31, (Millions)	2016	2015	2014
Beginning Balance	\$ 36	\$ 38	\$ 41
Increases for tax positions related to prior years	8	1	20
Decreases for tax positions related to prior years	(4)	—	—
Reduction for tax position related to settlements with taxing authorities	—	(3)	(23)
Ending Balance	\$ 40	\$ 36	\$ 38

Unrecognized income tax benefits represent income tax positions taken on income tax returns but not yet recognized in the consolidated financial statements. The accounting guidance for uncertainty in income taxes provides that the financial effects of a tax position shall initially be recognized when it is more likely than not based on the technical merits the position will be sustained upon examination, assuming the position will be audited and the taxing authority has full knowledge of all relevant information.

Accruals for interest and penalties on tax reserves were \$2 million, \$2 million, and \$3 million for the years ended December 31, 2016, 2015 and 2014, respectively. If recognized, \$8 million of the total gross unrecognized tax benefits would affect the effective tax rate.

The total amount of unrecognized tax benefits anticipated to result in a net decrease to unrecognized tax benefits within 12 months of December 31, 2016 is estimated to be \$9 million primarily relating to anticipation of additional guidance to be released by the IRS.

On December 29, 2014, the Joint Committee on Taxation approved the examination of AVANGRID and its subsidiaries, without ARHI, for the tax years 1998 through 2009. The results of these audits, net of reserves already provided, were immaterial. All New York and Maine state returns, which were filed without ARHI, are closed through 2011.

All federal tax returns filed by ARHI from the periods ended March 31, 2004, to December 31, 2009, are closed for adjustment. Generally, the adjustment period for the individual states we filed in is at least as long as the federal period.

As of December 31, 2016, UIL is subject to audit of its federal tax return for years 2013 and 2014. UIL income tax years 2010 through 2014 are open and subject to Connecticut and Massachusetts audit.

As of December 31, 2016, we had federal tax net operating losses of \$3.6 billion, federal renewable energy and investment tax credits, federal R&D tax credits and other federal credits of \$394 million, state tax net operating losses of \$241 million in several jurisdictions and miscellaneous state tax credits of \$32 million available to carry forward and reduce future income tax liabilities. For state purposes, we recognized a valuation allowance of \$31 million. The federal net operating losses begin to expire in 2028, while the federal tax credits begin to expire in 2023. The more significant state net operating losses begin to expire in 2021.

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Note 16. Post-retirement and Similar Obligations

Networks has funded noncontributory defined benefit pension plans that cover the majority of Networks employees. The plans provide defined benefits based on years of service and final average salary for employees hired before 2002. Most employees hired in 2002, or later based upon the plan, are covered under a cash balance plan or formula where their benefit accumulates based on a percentage of annual salary and credited interest. During 2013, Networks announced that they would discontinue, effective December 31, 2013, the cash balance accruals for all non-union employees covered under the cash balance plans or formula. At the same time, the plans were closed to newly-hired non-union employees. The plans had been closed to newly-hired union employees in prior years. CMP's unionized employees covered under the cash balance plans ceased to receive accruals as of December 31, 2014. NYSEG's unionized employees covered under the cash balance plans ceased to receive accruals as of December 31, 2015. Their earned balances will continue to accrue interest but will no longer be increased by a flat dollar amount or percentage of pay, as defined by the plan. Instead, they will receive a contribution to their account under their respective company's defined contribution plan. There was no change to the defined benefit plans for employees covered under the plans that provide defined benefits based on years of service and final average salary. Employees not participating in a defined benefit plan are eligible to participate in an enhanced 401(k) plan.

Networks has other postretirement health care benefit plans covering the majority of Networks employees. The plans were closed to newly-hired non-union employees at the end of 2011. The plans had been closed to union employees in prior years. The pre-Medicare-eligible healthcare plans are contributory and participants' contributions are adjusted annually. Networks average contribution to these plans is limited at a level determined in prior periods. Except for a small group of "grandfathered" retirees, all Medicare eligible retirees that choose to participate are provided with a subsidy through a Health Reimbursement Account (HRA) to purchase coverage on the individual market.

With the acquisition of UIL, Networks also includes pension and other postretirement plans of UIL operating utility companies. The UI pension plan covers the majority of employees of UI and UIL corporate. The plan was closed to newly-hired employees in 2005. UI also has a non-qualified supplemental pension plan for certain employees and a non-qualified retiree-only pension plan for certain early retirement benefits.

The Regulated Gas Companies in Connecticut and Massachusetts have multiple qualified pension plans covering a majority of their union and management employees. These entities also have non-qualified supplemental pension plans for certain employees. The qualified pension plans are traditional defined benefit plans or cash balance plans for those hired on or after specified dates. In some cases, neither of these plans is offered to new employees and have been replaced with enhanced 401(k) plans for those hired on or after specified dates.

In addition to providing pension benefits, UI also provides other postretirement benefits, consisting principally of health care and life insurance benefits, for retired employees and their dependents. The healthcare plans are contributory and participants' contributions are adjusted annually. For Medicare eligible non-union retirees, UI provides a subsidy through a Health Reimbursement Account for retirees to purchase coverage on the individual market. Medicare eligible union retirees have the option of receiving a subsidy through an HRA or paying contributions and participating in company-sponsored retiree health plans.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

SCG and CNG also have plans providing other postretirement benefits for a majority of their employees. These benefits consist primarily of health care, prescription drug and life insurance benefits, for retired employees and their dependents. For Medicare eligible non-union retirees, SCG and CNG provide a subsidy through a HRA for retirees to purchase coverage on the individual market. Medicare eligible union retirees have the option of receiving a subsidy through an HRA or paying contributions and participating in company-sponsored retiree health plans.

ARHI has funded defined benefit pension plans for eligible employees hired prior to January 1, 2008. The benefit is based on participant's age, service, and five years average pay at the time of the freeze date of April 30, 2011. ARHI has other postretirement health care benefit plans covering eligible retirees and employees hired prior to January 1, 2008. Health and life insurance rates are based on age and service points at the time of retirement.

Obligations and funded status of Networks and ARHI as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	Pension Benefits		Postretirement Benefits	
	2016	2015	2016	2015
Change in benefit obligation				
Benefit obligation as of January 1,	\$ 3,509	\$ 2,620	\$ 525	\$ 435
Acquisition of UIL	—	1,019	—	122
Service cost	44	36	5	5
Interest cost	142	99	21	16
Plan participants' contributions	—	—	7	4
Plan amendments	—	—	—	(1)
Actuarial gain	(43)	(105)	(24)	(31)
Special termination benefits	—	2	—	—
Benefits paid	(204)	(162)	(39)	(25)
Benefit Obligation as of December 31,	3,448	3,509	495	525
Change in plan assets				
Fair value of plan assets as of January 1,	2,664	2,143	162	129
Acquisition of UIL	—	687	—	39
Actual return on plan assets	169	(31)	11	(4)
Employer contributions	43	27	30	21
Plan participants' contributions	—	—	7	4
Benefits paid	(204)	(162)	(39)	(25)
Withdrawals from VEBA	—	—	(11)	(2)
Fair Value of Plan Assets as of December 31,	2,672	2,664	160	162
Funded Status as of December 31,	\$ (776)	\$ (845)	\$ (335)	\$ (363)

Amounts recognized as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	Pension Benefits		Postretirement Benefits	
	2016	2015	2016	2015
Current liabilities	\$ —	\$ —	\$ (5)	\$ (5)
Non-current liabilities	(776)	(845)	(330)	(358)
Total	\$ (776)	\$ (845)	\$ (335)	\$ (363)

Networks offered retired employees an option to receive their future pension benefit as a lump sum during 2014. Approximately \$118.5 million of payments were made in 2014 as a result of retired employees exercising the lump sum option. The lump sum payments did not trigger settlement accounting.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Amounts recognized in OCI for ARHI for the years ended December 31, 2016, 2015 and 2014, consisted of:

Years Ended December 31, (Millions)	Pension Benefits			Postretirement Benefits		
	2016	2015	2014	2016	2015	2014
Net (gain) loss	\$ 23	\$ 25	\$ 22	\$ (3)	\$ (1)	\$ 8

We have determined that all Networks' regulated operating companies are allowed to defer as regulatory assets or regulatory liabilities items that would have otherwise been recorded in accumulated OCI pursuant to the accounting requirements concerning defined benefit pension and other postretirement plans.

Amounts recognized as regulatory assets or regulatory liabilities for Networks for the years ended December 31, 2016, 2015 and 2014 for Networks consisted of:

Years Ended December 31, (Millions)	Pension Benefits			Postretirement Benefits		
	2016	2015	2014	2016	2015	2014
Net loss	\$ 860	\$ 994	\$ 1,045	\$ 44	\$ 76	\$ 96
Prior service cost (credit)	7	9	12	(40)	(49)	(57)

Our accumulated benefit obligation for all defined benefit pension plans of Networks and ARHI was \$3,214 million and \$3,261 million as of December 31, 2016 and 2015, respectively. CMP's and NYSEG's postretirement benefits were partially funded as of December 31, 2016 and 2015.

The projected benefit obligation and the accumulated benefit obligation exceeded the fair value of pension plan assets for all plans of Networks and ARHI as of December 31, 2016 and 2015.

The aggregate projected and accumulated benefit obligations and the fair value of plan assets for underfunded plans of Networks and ARHI as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	Projected Benefit Obligation Exceeds Fair Value of Plan Assets		Accumulated Benefit Obligation Exceeds Fair Value of Plan Assets	
	2016	2015	2016	2015
Projected benefit obligation	\$ 3,448	\$ 3,509	\$ 3,448	\$ 3,509
Accumulated benefit obligation	3,214	3,261	3,214	3,261
Fair value of plan assets	2,672	2,664	2,672	2,664

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Components of Networks' net periodic benefit cost and other changes in plan assets and benefit obligations recognized in income and regulatory assets and liabilities as of December 31, 2016, 2015 and 2014 consisted of:

(Millions)	Pension Benefits			Postretirement Benefits		
As of December 31,	2016	2015	2014	2016	2015	2014
Net Periodic Benefit Cost:						
Service cost	\$ 44	\$ 36	\$ 30	\$ 5	\$ 4	\$ 4
Interest cost	140	97	107	20	15	17
Expected return on plan assets	(199)	(156)	(161)	(8)	(7)	(7)
Amortization of prior service cost (benefit)	2	3	4	(9)	(9)	(11)
Amortization of net loss	123	130	94	8	7	—
Special termination benefit charge	—	2	—	—	—	—
Settlement charge	—	2	—	—	—	—
Net Periodic Benefit Cost	110	114	74	16	10	3
Other changes in plan assets and benefit obligations recognized in regulatory assets and regulatory liabilities:						
Settlements	\$ —	\$ (2)	\$ —	\$ —	\$ —	\$ —
Net loss (gain)	(11)	69	434	(24)	(12)	72
Amortization of net loss	(123)	(130)	(94)	(8)	(7)	—
Current year prior service cost	—	—	—	—	(1)	—
Amortization of prior service (cost) benefit	(2)	(3)	(4)	9	9	11
Total Other Changes	(136)	(66)	336	(23)	(11)	83
Total Recognized	\$ (26)	\$ 48	\$ 410	\$ (7)	\$ (1)	\$ 86

Components of ARHI's net periodic benefit cost and other changes in plan assets and benefit obligations recognized in income and OCI as of December 31, 2016, 2015 and 2014 consisted of:

(Millions)	Pension Benefits			Postretirement Benefits		
As of December 31,	2016	2015	2014	2016	2015	2014
Net Periodic Benefit Cost:						
Service cost	\$ —	\$ —	\$ —	\$ —	\$ 1	\$ 1
Interest cost	2	2	2	1	1	1
Expected return on plan assets	(2)	(2)	(3)	—	—	—
Amortization of prior service cost	-	—	—	—	—	1
Amortization of net loss	1	1	—	—	—	1
Settlement charge	1	—	—	—	—	—
Net Periodic Benefit Cost (income)	2	1	(1)	1	2	4
Other Changes in plan assets and benefit obligations recognized in OCI:						
Net loss (gain)	—	4	6	(2)	(8)	(5)
Amortization of net loss	(1)	(1)	—	—	—	(1)
Amortization of prior service (cost)	—	—	—	—	—	(1)
Total Other Changes	(1)	3	6	(2)	(8)	(7)
Total Recognized	\$ 1	\$ 4	\$ 5	\$ (1)	\$ (6)	\$ (3)

The net periodic benefit cost for postretirement benefits represents the amount expensed for providing health care benefits to retirees and their eligible dependents. We include the net periodic benefit cost in other operating expenses net of capitalized portion.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Amounts expected to be amortized from regulatory assets or liabilities into net periodic benefit cost for the year ending December 31, 2017 consists of:

Year Ended December 31, 2017 (Millions)	Pension Benefits	Postretirement Benefits
Estimated net loss	\$ 126	\$ 5
Estimated prior service cost (benefit)	2	(9)

Amounts expected to be amortized from OCI into net periodic benefit cost for the year ending December 31, 2017 consists of:

Year Ended December 31, 2017 (Millions)	Pension Benefits	Postretirement Benefits
Estimated net loss	\$ 1	\$ —
Estimated prior service cost (benefit)	—	—

We expect that no pension benefit or postretirement benefit plan assets will be returned to us during the year ending December 31, 2017.

The weighted-average assumptions used to determine benefit obligations for Networks and ARHI as of December 31, 2016 and 2015 consisted of:

As of December 31,	Pension Benefits		Postretirement Benefits	
	2016	2015	2016	2015
Discount rate - Networks	4.12% / 4.24%	4.10% / 4.24%	4.12% / 4.24%	4.10% / 4.24%
Discount rate - ARHI	3.81%	3.90%	3.81%	3.90%
Rate of compensation increase - Networks	3.50% - 4.20%	4.00%	—	—

The discount rate is the rate at which the benefit obligations could presently be effectively settled. We determined the discount rates by developing yield curves derived from a portfolio of high grade noncallable bonds with yields that closely match the duration of the expected cash flows of our benefit obligations.

The weighted-average assumptions used to determine net periodic benefit cost for Networks and ARHI for the years ended December 31, 2016, 2015 and 2014 consisted of:

Years Ended December 31,	Pension Benefits			Postretirement Benefits		
	2016	2015	2014	2016	2015	2014
Discount rate - Networks	4.12% / 4.24%	3.80% / 4.24%	4.90%	4.12% / 4.24%	3.80% / 4.24%	4.90%
Discount rate - ARHI	3.90%	3.90%	5.00%	3.90%	3.90%	5.00%
Expected long-term return on plan assets - Networks	7.40% / 7.75%	7.50%	7.50%	7.16%	—	—
Expected long-term return on plan assets - ARHI	5.50%	5.50%	6.90%	5.50%	5.75%	6.50%
Expected long-term return on plan assets - nontaxable trust - Networks	—	—	—	7.00%	7.50%	7.50%
Expected long-term return on plan assets - taxable trust - Networks	—	—	—	4.50%	5.00%	5.00%
Rate of compensation increase - Networks	3.50% - 4.20%	4.10%	4.20%	—	—	—

We developed our expected long-term rate of return on plan assets assumption based on a review of long-term historical returns for the major asset classes, the target asset allocations, and the effect of rebalancing of plan assets discussed below. Our analysis considered current capital market conditions and projected conditions. NYSEG, RG&E and UIL amortize unrecognized actuarial gains and losses over ten years from the time they are incurred as required by the NYPSC, PURA and DPU. Our other companies use the standard amortization methodology under which amounts in excess of ten-percent of the greater of the projected benefit obligation or market related value are amortized over the plan participants' average remaining service to retirement.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Assumed health care cost trend rates used to determine benefit obligations as of December 31, 2016 and 2015 consisted of:

As of December 31,	2016	2015
Health care cost trend rate assumed for next year - Networks	7.00%/9.00%	7.50%/7.00%
Health care cost trend rate assumed for next year - ARHI	6.75%/8.50%	7.00%/9.00%
Rate to which cost trend rate is assumed to decline (ultimate trend rate) - Networks	4.50%	4.50%
Rate to which cost trend rate is assumed to decline (ultimate trend rate) - ARHI	4.50%	4.50%
Year that the rate reaches the ultimate trend rate - Networks	2026 / 2028	2027
Year that the rate reaches the ultimate trend rate - ARHI	2026 / 2028	2026

The effects of a one-percent change in the assumed health care cost trend rates would have the following effects:

(Millions)	1% Increase	1% Decrease
Effect on total of service and interest cost	\$ 1	\$ (1)
Effect on postretirement benefit obligation	\$ 14	\$ (12)

Contributions

We make annual contributions in accordance with our funding policy of not less than the minimum amounts as required by applicable regulations. Networks expect to contribute \$33 million to the pension benefit plans during 2017.

Estimated Future Benefit Payments

Expected benefit payments and Medicare Prescription Drug, Improvement and Modernization Act of 2003 subsidy receipts reflecting expected future service for Networks and ARHI as of December 31, 2016 consisted of:

(Millions)	Pension Benefits	Postretirement Benefits	Medicare Act Subsidy Receipts
2017	\$ 211	\$ 34	\$ —
2018	212	34	—
2019	216	34	—
2020	219	35	—
2021	224	35	—
2022 - 2026	1,125	169	3

Non-Qualified Pension Plans

Networks and ARHI also sponsor various unfunded pension plans for certain current employees, former employees and former directors. The total liability for these plans, which is included in Other Non-current Liabilities, was \$57 million and \$59 million at December 31, 2016 and 2015, respectively.

Plan Assets

Our pension benefits plan assets for Networks and ARHI are held in three master trusts. This provides for a uniform investment manager lineup and an efficient, cost effective means of allocating expenses and investment performance to each plan. Our primary investment objective is to ensure that current and future benefit obligations are adequately funded and with volatility commensurate with our risk tolerance. Preservation of capital and achievement of sufficient total return to fund accrued and future benefits obligations are of highest concern. Our primary means for achieving capital preservation is through diversification of the trusts'

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

investments while avoiding significant concentrations of risk in any one area of the securities markets. Further diversification is achieved within each asset group through utilizing multiple asset managers and systematic allocation to various asset classes and providing broad exposure to different segments of the equity, fixed income, and alternative investment markets.

Networks' asset allocation policy is the most important consideration in achieving our objective of superior investment returns while minimizing risk. We have established a target asset allocation policy within allowable ranges for our pension benefits plan assets within broad categories of asset classes made up of Return-Seeking and Liability-Hedging investments. Within the Return-Seeking category, we have targets of 35%-54% in equity securities and 3%-20% in equity alternative investments. The Liability-Hedging asset class has a target allocation percentage of 43%-45%. Return-Seeking investments generally consist of domestic, international, global, and emerging market equities invested in companies across all market capitalization ranges. Return-Seeking assets also include investments in real estate, absolute return, and strategic markets. Liability-Hedging investments generally consist of long-term corporate bonds, annuity contracts, long-term treasury STRIPS, and opportunistic fixed income investments. Systematic rebalancing within the target ranges increases the probability that the annualized return on the investments will be enhanced, while realizing lower overall risk, should any asset categories drift outside their specified ranges.

ARHI's investment portfolio contains a diversified blend of equity, fixed income, and other investments. In ARHI's asset allocation policy we have established targets of 33% for equity investments, 50% for fixed income investments and 17% for other assets classes. Equity investments are diversified across U.S. and non-U.S. stocks, investment styles, and market capitalization ranges. Fixed income investments are primarily invested in U.S. bonds and may also include some non-U.S. bonds. Other asset classes, including real estate, absolute return, and real return, are used to enhance long-term returns while improving portfolio diversification. We primarily minimize the risk of large losses through diversification but also through monitoring and managing other aspects of risk through quarterly investment portfolio reviews, annual liability measurements, and periodic asset and liability studies.

The fair values of pension benefits plan assets, by asset category, as of December 31, 2016 consisted of:

As of December 31, 2016 (Millions)	Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
Asset Category				
Cash and cash equivalents	\$ 49	\$ —	\$ 49	\$ —
U.S. government securities	172	172	—	—
Common stocks	120	120	—	—
Registered investment companies	122	122	—	—
Corporate bonds	358	—	358	—
Preferred stocks	4	—	4	—
Common collective trusts	1,192	—	371	821
Partnerships/joint venture interests	5	—	—	5
Real estate investments	61	—	—	61
Other, principally annuity, fixed income	589	—	315	274
Total	\$ 2,672	\$ 414	\$ 1,097	\$ 1,161

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The fair values of pension benefits plan assets, by asset category, as of December 31, 2015 consisted of:

As of December 31, 2015 (Millions)	Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
Asset Category				
Cash and cash equivalents	\$ 57	\$ 3	\$ 54	\$ —
U.S. government securities	171	171	—	—
Common stocks	314	314	—	—
Registered investment companies	114	114	—	—
Corporate bonds	324	—	324	—
Preferred stocks	5	—	5	—
Common collective trusts	859	—	369	490
Partnership/joint venture interests	84	—	—	84
Real estate investments	89	—	—	89
Other, principally annuity, fixed income	647	—	329	318
Total	\$ 2,664	\$ 602	\$ 1,081	\$ 981

Valuation Techniques

We value our pension benefits plan assets as follows:

- Cash and cash equivalents - Level 1: at cost, plus accrued interest, which approximates fair value. Level 2: proprietary cash associated with other investments, based on yields currently available on comparable securities of issuers with similar credit ratings.
- U.S. government securities, common stocks and registered investment companies - at the closing price reported in the active market in which the security is traded.
- Corporate bonds - based on yields currently available on comparable securities of issuers with similar credit ratings.
- Mutual funds - based upon quoted market prices in active markets, which represent the Net Asset Value (NAV) of the shares held.
- Preferred stocks - at the closing price reported in the active market in which the individual investment is traded.
- Common/collective trusts and Partnership/joint ventures - using the NAV provided by the administrator of the fund. The NAV is based on the value of the underlying assets owned by the fund, minus its liabilities, and then divided by the number of shares outstanding. The NAV is classified as Level 2 if the plan has the ability to redeem the investment with the investee at NAV per share at the measurement date. Redemption restrictions or adjustments to NAV based on unobservable inputs result in the fair value measurement being classified as Level 3 if those inputs are significant to the overall fair value measurement.
- Real estate investments - based on a discounted cash flow approach that includes the projected future rental receipts, expenses and residual values because the highest and best use of the real estate from a market participant view is as rental property.
- Other investments, principally annuity and fixed income - Level 1: at the closing price reported in the active market in which the individual investment is traded. Level 2: based on yields currently available on comparable securities of issuers with similar credit ratings. Level 3: when quoted prices are not available for identical or similar instruments, under a discounted cash flows approach that maximizes observable inputs such as current yields of similar instruments but includes adjustments for certain risks that may not be observable such as credit and liquidity risks.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The reconciliation of changes in fair value of plan assets based on Level 3 inputs for the years ended December 31, 2016 and 2015, consisted of:

(Millions)	Common Collective Trusts	Partnership Joint Venture Interests	Real Estate Investments	Other Investments	Total
As of December 31, 2014	\$ 449	\$ 79	\$ 75	\$ 342	\$ 945
Actual return on plan assets:					
Relating to assets sold during the year	(3)	(19)	—	1	(21)
Relating to assets still held at the reporting date	(5)	19	10	(21)	3
Purchases, sales and settlements	49	5	4	(4)	54
As of December 31, 2015	\$ 490	\$ 84	\$ 89	\$ 318	\$ 981
Actual return on plan assets:					
Relating to assets sold during the year	6	(19)	—	1	(12)
Relating to assets still held at the reporting date	51	—	2	(8)	45
Purchases, sales and settlements	274	(60)	(30)	(37)	147
As of December 31, 2016	\$ 821	\$ 5	\$ 61	\$ 274	\$ 1,161

Our postretirement benefits plan assets are held with trustees in multiple voluntary employees' beneficiary association (VEBA) and 401(h) arrangements and are invested among and within various asset classes to achieve sufficient diversification in accordance with our risk tolerance. This is achieved for our postretirement benefits plan assets through the utilization of multiple institutional mutual and money market funds, providing exposure to different segments of the fixed income, equity and short-term cash markets. Approximately 37% of the postretirement benefits plan assets are invested in VEBA and 401(h) arrangements that are not subject to income taxes with the remainder being invested in arrangements subject to income taxes.

Networks have established a target asset allocation policy within allowable ranges for postretirement benefits plan assets of 46%-66% for equity securities, 30%-31% for fixed income, and 3%-23% for all other investment types. In ARHI's asset allocation policy we have established targets of 48% in equity securities, 49% in fixed income and 3% in all other investment types. The target allocations within allowable ranges are further diversified into 27%-66% large cap domestic equities, 5% small cap domestic equities, 8% international developed market, and 6% emerging market equity securities. Fixed income investment targets and ranges are segregated into core fixed income at 24%-31%, global high yield fixed income at 4%, and international developed market debt at 3%. Other alternative investment targets are 6% for real estate, 6% for tangible assets, and 3%-11% for other funds. Systematic rebalancing within target ranges increases the probability that the annualized return on investments will be enhanced, while realizing lower overall risk, should any asset categories drift outside their specified ranges.

The fair value of other postretirement benefits plan assets, by asset category, as of December 31, 2016 consisted of:

As of December 31, 2016 (Millions)	Total	Fair Value Measurements		
Asset Category		Level 1	Level 2	Level 3
Money market funds	\$ 6	\$ 4	\$ 2	\$ —
Mutual funds, fixed	41	39	2	—
Government and corporate bonds	2	—	2	—
Mutual funds, equity	72	43	29	—
Common stocks	23	23	—	—
Mutual funds, other	16	9	7	—
Total	\$ 160	\$ 118	\$ 42	\$ —

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

The fair values of other postretirement benefits plan assets, by asset category, as of December 31, 2015 consisted of:

As of December 31, 2015 (Millions)	Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
Asset Category				
Money market funds	\$ 4	\$ 4	\$ —	\$ —
Mutual funds, fixed	36	36	—	—
Government and corporate bonds	2	—	2	—
Mutual funds, equity	46	46	—	—
Common stocks	24	24	—	—
Mutual funds, other	50	43	7	—
Total	\$ 162	\$ 153	\$ 9	\$ —

Valuation Techniques

We value our postretirement benefits plan assets as follows:

- Money market funds and mutual funds - based upon quoted market prices in active markets, which represent the NAV of shares held.
- Government bonds, and common stocks - at the closing price reported in the active market in which the security is traded.
- Corporate bonds - based on yields currently available on comparable securities of issuers with similar credit ratings.

Pension and postretirement benefit plan equity securities did not include any Iberdrola common stock as of both December 31, 2016 and 2015.

Defined contribution plans

We also have defined contribution plans defined as 401(k)s. The annual contributions made through these plans for Networks and ARHI amounted to \$34 million, \$17 million and \$20 million for 2016, 2015, and 2014 respectively.

Note 17. Equity

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As of December 31, 2016, our share capital consisted of 500,000,000 shares of common stock authorized, 309,600,439 shares issued and 308,993,149 shares outstanding, 81.5% of which is owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock of \$3 million and additional paid in capital of \$13,653 million. As of December 31, 2015, our share capital consisted of 500,000,000 shares of common stock authorized, 309,491,082 shares issued and 308,864,609 shares outstanding, 81.5% of which was owned by Iberdrola, each having a par value of \$0.01, for a total value of common stock capital of \$3 million and additional paid in of \$13,653 million. We had 491,459 and 626,473 shares of common stock held in trust and no convertible preferred shares outstanding as of December 31, 2016 and December 31, 2015, respectively. During the year ended December 31, 2016, we issued 109,357 shares of common stock and released 135,014 shares of common stock held in trust each having a par value of \$0.01.

On April 28, 2016, we entered into a repurchase agreement with J.P. Morgan Securities, LLC. (JPM), pursuant to which JPM will, from time to time, acquire, on behalf of AVANGRID, shares of common stock of AVANGRID. The purpose of the stock repurchase program is to allow AVANGRID to maintain the relative ownership percentage of Iberdrola at 81.5%. The stock repurchase program may be suspended or discontinued at any time upon notice. During the year ended December 31, 2016, we repurchased 115,831 shares of common stock of AVANGRID in the open market. The total cost of repurchase, including commissions, was \$5 million.

On December 15, 2015, the board of directors approved our common stock dividend, accounted for as a stock split. The stock split, effected through a stock dividend, resulted in the issuance of 252,234,989 shares, which in addition to the 243 previously existing shares increased the total shares outstanding to 252,235,232. The stock dividend was effective upon the board of directors' approval. All share and per share information included in the condensed consolidated financial statements have been retroactively adjusted to reflect the impact of the stock dividend.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Accumulated OCI (Loss)

Accumulated OCI for the years ended December 31, 2016, 2015 and 2014 consisted of:

Accumulated Other Comprehensive Income (Loss)	As of December 31, 2013	2014 Change	As of December 31, 2014	2015 Change	As of December 31, 2015	2016 Change	As of December 31, 2016
(Millions)							
Loss on revaluation of defined benefit plans, net of income tax expense of \$0.6 for 2014, \$2.2 for 2015 and \$4.3 for 2016	\$ (26)	\$ 1	\$ (25)	\$ 4	\$ (21)	\$ 7	\$ (14)
Loss for nonqualified pension plans, net of income tax expense (benefit) of \$(1.9) for 2014, \$1.7 for 2015 and \$0.4 for 2016	(8)	(3)	(11)	3	(8)	1	(7)
Unrealized (loss) gain on derivatives qualifying as cash flow hedges:							
Unrealized (loss) gain during period on derivatives qualifying as cash flow hedges, net of income tax expense (benefit) of \$(1.4) for 2014, \$20.9 for 2015 and \$(15.8) for 2016	—	(2)	(2)	33	31	(26)	5
Reclassification adjustment for losses on settled cash flow hedges, net of income tax expense (benefit) of \$4.1 for 2014, \$4.9 for 2015 and \$(11.0) for 2016 (a)	(66)	5	(61)	7	(54)	(16)	(70)
Net unrealized (loss) gain on derivatives qualifying as cash flow hedges	(66)	3	(63)	40	(23)	(42)	(65)
Accumulated Other Comprehensive (Loss) Income	\$ (100)	\$ 1	\$ (99)	\$ 47	\$ (52)	\$ (34)	\$ (86)

(a) Reclassification is reflected in the operating expenses line item in the consolidated statements of income.

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Note 18. Earnings Per Share

Basic earnings per share is computed by dividing net income attributable to AVANGRID by the weighted-average number of shares of our common stock outstanding. In 2016 and 2015, while we did have securities that were dilutive, these securities did not result in a change to our earnings per share calculations for the years ended December 31, 2016 and 2015. We did not have any potentially-dilutive securities for the year ended December 31, 2014. In accordance with Accounting Standards Codification (ASC) Topic 260, Earnings per Share, we retroactively applied the stock split to prior periods presented.

The calculations of basic and diluted earnings per share attributable to AVANGRID for the years ended December 31, 2016, 2015 and 2014, consisted of:

Years Ended December 31,	2016	2015	2014
(Millions, except for number of shares and per share data)			
<i>Numerator:</i>			
Net income attributable to AVANGRID	\$ 630	\$ 267	\$ 424
<i>Denominator:</i>			
Weighted average number of shares outstanding - basic	309,512,553	254,588,212	252,235,232
Weighted average number of shares outstanding - diluted	309,817,322	254,605,111	252,235,232
<i>Earnings per share attributable to AVANGRID</i>			
Earnings Per Common Share, Basic	\$ 2.04	\$ 1.05	\$ 1.68
Earnings Per Common Share, Diluted	\$ 2.04	\$ 1.05	\$ 1.68

Note 19. Tax equity financing arrangements

The sale of a membership interest in the tax equity financing arrangements (TEFs) represents the sale of an equity interest in a structure that is considered in substance real estate. Under existing guidance for real estate financings, the membership interests in the TEFs we sold to the third-party investors are reflected as a financing obligation in the consolidated balance sheets. We continue to fully consolidate the TEFs' assets and liabilities in the consolidated balance sheets and to report the results of the TEFs' operations in the consolidated statements of income. The presentation reflects revenues and expenses from the TEFs' operations on a fully consolidated basis. We consolidate the TEFs based on being the primary beneficiary for these variable interest entities (VIEs). The liabilities are increased for cash contributed by the third-party investors, interest accrued, and the federal income tax impact to the third-party investors of the allocation of taxable income. Interest is accrued on the balance using the effective interest method and the third-party investors' targeted rate of return. The balance accrued interest at an average rate of 5.4% and 8.5% as of December 31, 2016 and 2015, respectively. The liabilities are reduced by cash distributions to the third-party investors, the allocation of production tax credits to the third-party investors, and the federal income tax impact to the third-party investors of the allocation of taxable losses. This treatment is expected to remain consistent over the terms of the TEFs. The assets and liabilities of these VIEs totaled approximately \$1,343 million and \$244 million, respectively, at December 31, 2016. As of December 31, 2015 the assets and liabilities of VIEs totaled approximately \$1,401 million and \$338 million, respectively. At December 31, 2016 and 2015, the assets and liabilities of the VIEs consisted primarily of property, plant and equipment, equity method investments and TEF liabilities. At December 31, 2016 and 2015, equity method investments of VIEs were approximately \$161 million and \$169 million, respectively.

We consider the following four structures to be TEFs: (1) Aeolus Wind Power II LLC, (2) Aeolus Wind Power III LLC, (3) Aeolus Wind Power IV LLC, and (4) Locust Ridge Wind Farms, LLC, (collectively, Aeolus). We retain a class of membership interest and day-to-day operational and management control of Aeolus, subject to investor approval of certain major decisions. The third-party investors do not receive a lien on any Aeolus assets and have no recourse against us for their upfront cash payments.

Wind power generation is subject to certain favorable tax treatments in the U.S. In order to monetize the tax benefits generated by Aeolus, we have entered into the Aeolus structured institutional partnership investment transactions related to certain wind farms. Under the Aeolus structures, we contribute certain wind assets, relating both to existing wind farms and wind farms that are being placed into operation at the time of the relevant transaction, and other parties invest in the share equity of the Aeolus limited liability holding company. As consideration for their investment, the third parties make either an upfront cash payment or a combination of upfront cash and issuance of fixed and contingent notes.

The third party investors receive a disproportionate amount of the profit or loss, cash distributions and tax benefits resulting from the wind farm energy generation until the investor recovers its investment and achieves a cumulative annual after-tax return. Once this target return is met, the relative sharing of profit or loss, cash distributions and taxable income or loss between the Company and the third party investor flips, with the company taking a disproportionate share of such amounts thereafter. We also have a call option to acquire the third party investors' membership interest within a defined time period after this target return is met.

Our Aeolus interests are not subject to any rights of investors that may restrict our ability to access or use the assets or to settle any existing liabilities associated with the interests.

During 2014, the investor returns on the Aeolus I structure successfully met the investor requirements, causing the structure to flip back to us and leaving the investor with a ten-percent noncontrolling interest. In October 2015, AVANGRID purchased this remaining interest from the investor with a gain of \$5 million recorded within "Other income and (expense)" of the consolidated statements of income.

Note 20. Grants, Government Incentives and Deferred Income

The changes in deferred income as of December 31, 2016 and 2015 consisted of:

(Millions)	Government grants	Other deferred income	Total
As of December 31, 2014	\$ 1,606	\$ 15	\$ 1,621
Additions	—	—	—
Recognized in income	(77)	9	(68)
As of December 31, 2015	\$ 1,529	\$ 24	\$ 1,553
Additions	—	—	—
Recognized in income	(68)	(2)	(70)
As of December 31, 2016	\$ 1,461	\$ 22	\$ 1,483

Within deferred income we classify grants we received under Section 1603 of the American Recovery and Reinvestment Act of 2009, where the United States Department of Treasury (DOT) provides eligible parties the option of claiming grants for specified energy property in lieu of tax credits, which we claimed for the majority of our qualifying properties. Deferred income has been recorded for the grant amounts and is amortized as an offset against depreciation expense using the straight-line method over the estimated useful life of the associated property to which the grants apply. We recognize a net deferred tax asset for the book to tax basis differences related to the property for income tax purposes.

We are required to comply with certain terms and conditions applicable to each grant and, if a disqualifying event should occur as specified in the grant's terms and conditions, we are required to repay the grant funds to the DOT. We believe we are in compliance with each grant's terms and conditions as of December 31, 2016 and 2015.

Other deferred income relates predominantly to gas storage transactions where revenues are recognized as services are provided.

Government grants related to depreciable assets and contributions in aid of construction treated as credits to property, plant and equipment in accordance with FERC requirements were \$459 million and \$390 million as of December 31, 2016 and 2015, respectively.

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Note 21. Equity method investments

We have a 50-50 joint venture with Shell Wind Energy, Inc., which owns and operates a 162- megawatt (MW) wind farm located in southeast Colorado (Colorado Wind Ventures LLC), which commenced operations in January 2004. We account for this venture under the equity method of accounting. The carrying amount of this investment was \$45 million and \$41 million as of December 31, 2016 and 2015, respectively.

We have two 50-50 joint ventures with Horizon Wind Energy, LLC, which own and operate the Flat Rock Windpower LLC and the Flat Rock Wind Power II LLC wind farms located in upstate New York. Flat Rock Wind Power LLC, which commenced operations in January 2006, has a 231-MW capacity. Flat Rock Wind Power II LLC commenced operations in September 2007 and has a 91-MW capacity. We account for the Flat Rock joint ventures under the equity method of accounting. The carrying amount of these investments was \$128 million and \$143 million for Flat Rock Wind Power LLC, and \$64 million and \$69 million for Flat Rock Wind Power II LLC, as of December 31, 2016 and 2015, respectively.

Through UI, we are party to a 50-50 joint venture with NRG affiliates in GenConn, which operates two peaking generation plants in Connecticut. The investment in GenConn is being accounted for as an equity investment, the carrying value of which was \$128 million and \$110 million as of December 31, 2016 and 2015.

Networks holds an approximately 20% ownership interest in New York TransCo, LLC. New York TransCo, LLC was established by the New York transmission utilities to develop, own, and operate electric transmission in New York. The investment in New York TransCo, LLC is being accounted for as an equity investment, the carrying value of which was \$22 million as of December 31, 2016 (See Note 24).

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

None of our joint ventures have any contingent liabilities or capital commitments. Distributions received from equity method investments amounted to \$20 million, \$12 million, and \$19 million for the years ended December 31, 2016, 2015, and 2014 respectively, which are reflected as either distributions of earnings or as returns of capital in the operating and investing sections of the consolidated statements of cash flows, respectively. As of December 31, 2016, there was an immaterial amount of undistributed earnings from our equity method investments.

During the year ended December 31, 2016 we completed the sale of our interest in Iroquois Gas Transmission System L.P. (Iroquois) to an unaffiliated third party for proceeds of \$53.8 million and an impact to net income of \$19.0 million. The carrying value of this equity method investment was \$22 million as of December 31, 2015.

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Note 22. Other Financial Statements Items

Other income and (expense)

Other income and (expense) for the years ended December 31, 2016, 2015 and 2014 consisted of:

Years ended December 31, (Millions)	2016	2015	2014
Allowance for funds used during construction	\$ 26	\$ 21	\$ 17
Carrying costs on regulatory assets	14	28	29
Other	36	6	6
Total Other income and (expense)	\$ 76	\$ 55	\$ 52

Included in "Other" is a gain of \$33 million resulted from the sale of our interest in Iroquois in 2016 (See Note 21).

Accounts Receivable

Accounts receivable as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Trade receivables	\$ 1,183	\$ 1,036
Allowance for bad debts	(64)	(62)
Total Accounts Receivable	\$ 1,119	\$ 974

The allowance for bad debts relates entirely to gas and electricity consumers and comprises an amount that has been reserved following historical averages of loss percentages.

The change in the allowance for bad debts as of December 31, 2016 and 2015 consisted of:

(Millions)	
As of December 31, 2013	58
Current period provision	39
Write-off as uncollectible	(48)
As of December 31, 2014	\$ 49
Current period provision	46
Write-off as uncollectible	(33)
As of December 31, 2015	\$ 62
Current period provision	48
Write-off as uncollectible	(46)
As of December 31, 2016	\$ 64

DPA receivable balances were \$54 million and \$62 million as of December 31, 2016 and 2015, respectively.

Prepayments and Other Current Assets

Prepayments and other current assets as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Prepaid other taxes	\$ 153	\$ 130
Broker margin and collateral accounts	32	46
Loans to third parties	3	3
Fixed-term deposits	3	11
Other pledged deposits	8	24
Prepaid expenses	53	53
Other	3	18
Total	\$ 255	\$ 285

Other Non-current Assets

Included in “Other non-current assets” are \$186 million of safe harbor turbine payments made as of December 31, 2016 for production tax credit qualification purposes.

In addition, included in “Other non-current assets”, are \$5 million and \$7 million, which represent restricted cash as of December 31, 2016 and 2015, respectively.

Other current liabilities

Other current liabilities as of December 31, 2016 and 2015 consisted of:

As of December 31, (Millions)	2016	2015
Advances received	\$ 107	\$ 96
Accrued salaries	84	68
Short-term environmental provisions	34	35
Collateral deposits received	45	59
Pension and other postretirement	5	5
Other	4	22
Total	\$ 279	\$ 285

Note 23. Segment Information

Our segment reporting structure uses our management reporting structure as its foundation to reflect how AVANGRID manages the business internally and is organized by type of business. We report our financial performance based on the following three reportable segments:

- Networks: including all the energy transmission and distribution activities, and any other regulated activity originating in New York and Maine, and regulated electric distribution, electric transmission and gas distribution activities originating in Connecticut and Massachusetts. The Networks reportable segment includes eight rate regulated operating segments. These operating segments generally offer the same services distributed in similar fashions, have the same types of customers, have similar long-term economic characteristics and are subject to similar regulatory requirements, allowing these operations to be aggregated into one reportable segment.
- Renewables: activities relating to renewable energy, mainly wind energy generation and trading related with such activities.
- Gas: including gas trading and storage businesses carried on by the AVANGRID Group

Products and services are sold between reportable segments and affiliate companies at cost. The chief operating decision maker evaluates segment performance based on segment adjusted EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) defined as net income adding back income tax expense, depreciation and amortization, impairment of non-current assets and interest expense net of capitalization, and then subtracting other income and earnings from equity method investments per segment. Segment

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

income, expense, and assets presented in the accompanying tables include all intercompany transactions that are eliminated in the consolidated financial statements.

Segment information as of and for the year ended December 31, 2016 consisted of:

For the year ended December 31, 2016 (Millions)	Networks	Renewables	Gas	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 5,027	\$ 1,000	\$ (7)	\$ (2)	\$ 6,018
Revenue - intersegment	3	15	39	(57)	—
Depreciation and amortization	466	313	25	—	804
Operating income (loss) from continuing operations	1,086	149	(41)	—	1,194
Adjusted EBITDA	1,552	462	(16)	—	1,998
Earnings (loss) from equity method investments	15	(8)	—	—	7
Capital expenditures	1,140	561	6	—	1,707
As of December 31, 2016					
Property, plant and equipment	13,032	8,015	501	—	21,548
Equity method investments	151	236	—	—	387
Total assets	\$ 20,753	\$ 9,884	\$ 1,124	\$ (452)	\$ 31,309

(a) Does not represent a segment. It mainly includes Corporate and intercompany eliminations.

Included in revenue-external for the year ended December 31, 2016 are: \$3,686 million from regulated electric operations, \$1,306 million from regulated gas operations and \$35 million from other operations of Networks; \$1,000 million from renewable energy generation of Renewables; \$7 million from gas storage services and \$(14) million from gas trading operations of Gas.

Segment information as of and for the year ended December 31, 2015 consisted of:

For the year ended December 31, 2015 (Millions)	Networks	Renewables	Gas	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 3,386	\$ 1,051	\$ (71)	\$ 1	\$ 4,367
Revenue - intersegment	—	16	52	(68)	—
Impairment of noncurrent assets	—	12	—	—	12
Depreciation and amortization	328	344	23	—	695
Operating income (loss) from continuing operations	537	100	(85)	(39)	513
Adjusted EBITDA	865	456	(62)	(39)	1,220
Earnings (loss) from equity method investments	1	(5)	—	4	—
Capital expenditures	773	304	5	—	1,082
As of December 31, 2015					
Property, plant and equipment	12,363	7,835	513	—	20,711
Equity method investments	110	253	—	22	385
Total assets	\$ 20,126	\$ 10,685	\$ 1,265	\$ (1,333)	\$ 30,743

(a) Does not represent a segment. It mainly includes Corporate and intercompany eliminations.

Included in revenue-external for the year ended December 31, 2015 are: \$2,779 million from regulated electric operations, \$605 million from regulated gas operations and \$2 million from other operations of Networks; \$1,051 million from renewable energy generation of Renewables; \$21 million from gas storage services and \$(92) million from gas trading operations of Gas.

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

Segment information as of and for the year ended December 31, 2014 consisted of:

For the year ended December 31, 2014 (Millions)	Networks	Renewables	Gas	Other(a)	AVANGRID Consolidated
Revenue - external	\$ 3,396	\$ 1,180	\$ 12	\$ 6	\$ 4,594
Revenue - intersegment	1	9	72	(82)	—
Impairment of noncurrent assets	—	24	—	1	25
Depreciation and amortization	275	332	22	—	629
Operating income (loss) from continuing operations	616	257	16	(4)	885
Adjusted EBITDA	891	613	38	(3)	1,539
Earnings from equity method investments	—	2	—	10	12
Capital expenditures	775	250	5	—	1,030
As of December 31, 2014					
Property, plant and equipment	8,389	8,219	525	—	17,133
Equity method investments	—	262	—	—	262
Total assets	\$ 12,858	\$ 12,328	\$ 1,393	\$ (2,417)	\$ 24,162

(a) Does not represent a segment. It mainly includes Corporate and intercompany eliminations.

Included in revenue-external for the year ended December 31, 2014 are: \$2,726 million from regulated electric operations, \$668 million from regulated gas operations and \$2 million from other operations of Networks; \$1,180 million from renewable energy generation of Renewables; \$8 million from gas storage services and \$4 million from gas trading operations of Gas.

Reconciliation of consolidated Adjusted EBITDA to the AVANGRID consolidated Net Income for the years ended December 31, 2016, 2015 and 2014, respectively, is as follows:

Years Ended December 31, (Millions)	2016	2015	2014
Consolidated Adjusted EBITDA	\$ 1,998	\$ 1,220	\$ 1,539
Less:			
Impairment of non-current assets	—	12	25
Depreciation and amortization	804	695	629
Interest expense, net of capitalization	268	267	243
Income tax expense	379	34	282
Add:			
Other income	76	55	52
Earnings from equity method investments	7	—	12
Consolidated Net Income	\$ 630	\$ 267	\$ 424

Note 24. Related Party Transactions

We engage in related party transactions that are generally billed at cost and in accordance with applicable state and federal commission regulations.

Related party transactions for the years ended December 31, 2016, 2015 and 2014, respectively, consisted of:

Years Ended December 31, (Millions)	2016		2015		2014	
	Sales To	Purchases From	Sales To	Purchases From	Sales To	Purchases From
Iberdrola Financiación, S.A.	\$ —	\$ (2)	—	\$ (1)	—	\$ (2)
Iberdrola Renovables Energía, S.L.	—	(8)	—	(9)	—	(10)
Iberdrola Canada Energy Services, Ltd	—	(37)	—	(55)	—	(49)
Iberdrola, S.A.	—	(31)	—	(35)	—	(20)
Other	21	(1)	3	(2)	12	(10)

AVANGRID, Inc. and Subsidiaries
Notes to Consolidated Financial Statements (Continued)

In addition to the statements of income items above we made purchases of turbines for wind farms from Gamesa Corporación Tecnológica, S.A. (Gamesa), in which our ultimate parent Iberdrola has a 20% ownership. The amounts capitalized for these transactions were \$269 million and \$70 million for the years ended December 31, 2016 and 2015, respectively. In addition, included in “Other non-current assets” are \$92 million of safe harbor turbine payments we made to Gamesa as of December 31, 2016 (see Note 22). In June 2016, Siemens AG and Gamesa signed a binding agreement to merge their wind power businesses. After completion of the merger, which is expected in the first quarter of 2017, Iberdrola will have 8.1% ownership of the new combined company.

Related party balances as of December 31, 2016 and 2015, respectively, consisted of:

As of December 31, (Millions)	2016		2015	
	Owed By	Owed To	Owed By	Owed To
Iberdrola Canada Energy Services, Ltd	\$ —	\$ (14)	\$ 7	\$ (5)
Gamesa Corporación Tecnológica, S.A.	1	(181)	68	(77)
Iberdrola, S.A.	—	(30)	—	(3)
Iberdrola Energy Projects, Inc.	—	—	1	(3)
Iberdrola Renovables Energía, S.L.	2	—	—	—
Other	22	(3)	—	(2)

Transactions with our parent company, Iberdrola, relate predominantly to the provision and allocation of corporate services and management fees. Also included within the Purchases From category are charges for credit support relating to guarantees Iberdrola has provided to third parties guaranteeing our performance. All costs that can be specifically allocated, to the extent possible, are charged directly to the company receiving such services. In situations when Iberdrola corporate services are provided to two or more companies of AVANGRID any costs remaining after direct charge are allocated using agreed upon cost allocation methods designed to allocate those costs. We believe that the allocation method used is reasonable.

Transactions with Iberdrola Canada Energy Services predominantly relate to the purchase of gas for ARHI’s gas-fired generation facility at Klamath.

There have been no guarantees provided or received for any related party receivables or payables. These balances are unsecured and are typically settled in cash. Interest is not charged on regular business transactions but is charged on outstanding loan balances. There have been no impairments or provisions made against any affiliated balances, other than a \$10 million write-off related to an arrangement to purchase turbines from Gamesa, which was recorded in impairment of non-current assets in the consolidated statements of income for the year ended December 31, 2015.

Networks holds an approximate 20% ownership interest in the regulated New York TransCo. Through New York TransCo, Networks has formed a partnership with Central Hudson Gas and Electric Corporation, Consolidated Edison, Inc., National Grid, plc and Orange and Rockland Utilities, Inc. to develop a portfolio of interconnected transmission lines and substations to fulfill the objectives of the New York energy highway initiative, which is a proposal to install up to 3,200 MW of new electric generation and transmission capacity in order to deliver more power generated from upstate New York power plants to downstate New York. In 2016, Networks has increased its equity method investment in the New York TransCo by approximately \$21 million (included in “Other investments and equity method investments, net” of investing activities in the consolidated statements of cash flows) for a total equity method investment of \$22 million. Additionally, in 2016, Networks received approximately \$67 million from the New York TransCo in the form of \$43 million for assets constructed and transferred to the New York TransCo (included in “Proceeds from sale of property, plant and equipment” of investing activities in the consolidated statements of cash flows), \$22 million in contributions in aid of construction and approximately \$2 million in advanced lease payments for a 99 year lease of land and attachment rights. As of December 31, 2016 the amount receivable from New York TransCo was \$11 million.

AVANGRID manages its overall liquidity position as part of the broader Iberdrola Group and is a party to a cash pooling agreement with Bank Mendes Gans, N.V., similar to other members of the Iberdrola Group. Cash surpluses remaining after meeting the liquidity requirements of AVANGRID and its subsidiaries may be deposited in the cash pooling account where such funds are available to meet the liquidity needs of other affiliates within the Iberdrola Group. Under the cash pooling agreement, affiliates with credit balances have pledged those balances to cover the debit balances of the other affiliated parties to the agreement.

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Note 25. Stock-Based Compensation

Under the Avangrid, Inc. Omnibus Incentive Plan 1,298,683 performance stock units (PSUs) were granted to certain officers and employees of AVANGRID in July 2016. An additional 11,804 PSUs were granted to officers and employees of AVANGRID in December 2016. The PSUs will vest upon achievement of certain performance and market-based metrics related to the 2016 through 2019 plan and will be payable in three equal installments in 2020, 2021 and 2022. As of December 31, 2016, the total number of shares authorized for stock-based compensation plans was 2,500,000.

The fair value of the PSUs on the grant date was \$31.80 per share, which is expensed on a straight-line basis over the requisite service period of approximately seven years based on expected achievement. The fair value of the PSUs was determined using valuation techniques to forecast possible future stock prices, applying a weighted average historical stock price volatility of AVANGRID and industry companies, a risk-free rate of interest that is equal, as of the grant date, to the yield of the zero-coupon U.S. Treasury bill and a reduction for the respective dividend yield calculated based on the most recent quarterly dividend payment and the stock price as of the grant date.

In connection with the acquisition of UIL, certain PSUs granted under the UIL 2008 Stock and Incentive Compensation Plan are outstanding, which are payable in our shares in 2017 and 2018 and vest based upon the achievement of certain pre-determined performance objectives.

The total stock-based compensation expense, which is included in operations and maintenance of the consolidated statements of income for the years ended December 31, 2016, 2015 and 2014 was \$0.6 million, \$6.0 million and \$4.8, respectively. The total income tax benefit recognized for stock-based compensation arrangements for the years ended December 31, 2016, 2015 and 2014, was \$0.2 million, \$2.4 million and \$1.9 million, respectively.

The total liability relating to stock-based compensation, which is included in other non-current liabilities, was \$9.5 million and \$17.5 million as of December 31, 2016 and 2015, respectively. Before 2016 the Company's historical stock-based expense and liabilities were based on shares of Iberdrola and not on shares of the Company. These Iberdrola shares-based awards were early terminated at the end of 2015, and the liability will be settled in two equal installments no later than June 30, 2017 and March 30, 2018.

A summary of the status of the AVANGRID's nonvested PSUs as of December 31, 2016, and changes during the fiscal year ended December 31, 2016, is presented below:

	Number of PSUs	Weighted Average Grant Date Fair Value
Nonvested Balance – December 31, 2015	411,207	\$ 39.60
Granted	1,335,416	\$ 31.92
Forfeited	(36,592)	\$ 32.83
Vested	(186,050)	\$ 40.84
Nonvested Balance – December 31, 2016	<u>1,523,981</u>	<u>\$ 33.01</u>

As of December 31, 2016, total unrecognized costs for non-vested PSUs were \$22 million. The weighted-average period over which the PSU costs will be recognized is approximately 5 years.

The weighted average grant date fair value of PSUs granted during the year was \$31.92 per share for the year ended December 31, 2016.

Note 26. Quarterly financial data (unaudited)

Selected quarterly financial data for 2016 and 2015 are set forth below:

	<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>	<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
(Millions, except per share data)				
2016				
Operating revenues	\$ 1,670	\$ 1,439	\$ 1,418	\$ 1,491
Operating Income	\$ 349	\$ 322	\$ 217	\$ 306
Net Income	\$ 212	\$ 102	\$ 109	\$ 207
Net Income attributable to Avangrid, Inc.	\$ 212	\$ 102	\$ 109	\$ 207
Earnings Per Common Share, Basic and Diluted: (1)	\$ 0.69	\$ 0.33	\$ 0.35	\$ 0.67
2015				
Operating revenues	\$ 1,227	\$ 939	\$ 1,048	\$ 1,153
Operating Income	\$ 196	\$ 73	\$ 161	\$ 83
Net Income	\$ 106	\$ 11	\$ 54	\$ 96
Net Income attributable to Avangrid, Inc.	\$ 106	\$ 11	\$ 54	\$ 96
Earnings Per Common Share, Basic and Diluted: (1)	\$ 0.42	\$ 0.04	\$ 0.22	\$ 0.37

- (1) Based on weighted average number of 309 million shares outstanding each quarter in 2016 and 252 million shares for each quarter of 2015, except for fourth quarter of 2015, which is based on weighted average of 262 million shares as a result of the acquisition of UIL.

The first quarter of 2016 includes a \$19.0 million impact to net income from the sale of our interest in Iroquois to an unaffiliated third party for proceeds of \$53.8 million. The second quarter of 2016 includes an adjustment of \$126 million to unfunded future income tax to reflect the change from a flow through to normalization method following the approval of the proposal by the NYPSC, which was recorded as an increase to income tax expense and an offsetting increase to revenue.

The first, second, third and fourth quarters of 2015 include \$4 million, \$8 million, \$7 million and \$18.5 million of pre-tax merger related expenses, respectively. Additionally, the fourth quarter of 2015 includes \$44 million relating to rate credits, before income taxes, and \$63 million tax benefits related to state income tax matters, including the initial impact of the merger on our consolidated tax filings.

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Note 27. Subsequent events

In January 2017 we released 5,088 shares of common stock held in trust, each having a par value of \$0.01.

On February 16, 2017, the board of directors of AVANGRID declared a quarterly dividend of \$0.432 per share on its common stock. This dividend is payable on April 3, 2017 to shareholders of record at the close of business on March 10, 2017.

On February 16, 2017, the board of directors of AVANGRID adopted an annual cash incentive plan pursuant to the 2016 Omnibus Incentive Plan approved by the shareholders of AVANGRID.

On March 1, 2017, we issued 70,493 shares of common stock, each having a par value of \$0.01, which was approved by the board of directors of AVANGRID on February 16, 2017.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF INCOME
FOR THE YEARS ENDED DECEMBER 31, 2016, 2015, AND 2014
(Millions)

Years Ended December 31,	2016	2015	2014
Operating Revenues	\$ —	\$ —	\$ —
Operating Expenses			
Operating expense	5	38	2
Taxes other than income taxes	5	5	2
Total Operating Expenses	10	43	4
Operating Loss	(10)	(43)	(4)
Other Income and (expense)			
Other income and (expense)	68	10	(1)
Equity earnings of subsidiaries	565	44	515
Interest expense	(32)	(14)	(34)
Income Before Income Tax	591	(3)	476
Income tax expense (benefit)	(39)	(270)	52
Net Income	\$ 630	\$ 267	\$ 424

See accompanying notes to Schedule I.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2016, 2015, AND 2014
(Millions)

Years Ended December 31,	2016	2015	2014
Net Income	\$ 630	\$ 267	\$ 424
Other comprehensive (loss) income of subsidiaries	(34)	47	1
Comprehensive Income	\$ 596	\$ 314	\$ 425

See accompanying notes to Schedule I.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
BALANCE SHEETS
AS OF DECEMBER 31, 2016 AND 2015
(Millions)

As of December 31,	2016	2015
Assets		
Current Assets		
Cash and cash equivalents	\$ 67	\$ 125
Accounts receivable from subsidiaries	66	602
Notes receivable from subsidiaries	1,908	453
Prepayments and other current assets	11	16
Total current assets	2,052	1,196
Investments in subsidiaries	14,097	14,093
Other assets		
Deferred income taxes	220	148
Other	3	4
Total other assets	223	152
Total Assets	\$ 16,372	\$ 15,441
Liabilities		
Current Liabilities		
Current portion of debt	\$ 8	\$ —
Notes payable	150	—
Notes payable to subsidiaries	454	321
Accounts payable and accrued liabilities	4	12
Accounts payable to subsidiaries	3	3
Interest accrued	6	—
Interest accrued subsidiaries	29	1
Dividends payable	134	—
Taxes accrued	2	44
Other current liabilities	3	4
Total current liabilities	793	385
Other non-current liabilities		
Other	—	3
Total other non-current liabilities	—	3
Non-current debt	470	—
Total non-current liabilities	470	3
Total Liabilities	1,263	388
Equity		
Stockholders' Equity:		
Common stock	3	3
Additional paid-in capital	13,653	13,653
Treasury Stock	(5)	—
Retained earnings	1,544	1,449
Accumulated other comprehensive loss	(86)	(52)
Total Equity	15,109	15,053
Total Liabilities and Equity	\$ 16,372	\$ 15,441

See accompanying notes to Schedule I.

Schedule I—Financial Statements of Parent

AVANGRID, INC. (PARENT)
CONDENSED FINANCIAL INFORMATION OF PARENT
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2016, 2015, AND 2014
(Millions)

Years Ended December 31,	2016	2015	2014
Cash Flow from Operating Activities			
Net Cash provided by (used in) Operating Activities	\$ 324	\$ (380)	\$ (32)
Cash Flow from Investing Activities			
Notes receivable from subsidiaries	(627)	317	(478)
Acquisition of subsidiary	—	(595)	—
Investments in subsidiaries	(533)	—	—
Return of capital from investments in subsidiaries	420	1,111	200
Other investments	—	—	11
Net Cash (used in) provided by Investing Activities	(740)	833	(267)
Cash Flow from Financing Activities			
Proceeds (repayments) of short-term notes payable from subsidiaries, net	133	(331)	302
Proceeds from short-term notes payable	150	—	—
Proceeds of non-current debt	483	—	—
Repurchase of common stock	(5)	—	—
Issuance of common stock	(2)	—	—
Dividends paid	(401)	—	—
Net Cash provided by (used in) Financing Activities	358	(331)	302
Net (Decrease) Increase in Cash and Cash Equivalents	(58)	122	3
Cash and Cash Equivalents, Beginning of Year	\$ 125	3	\$ —
Cash and Cash Equivalents, End of Year	\$ 67	\$ 125	\$ 3
Supplemental Cash Flow Information			
Cash paid for interest	\$ 4	\$ 20	\$ 25
Cash payment (refund) for income taxes	71	—	(6)

See accompanying notes to Schedule I.

Note 1. Basis of Presentation

Avangrid, Inc. (AVANGRID), formerly Iberdrola USA, Inc., is a holding company and conducts substantially all of its business through its subsidiaries. Substantially all of its consolidated assets are held by such subsidiaries. Accordingly, its cash flow and its ability to meet its obligations are largely dependent upon the earnings of these subsidiaries and the distribution of other payment of such earnings to in the form of dividends, loans or advances or repayment of loans and advances from it. These condensed financial statements and related footnotes have been prepared in accordance with regulatory statute 210.12-04 of Regulation S-X. These statements should be read in conjunction with the consolidated financial statements and notes thereto of AVANGRID and subsidiaries (AVANGRID Group).

AVANGRID indirectly or directly owns all of the ownership interests of its significant subsidiaries. AVANGRID relies on dividends or loans from its subsidiaries to fund dividends to its primary shareholder.

AVANGRID's significant accounting policies are consistent with those of the AVANGRID Group. For the purposes of these condensed financial statements, AVANGRID's wholly owned and majority owned subsidiaries are recorded based upon its proportionate share of the subsidiaries net assets.

AVANGRID will file a consolidated federal income tax return that includes the taxable income or loss of all its subsidiaries for the 2016 tax period. Each subsidiary company is treated as a member of the consolidated group and determines its current and deferred

taxes separately and settles its current tax liability or benefit each year directly with AVANGRID pursuant to a tax sharing agreement between AVANGRID and its members.

Note 2. Acquisition of UIL and Issuance of Common Stock

On December 16, 2015 (acquisition date), UIL Holdings Corporation, a Connecticut corporation (UIL), became a wholly-owned subsidiary of AVANGRID as a result of the merger of Green Merger Sub, Inc., a Connecticut corporation and a wholly-owned subsidiary of AVANGRID (Merger Sub), with UIL, with Merger Sub surviving as a wholly-owned subsidiary of AVANGRID (the acquisition). The acquisition was effected pursuant to the Agreement and Plan of Merger, dated as of February 25, 2015, by and among AVANGRID, Merger Sub, and UIL. Following the completion of the acquisition, Merger Sub was renamed "UIL Holdings Corporation." In connection with the acquisition, AVANGRID issued 309,490,839 shares of its common stock, out of which 252,234,989 shares were issued to Iberdrola through a stock dividend, accounted for as a stock split, with no change to par value, at par value of \$0.01 per share, and 57,255,850 shares (including held in trust as treasury stock) were issued to UIL shareowners in addition to payment of \$10.50 in cash per each share of the common stock of UIL issued and outstanding at the acquisition date. Following the completion of the acquisition, former UIL shareowners owned 18.5% of the outstanding shares of common stock of AVANGRID and Iberdrola owned the remaining shares.

On April 28, 2016, AVANGRID entered into a repurchase agreement with J.P. Morgan Securities, LLC. (JPM), pursuant to which JPM will, from time to time, acquire, on behalf of AVANGRID, shares of common stock of AVANGRID. The purpose of the stock repurchase program is to allow AVANGRID to maintain the relative ownership percentage of Iberdrola at 81.5%. The stock repurchase program may be suspended or discontinued at any time upon notice. During the year ended December 31, 2016, AVANGRID repurchased 115,831 shares of its common stock in the open market. The total cost of repurchase, including commissions, was \$5 million.

On February 16, 2017, the board of directors of AVANGRID declared a quarterly dividend of \$0.432 per share on its common stock. This dividend is payable on April 3, 2017 to shareholders of record at the close of business on March 10, 2017.

Note 3. Non-current debt

Supplemental Indenture

On December 19, 2016, AVANGRID, its subsidiary, UIL, and The Bank of New York Mellon, entered into a supplemental indenture, pursuant to which AVANGRID assumed from UIL all the obligations under the indenture dated as of October 7, 2010 between UIL and The Bank of New York Mellon and all obligations relating to \$450 million in aggregate principal amount of 4.625% notes due 2020 issued by the predecessor company to UIL in 2010. For the purpose of the supplemental indenture a capital contribution of \$483 million was made by AVANGRID to UIL in December 2016.

Note 4. Cash dividends paid by subsidiaries

Cash dividends paid by subsidiaries are as follows:

Years ended December 31, (In millions)	2016	2015	2014
AVANGRID Networks	\$ 220	\$ 59	\$ 200
AVANGRID Renewables	200	750	—
Other AVANGRID subsidiaries	—	302	—
	<u>\$ 420</u>	<u>\$ 1,111</u>	<u>\$ 200</u>

In December 2016, AVANGRID made a capital contribution of \$50 million to its subsidiary, CMP. During 2016, AVANGRID recorded a net non-cash dividend of \$827 million from its subsidiaries to zero out their account balances of notes receivables and payables.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

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Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer, or CEO, and our Chief Financial Officer, CFO, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act), as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, our CEO and CFO have concluded that as of such date, our disclosure controls and procedures were not effective, due to a material weakness in internal control over financial reporting described below.

Report of Management on Internal Control Over Financial Reporting

The management of AVANGRID is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. AVANGRID's internal control system over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. AVANGRID's internal control over financial reporting includes those policies and procedures that:

- (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to risk that controls may become inadequate because of changes in condition, or that the degree of compliance with the policies or procedures may deteriorate.

AVANGRID's management assessed the effectiveness of AVANGRID's internal control over financial reporting as of December 31, 2016. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) ("COSO") in Internal Control—Integrated Framework. Based upon that assessment and those criteria, management has identified certain deficiencies that rose to the level of a material weakness in controls related to: (1) the accounting for the change in the estimated useful life of certain elements of the wind farms at Renewables and other smaller deficiencies related to documentation of internal controls procedures, and enhancement of review controls at Renewables, (2) the preparation of the consolidated financial statements, specifically the classification and disclosure of financial information, and (3) the measurement and disclosure of income taxes. This material weakness did not result in any restatement of prior-period financial statements.

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

As a result of the material weakness noted above, management concluded that, as of December 31, 2016, our internal control over financial reporting was not effective. We completed additional substantive procedures prior to filing this Annual Report on Form 10-K. Based on these procedures, management believes that our consolidated financial statements included in this Annual Report on Form 10-K have been prepared in accordance with generally accepted accounting principles. Our CEO and CFO have certified that, based on such officer's knowledge, the financial statements, and other financial information included in this Annual Report on Form 10-K, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this Annual Report on Form 10-K. In addition, we have developed a remediation plan for this material weakness, which is described below.

AVANGRID's independent registered public accounting firm, Ernst & Young LLP, has issued an adverse audit report on the effectiveness of AVANGRID's internal control over financial reporting as of December 31, 2016, which appears in Part II, Item 8,

Changes in Internal Control

Except for the control deficiencies discussed above that have been assessed as a material weakness as of December 31, 2016, and the remediation as described within “Remediation Plans and Other Information” below, there were no other changes in our internal control over financial reporting identified in management’s evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the period covered by this Annual Report on Form 10-K that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Remediation Plans and Other Information

AVANGRID’s management, with oversight from its Audit and Compliance Committee of the Board of Directors of AVANGRID, is actively engaged in remediation efforts to address the material weakness identified above. Management has taken and will take a number of actions to remediate the material weakness including the following remediation plans:

- Implementing and enhancing additional management review controls;
- Increasing accounting personnel to devote additional time and internal control resources;
- Implementing enhanced controls to monitor the effectiveness of the underlying business process controls that are dependent on the data and financial reports generated from the relevant information systems;
- Continuing to implement controls newly designed during the third and fourth quarters of 2016 that management has determined through testing are more precise;
- Implementing specific enhanced review procedures in the property, plant and equipment area, including the estimation of useful lives, as well as within income taxes;
- Educating and re-training internal control employees regarding internal control processes to mitigate identified risks and maintaining adequate documentation to evidence the effective design and operation of such processes; and
- Enhancing the automation of processes and controls to allow for the more timely completion and enhanced review of internal controls surrounding financial information and disclosures.

These improvements are targeted at strengthening the Company’s internal control over financial reporting and remediating the material weakness. The Company remains committed to an effective internal control environment and management believes that these actions, and the improvements management expects to achieve as a result, will remediate the material weakness. However, the material weakness in our internal control over financial reporting will not be considered remediated until the controls operate for a sufficient period of time and management has concluded, through testing that these controls operate effectively. We currently plan to have our enhanced review procedures and documentation standards in place and operating in the first quarter of 2017 and expect that the remediation of this material weakness will be completed by December 31, 2017.

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Item 9B. Other Information.

None.

PART III

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Item 10. *Directors, Executive Officers and Corporate Governance.*

For information regarding our executive officers, see Part I of this Annual Report on Form 10-K. Additional information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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Item 11. *Executive Compensation.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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Item 13. *Certain Relationships and Related Transactions, and Director Independence.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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Item 14. *Principal Accounting Fees and Services.*

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Shareholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

Part IV

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Item 15. Exhibits and Financial Statement Schedules.

a) The following documents are made a part of this Annual Report on Form 10-K:

1. Financial Statements—Our consolidated financial statements are set forth under Part II, Item 8 “Financial Statements and Supplementary Data.”
2. Financial Statement Schedules— Our financial statement schedules are set forth under Part II, Item 8 “Financial Statements and Supplementary Data.”
3. Exhibits—The following instruments and documents are included as exhibits to this report.

Exhibit Number U	Exhibit Description
2.1	Agreement and Plan of Merger, dated as of February 25, 2015, by and among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Green Merger Sub, Inc. and UIL Holdings Corporation (incorporated herein by reference to Annex A to the proxy statement/prospectus included as Exhibit 2.1 in our Registration Statement on Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
3.1	Certificate of Incorporation of Avangrid, Inc. (incorporated herein by reference to Exhibit 3.2 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).
3.2	Bylaws of Avangrid, Inc. (incorporated herein by reference to Exhibit 3.4 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).
4.1	Specimen Common Stock Certificate (incorporated herein by reference to Exhibit 4.1 to Form S-4/A filed with the Securities and Exchange Commission on October 21, 2015).
4.2	Senior Indenture, dated as of October 7, 2010, between UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.1 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 7, 2010).
4.3	First Supplemental Indenture, dated as of October 7, 2010, between UIL Holdings Corporation and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 7, 2010).
4.4	Second Supplemental Indenture, dated as of December 16, 2015, among UIL Holdings Corporation, Green Merger Sub, Inc. and The Bank of New York Mellon, as trustee (incorporated herein by reference to Exhibit 4.2 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).
4.5	Third Supplemental Indenture, dated as of December 19, 2016, among Avangrid, Inc., UIL Holdings Corporation and The Bank of New York Mellon, as trustee.*
10.1	Shareholder Agreement, dated as of December 16, 2015, by and between Avangrid, Inc. and Iberdrola, S.A. (incorporated herein by reference to Exhibit 4.1 to Form 8-K filed with the Securities and Exchange Commission on December 18, 2015).
10.2	Service Agreement, dated January 1, 2014, between Iberdrola USA, Inc. Management Corporation and Avangrid, Inc. (formerly Iberdrola USA, Inc.) (incorporated herein by reference to Exhibit 10.2 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.3	Second Amended and Restated Five-Year Revolving Credit Agreement, dated as of May 30, 2012, among Avangrid, Inc. (formerly Iberdrola USA, Inc.), as Borrower, The Several Lenders from Time to Time Parties Hereto, Citibank N.A., as Administrative Agent, and Sovereign Bank, N.A. and TD Bank N.A., as Syndication Agents (incorporated herein by reference to Exhibit 10.5 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.4	First Amendment to the Second Amended and Restated Five-Year Revolving Credit Agreement, dated as of May 7, 2013, among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Citibank N.A. and the other parties named therein (incorporated herein by reference to Exhibit 10.6 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.5	Second Amendment to the Second Amended and Restated Five-Year Revolving Credit Agreement, dated as of November 25, 2013, among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Citibank, N.A., and other parties named therein (incorporated herein by reference to Exhibit 10.7 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.6	Third Amendment to the Second Amended and Restated Five-Year Revolving Credit Agreement, dated as of April 1, 2015, among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Citibank, N.A. and the other parties named therein (incorporated herein by reference to Exhibit 10.8 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).

Exhibit Number U	Exhibit Description
10.7	Five-Year Revolving Credit Agreement, dated July 15, 2011, among New York State Electric & Gas Corporation, Central Maine Power Company and Rochester Gas and Electric as Borrowers, the Lenders, JPMorgan Chase Bank N.A., as Administrative Agent, Bank of America, N.A., as Syndication Agent, Banco Bilbao Vizcaya Argentaria S.A., New York Branch, Sovereign Bank, TD Bank, N.A., The Bank of New York Mellon, and Union Bank, N.A. as Co-Documentation Agents, and J.P. Morgan Securities LLC, and Merrill Lynch, Pierce, Fenner & Smith Incorporated as Joint Lead Arrangers and Joint Bookrunners (incorporated herein by reference to Exhibit 10.9 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.8	Amendment to Revolving Credit Agreement, dated July 28, 2011, among New York State Electric & Gas Corporation, Rochester Gas & Electric Corporation, Central Maine Power Company, the Lenders and JPMorgan Chase Bank, N.A. as Administrative Agent (incorporated herein by reference to Exhibit 10.10 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.9	First Amendment and Extension Agreement, dated July 18, 2013, among New York State Electric & Gas Corporation, Rochester Gas and Electric Corporation, Central Maine Power Company, the Lenders, JPMorgan Chase Bank, N.A., as Administrative Agent, Bank of America, N.A., as Syndication Agent, and Banco Bilbao Vizcaya Argentaria S.A., New York Branch, Sovereign Bank (Santander Group), TD Bank, N.A., The Bank of New York Mellon and Union Bank, N.A., as Co-Documentation Agents (incorporated herein by reference to Exhibit 10.11 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.10	Accession Agreement, dated September 16, 2011, between Iberdrola Renewables Holdings, Inc. and Bank Mendes Gans N.V. (incorporated herein by reference to Exhibit 10.14 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.11	Guarantee and Support Agreement, dated April 3, 2008, between Iberdrola, S.A. and ScottishPower Holdings, Inc. (incorporated herein by reference to Exhibit 10.15 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.12	Amendment No. 1 to Guarantee and Support Agreement, dated May 27, 2010, between Iberdrola, S.A. and Iberdrola Renewables Holdings, Inc. (formerly known as ScottishPower Holdings, Inc.) (incorporated herein by reference to Exhibit 10.16 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.13	English Translation of Regulations for the “2014-2016 Strategic Bonus” for Senior Officers and Officers of Iberdrola, S.A. and Its Group of Companies (incorporated herein by reference to Exhibit 10.19 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).†
10.14	Provisions to be Applied to U.S. Participants in Relation to the Regulations for the “2014-2016 Strategic Bonus” for Senior Officers and Officers of Iberdrola, S.A. and Its Group of Companies (incorporated herein by reference to Exhibit 10.20 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †
10.15	Iberdrola USA Networks, Inc. Annual Incentive Plan, amended and restated January 1, 2014 (incorporated herein by reference to Exhibit 10.21 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015).†
10.16	Iberdrola USA, Inc. Performance Share Plan effective as of January 1, 2009 (incorporated herein by reference to Exhibit 10.22 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †

Exhibit Number U	Exhibit Description
10.17	Employment Agreement dated October 1, 2010 among Robert Daniel Kump, Iberdrola USA Networks, Inc. (formerly Iberdrola USA, Inc.) and Iberdrola USA Management Corporation (incorporated herein by reference to Exhibit 10.23 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †
10.18	Service Contract dated January 16, 2014 between Robert Daniel Kump and Avangrid, Inc. (incorporated herein by reference to Exhibit 10.24 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †
10.19	Offer letter dated June 16, 2014 between Pablo Canales Abaitua and Iberdrola USA Management Corporation (incorporated herein by reference to Exhibit 10.25 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †
10.20	Employment Agreement dated March 1, 2008 between R. Scott Mahoney and Iberdrola USA Management Corporation (formerly Energy East Management Corporation) (incorporated herein by reference to Exhibit 10.27 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †
10.21	Framework Agreement for the Provision of Corporate Services for Iberdrola and the Companies of its Group, and the Declaration of Acceptance, dated July 16, 2015 (incorporated herein by reference to Exhibit 10.28 to Form S-4 filed with the Securities and Exchange Commission on July 17, 2015).
10.22	Equipment Supply Agreement dated December 28, 2014 between Iberdrola Renewables, LLC and Gamesa Wind US, LLC (incorporated herein by reference to Exhibit 10.29 to Form S-4/A filed with the Securities and Exchange Commission on November 6, 2015).
10.23	Agreement and Release dated September 25, 2009 between Robert Daniel Kump and Iberdrola USA Management Corporation (formerly Energy East Management Corporation) (incorporated herein by reference to Exhibit 10.31 to Form S-4/A filed with the Securities and Exchange Commission on September 9, 2015). †
10.24	Form of Indemnification Agreement between Avangrid, Inc. (formerly Iberdrola USA, Inc.) and its directors and officers (incorporated herein by reference to Exhibit 10.32 to Form S-4/A filed with the Securities and Exchange Commission on October 21, 2015). †
10.25	UIL Holdings Corporation 2008 Stock and Incentive Compensation Plan as Amended and Restated May 14, 2013 (incorporated herein by reference to Exhibit 99.1 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015). †
10.26	UIL Holdings Corporation Deferred Compensation Plan Grandfathered Benefits Provisions, dated August 4, 2008 (incorporated herein by reference to Exhibit 99.2 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015). †
10.27	UIL Holdings Corporation Deferred Compensation Plan Non-Grandfathered Benefits Provisions, as amended and restated effective dated January 1, 2013 (incorporated herein by reference to Exhibit 99.3 to Form S-8 filed with the Securities and Exchange Commission on December 16, 2015). †
10.28	Employment Agreement, dated as of January 23, 2006, between UIL Holdings Corporation and James P. Torgerson (incorporated herein by reference to Exhibit 10.1 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 11, 2006). †
10.29	First Amendment, dated August 4, 2008, to Employment Agreement, between UIL Holdings Corporation and James P. Torgerson (incorporated herein by reference to Exhibit 10.26a of UIL Holdings Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008). †
10.30	Employment Agreement, dated as of July 8, 2005, between The United Illuminating Company and Richard J. Nicholas (incorporated herein by reference to Exhibit 10.4 of UIL Holdings Corporation's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 11, 2005). †
10.31	First Amendment, dated August 4, 2008, to Employment Agreement, dated as of July 8, 2005, between The United Illuminating Company and Richard J. Nicholas (incorporated herein by reference to Exhibit 10.14a of UIL Holdings Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008). †

Exhibit Number U	Exhibit Description
10.32	Amended and Restated UIL Holdings Corporation Change In Control Severance Plan II, dated August 4, 2008 (incorporated herein by reference to Exhibit 10.28a of UIL Holdings Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008).†
10.33	Employment Agreement, dated as of January 1, 2016, among Avangrid, Inc., Avangrid Service Company and James P. Torgerson (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on April 22, 2016).†
10.34	Amended and Restated Employment Agreement, dated as of June 14, 1999, among Avangrid, Inc. (formerly Energy East Corporation), Central Maine Power Company and Sara J. Burns (incorporated herein by reference to Exhibit 10.2 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).†
10.35	Employment Agreement, dated as of January 1, 2012, among Central Maine Power Company, Avangrid, Inc. (formerly Iberdrola USA, Inc.) and Sara J. Burns (incorporated herein by reference to Exhibit 10.3 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).†
10.36	Agreement and Release, dated as of November 25, 2009, between Central Maine Power Company and Sara J. Burns (incorporated herein by reference to Exhibit 10.4 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).†
10.37	Employment Agreement, dated as of November 24, 2009, among Avangrid, Inc. (formerly Energy East Corporation), Rochester Gas & Electric Corporation, and Mark S. Lynch (incorporated herein by reference to Exhibit 10.5 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).†
10.38	First Amendment, dated March 31, 2011, to Employment Agreement, dated as of November 24, 2009, among Avangrid, Inc. (formerly Iberdrola USA, Inc.), Rochester Gas & Electric Corporation, and Mark S. Lynch (incorporated herein by reference to Exhibit 10.6 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016).†
10.39	Revolving Credit Agreement, dated April 5, 2016, among Avangrid, Inc., New York State Electric & Gas Corporation, Rochester Gas and Electric Corporation, Central Maine Power Company, The United Illuminating Company, Connecticut Natural Gas Corporation, The Southern Connecticut Gas Company and The Berkshire Gas Company, as Borrowers, the Lenders, JPMorgan Chase Bank N.A., as Administrative Agent, Bank of America, N.A., as Syndication Agent, and J.P. Morgan Chase Bank, N.A, Merrill Lynch, Pierce, Fenner & Smith Incorporated, The Bank of Tokyo-Mitsubishi UFJ, Ltd. and Santander Bank, N.A. as Joint Lead Arrangers and Joint Bookrunners (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on April 5, 2016).
10.40	Commercial Paper/Certificates of Deposit Issuing and Paying Agent Agreement dated May 13, 2016 among Avangrid, Inc., as Issuer, and Bank of America, National Association, as Issuing and paying Agent (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016).
10.41	Form of Commercial Paper Dealer Agreement among Avangrid, Inc., as Issuer, and various Dealers (incorporated herein by reference to Exhibit 10.1 of AVANGRID's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016).
10.42	Form of Performance Stock Unit Grant Agreement (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on July 19, 2016). †
10.43	Avangrid, Inc. Omnibus Incentive Plan (incorporated herein by reference to Form S-8 filed with the SEC on July 21, 2016).†
10.44	Uncommitted Line of Credit for Standby Letters of Credit Agreement, dated as of December 2, 2016, between Avangrid, Inc. and Crédit Agricole Corporate. *
10.45	Substitution Agreement, dated as of December 19, 2016, between UIL Holdings Corporation and Avangrid, Inc.*
10.46	Employment Agreement, dated March 30, 2004, between The United Illuminating Company and Anthony Marone III (incorporated herein by reference to Exhibit 10.7 to UIL Holdings Corporation's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2013). †
10.47	First Amendment, dated November 8, 2004, to Employment Agreement between The United Illuminating Company and Anthony Marone III (incorporated herein by reference to Exhibit 10.7a to UIL Holdings Corporation's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2013). †

Exhibit Number U	Exhibit Description
10.48	Second Amendment, dated August 4, 2008, to Employment Agreement between The United Illuminating Company and Anthony Marone III (incorporated herein by reference to Exhibit 10.7b to UIL Holdings Corporation's Annual Report on Form 10-K filed with the SEC for the fiscal year ended December 31, 2013). †
10.49	Avangrid, Inc. Executive Annual Incentive Plan (incorporated herein by reference to Exhibit 10.1 to AVANGRID's Current Report on Form 8-K filed with the SEC on February 23, 2017).†
21.1	Significant subsidiaries of the Registrant.*
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm of Avangrid, Inc.*
23.2	Consent of PricewaterhouseCoopers LLP, independent accountants of UIL Holdings Corporation.*
31.1	Chief Executive Officer Certification Pursuant to Rule 13a-14(a) and 15d-14(a), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*
31.2	Chief Financial Officer Certification Pursuant to Rule 13a-14(a) and 15d-14(a), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*
32	Chief Executive Officer and Chief Financial Officer Certification Pursuant to 18 United States Code Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
101.INS	XBRL Instance Document.*
101.SCH	XBRL Taxonomy Extension Schema Document.*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.*
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.*
*	Filed herewith.
†	Compensatory plan or agreement.
0	Confidential treatment has been requested for portions of this document. The omitted portions of this document have been submitted separately to the Securities and Exchange Commission.

The foregoing list of exhibits does not include instruments defining the rights of the holders of certain long-term debt of Avangrid, Inc. and its subsidiaries where the total amount of securities authorized to be issued under the instrument does not exceed ten percent (10%) of the total assets of Avangrid, Inc. and its subsidiaries on a consolidated basis; and Avangrid, Inc. hereby agrees to furnish a copy of each such instrument to the SEC on request.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Avangrid, Inc.

Date: March 10, 2017

By: /s/ James P. Torgerson
James P. Torgerson
Director and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	U	Title	U	Date
<u>/s/ James P. Torgerson</u> James P. Torgerson		Director and Chief Executive Officer (Principal Executive Officer)		March 10, 2017
<u>/s/ Richard J. Nicholas</u> Richard J. Nicholas		Chief Financial Officer (Principal Financial Officer)		March 10, 2017
<u>/s/ Daniel Alcain</u> Daniel Alcain		Controller (Principal Accounting Officer)		March 10, 2017
<u>/s/ Ignacio Sánchez Galán</u> Ignacio Sánchez Galán		Chairman of the Board		March 10, 2017
<u>/s/ John E. Baldacci</u> John E. Baldacci		Director		March 10, 2017
<u>/s/ Pedro Azagra Blázquez</u> Pedro Azagra Blázquez		Director		March 10, 2017
<u>/s/ Arnold L. Chase</u> Arnold L. Chase		Director		March 10, 2017
<u>/s/ Alfredo Elías Ayub</u> Alfredo Elías Ayub		Director		March 10, 2017
<u>/s/ Carol Lynn Folt</u> Carol Lynn Folt		Director		March 10, 2017
<u>/s/ John L. Lahey</u> John L. Lahey		Director		March 10, 2017
<u>/s/ Santiago Martinez Garrido</u> Santiago Martinez Garrido		Director		March 10, 2017
<u>/s/ Juan Carlos Rebollo Liceaga</u> Juan Carlos Rebollo Liceaga		Director		March 10, 2017
<u>/s/ José Sainz Armada</u> José Sainz Armada		Director		March 10, 2017
<u>/s/ Alan D. Solomont</u> Alan D. Solomont		Director		March 10, 2017
<u>/s/ Elizabeth Timm</u> Elizabeth Timm		Director		March 10, 2017
<u>/s/ Felipe de Jesús Calderón Hinojosa</u> Felipe de Jesús Calderón Hinojosa		Director		March 10, 2017

THIRD SUPPLEMENTAL INDENTURE

THIRD SUPPLEMENTAL INDENTURE (the “Third Supplemental Indenture”), dated as of December 19, 2016, to the Indenture dated as of October 7, 2010 (the “Base Indenture” and, as amended and supplemented to the date hereof, the “Indenture”) by and among UIL HOLDINGS CORPORATION, a Connecticut corporation (“UIL”), AVANGRID, Inc., a corporation duly organized and existing under the laws of the State of New York (“Avangrid”), and THE BANK OF NEW YORK MELLON (formerly known as The Bank of New York), a corporation organized under the laws of the State of New York authorized to conduct a banking business, as Trustee (the “Trustee”).

RECITALS

WHEREAS, the predecessor company to UIL, UIL Holdings Corporation (“Predecessor UIL”) and the Trustee have heretofore executed and delivered the Base Indenture to provide for the issuance of Predecessor UIL’s unsecured senior debt securities to be issued from time to time in one or more series as might be determined by Predecessor UIL under the Indenture;

WHEREAS, Predecessor UIL and the Trustee have heretofore executed and delivered the First Supplemental Indenture, dated as of October 7, 2010, pursuant to which Predecessor UIL issued its 4.625% Notes due 2020, in the aggregate principal amount of \$450,000,000 (the “2010 Notes”);

WHEREAS, on December 16, 2016, Predecessor UIL merged with and into Green Merger Sub, Inc., a Connecticut corporation (the “Merger”);

WHEREAS, in connection with the Merger, the surviving entity, Green Merger Sub, Inc., was renamed UIL;

WHEREAS, Predecessor UIL, Green Merger Sub, Inc. and the Trustee have heretofore entered into a Second Supplemental Indenture, dated as of December 16, 2015, pursuant to which UIL, as the surviving entity of the Merger, assumed all of the obligations of Predecessor UIL under the Indenture and the 2010 Notes;

WHEREAS, UIL is a subsidiary of Avangrid;

WHEREAS, UIL and Avangrid desire to amend the Indenture and the 2010 Notes to provide for the substitution of UIL with Avangrid as the issuer thereunder;

WHEREAS, Section 9.01(f) of the Base Indenture permits the execution of supplemental indentures without notice to or the consent of any Holders to make any change that does not materially adversely affect the rights of any Holder;

WHEREAS, the substitution of UIL with Avangrid as the issuer under the Indenture and the 2010 Notes shall not materially adversely affect the rights of any Holder;

WHEREAS, pursuant to this Third Supplemental Indenture, Avangrid shall be substituted for UIL as issuer of the 2010 Notes and assume all of the obligations and perform every covenant of the issuer in the Indenture (including every Supplemental Indenture) and the 2010 Notes (collectively, the “Obligations”);

WHEREAS, upon assumption of the Obligations by Avangrid, UIL shall be relieved of all obligations and covenants under the Indenture;

WHEREAS, in connection with the execution of this Third Supplemental Indenture, the Trustee has received Officers' Certificates and Opinion of Counsel as contemplated by Sections 9.05 and 10.03 of the Base Indenture; and

WHEREAS, all conditions necessary have been done or performed to make this Third Supplemental Indenture a valid and binding agreement of UIL and Avangrid in accordance with its terms.

NOW, THEREFORE, in consideration of the premises and the covenants and agreements contained herein, and for other good and valuable consideration the receipt of which is hereby acknowledged, UIL, Avangrid and the Trustee hereby agree as follows:

ARTICLE 1

RATIFICATION; DEFINITIONS

Section 1.01. Third Supplemental Indenture. This Third Supplemental Indenture is supplemental to, and is entered into pursuant to Section 9.01(f) of the Base Indenture, and except as expressly modified, amended or supplemented by this Third Supplemental Indenture, all the terms, conditions and provisions of the Indenture are in all respects ratified and confirmed and shall remain in full force and effect.

Section 1.02. Definitions. Unless the context shall otherwise require, all terms which are defined in the Indenture shall have the same meanings, respectively, in this Third Supplemental Indenture as such terms are given in the Indenture.

ARTICLE 2

ASSUMPTION OF OBLIGATIONS

Section 2.01 Assumption of Obligations under Indenture and 2010 Notes. As of the date hereof, Avangrid hereby expressly assumes the due and punctual payment of principal of (and premium, if any) and interest, if any, on all the 2010 Notes and the performance of every covenant of the Indenture on the part of UIL to be performed or observed.

(b) As of the date hereof, Avangrid succeeds to, is substituted for and may exercise every right and power of, UIL under the Indenture and the 2010 Notes with the same effect as if Avangrid had originally been named in the Indenture and the 2010 Notes as the "Company" and UIL shall be relieved of all obligations and covenants under the Indenture and the 2010 Notes.

ARTICLE 3

MISCELLANEOUS

Section 3.01. Effective of Supplemental Indenture. This Third Supplemental Indenture is executed and shall be construed as an indenture supplemental to the Indenture and, as provided in the Indenture, this Third Supplemental Indenture forms a part thereof.

Section 3.02. Counterparts. This Third Supplemental Indenture may be executed in any number of counterparts, each of which shall be an original; but such counterparts shall constitute but one and the same instrument.

Section 3.03. Acceptance. The Trustee accepts the Indenture, as supplemented by this Third Supplemental Indenture, and agrees to perform the same upon the terms and conditions set forth therein as so supplemented. The Trustee shall not be responsible in any manner whatsoever for or in respect of the validity or sufficiency of this Third Supplemental Indenture or the due execution hereof by UIL or Avangrid or in respect of the recitals contained herein, all of which are made solely by UIL and Avangrid. In entering into this Third Supplemental Indenture, the Trustee shall be entitled to the benefit of every provision of the Indenture and the 2010 Notes relating to the conduct or affecting the liability or affording protection to the Trustee, whether or not elsewhere herein so provided.

Section 3.04. Successors and Assigns. All covenants and agreements in this Third Supplemental Indenture by Avangrid or the Trustee shall bind their respective successors and assigns, whether so expressed or not.

Section 3.05. Severability. In case any one or more of the provisions contained in this Third Supplemental Indenture shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Third Supplemental Indenture, but this Third Supplemental Indenture shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein or therein.

Section 3.06. Governing Law. This Third Supplemental Indenture shall be construed in accordance with and governed by the laws of the State of New York.

Section 3.07. Conflict with Trust Indenture Act. If any provision hereof limits, qualifies or conflicts with another provision hereof which is required to be included in this Third Supplemental Indenture by any of the provisions of the Trust Indenture Act of 1939, as amended, such required provision shall control.

Section 3.08. No Benefit. Nothing in this Third Supplemental Indenture, express or implied, shall give to any Person other than the parties hereto and their successors or assigns, and the Holders of the 2010 Notes, any benefit or legal or equitable rights, remedy or claim under this Third Supplemental Indenture, the Indenture or the 2010 Notes.

Section 3.09. References to Supplemental Indenture. Any and all notices, requests, certificates and other instruments executed and delivered after the execution and delivery of this Third Supplemental Indenture may refer to the Indenture without making specific reference to this Third Supplemental Indenture, but nevertheless all such references shall include this Third Supplemental Indenture unless the context requires otherwise.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Third Supplemental Indenture to be duly executed, all as of the day and year first above written.

UIL Holdings Corporation

By : /s/ Steven P. Fauzza
Name: Steven P. Fauzza
Title: Vice President, Controller & Treasurer

By : /s/ Leonard Rodriguez
Name: Leonard Rodriguez
Title: General Counsel

Avangrid, Inc.

By : /s/ Howard Coon
Name: Howard Coon
Title: Vice President & Treasurer

By : /s/ Daniel Alcain
Name: Daniel Alcain
Title: Senior Vice President – Controller

The Bank of New York Mellon,
as Trustee

By: /s/ Francine Kincaid
Name: Francine Kincaid
Title: Vice President

[Signature Page to the Third Supplemental Indenture]



December 2, 2106

Avangrid, Inc.
 70 Farm View Drive
 New Gloucester, ME 04260
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 Attention: Howard Coon, Vice President, Treasurer

Re: Offer, dated as of December 2, 2016 for a U.S.\$50,000,000 Uncommitted Line of Credit for Standby Letters of Credit

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 Ladies and Gentlemen:

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1. Introduction:

Crédit Agricole Corporate and Investment Bank ("Issuing Bank") is pleased to offer to negotiate with Avangrid, Inc., a New York corporation ("Account Party"), for the issuance of standby letters of credit, which shall be comprised of performance and financial letters of credit (the "Letters of Credit") on an uncommitted basis on and subject to the terms and conditions hereof and of the other Credit Documents (as defined below); provided, however, that the aggregate amount of the L/C Obligations (as defined below) outstanding at any time hereunder shall not exceed U.S.\$50,000,000 (the "Maximum Amount"); and provided, further, that there shall be a sublimit for performance Letters of Credit with a tenor of more than one (1) year up to five (5) years of U.S.\$10,000,000. The Letters of Credit issued hereunder shall be utilized by Account Party for general corporate purposes.

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 Upon execution hereof by Account Party and the satisfaction of the conditions to effectiveness set forth herein, this Agreement shall become effective and shall remain in effect until the earlier of November 30, 2017 and the date of revocation hereof by Issuing Bank in its sole discretion (such earlier date, the "Expiration Date"). Any obligations of Account Party incurred pursuant to this Agreement shall survive its revocation or expiration.

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Account Party understands and agrees that (a) Issuing Bank may revoke this Agreement at any time without notice to Account Party and (b) this Agreement is not a commitment by Issuing Bank to issue any Letter of Credit and no commitment fee is being paid. Notwithstanding anything herein contained to the contrary, it is hereby agreed that so long as any Letter of Credit issued pursuant to the terms hereof or any Application (as defined below) remains outstanding, the Events of Default specified herein shall remain effective and shall survive the termination of this Agreement and Issuing Bank shall be entitled to exercise any and all remedies in respect thereof.

2. Definitions:

As used herein and in the other Credit Documents (unless otherwise defined therein), the following terms have the following meanings:

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"Account Party": as defined in Section 1.

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"Affiliate": means, with respect to any specified Person, any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For purposes of this definition, "control," when used with respect to any specified Person, means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise. For purposes of this definition, the terms "controlling," "controlled by" and "under common control with" have correlative meanings.

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"Agreement": means this Offer for a U.S.\$50,000,000 Uncommitted Line of Credit for Standby Letters of Credit, as amended, restated, amended and restated, supplemented, extended or otherwise modified from time to time.

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"Anti-Corruption Laws": means any applicable laws, rules, or regulations relating to bribery or corruption, including (a) the United States Foreign Corrupt Practices Act of 1977; (b) the United Kingdom Bribery Act of 2010; and (c) any other similar law, rule or regulation in any applicable jurisdiction currently in force or hereafter enacted.

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"Anti-Money Laundering Laws": means any laws or regulations relating to money laundering or terrorist financing in any applicable jurisdiction currently in force or hereafter enacted.

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"Application": means an application, in the form attached hereto as Exhibit A or such other form as the Issuing Bank shall from time to time issue, requesting Issuing Bank to open a Letter of Credit. For the avoidance of doubt, to the extent any provision of any Application conflicts with or is otherwise inconsistent with this Agreement, the terms of this Agreement shall supersede any such Application and this Agreement shall govern.

"Base Rate": means as determined by Issuing Bank on a daily basis, the higher of (a) the rate per annum established by Issuing Bank from time to time as the reference rate for short-term commercial loans in U.S. Dollars to domestic corporate borrowers (which Account Party acknowledges is not necessarily Issuing Bank's lowest rate) and (b) the overnight cost of funds of Issuing Bank as determined solely by Issuing Bank plus 1/4 of 1% per annum.

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"Board": means the Board of Governors of the Federal Reserve System of the U.S.

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"Business Day": means any day, other than a Saturday or Sunday or legal holiday, on which commercial banks generally are open for business in New York, New York .

"Change of Control": means at any time Iberdrola S.A. shall cease to own, directly or indirectly, at least 51 % of the economic and voting interests in Account Party, free and clear of any Lien.

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"Code": means the U.S. Internal Revenue Code of 1986, as amended.

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"Collateral Account": as defined in Section 9.

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"Contingent Obligation": means, as to any Person, any guarantee of payment by such Person of any Indebtedness or other obligation of any other Person, or any agreement to provide financial assurance with respect to the financial condition, or the payment of the obligations of, such other Person which has the effect of assuring or holding harmless any third Person against loss with respect to one or more obligations of such third Person.

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"Credit Documents": means this Agreement, and the Applications.

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"Currency": means U.S. Dollars and/or any Foreign Currency.

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"Default": means any Event of Default or any condition or event which, after the giving of notice, the lapse of time, or both, or any other condition, would become an Event of Default.

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"Dollar Equivalent": means, on any date of determination, with respect to an amount denominated in any Foreign Currency, the amount of U.S. Dollars that would be required to purchase such amount of such Foreign Currency on the date two (2) Business Days prior to such date, based upon the spot selling rate at which Issuing Bank offers to sell such Foreign Currency for U.S. Dollars in the London foreign exchange market at approximately 11:00 a.m., London time, for delivery two (2) Business Days later.

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"Event of Default": as defined in Section 9.

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"Expiration Date": as defined in Section 1.

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"FATCA": means Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version), and any current or future regulations or official interpretations thereof.

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"Financial Statements": means the income statement, statement of cash flows and balance sheet of Account Party furnished in accordance with Section 8(a)(i).

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"Foreign Currency": means at any time any Currency other than U.S. Dollars.

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"GAAP": means generally accepted accounting principles in the U.S. consistent with those utilized in preparing the Financial Statements.

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"Indebtedness": means with respect to any Person at any date: (a) all indebtedness of such Person for borrowed money or for the deferred purchase price of property or services (other than current trade liabilities incurred in the ordinary course of business and payable in accordance with customary practices), (b) any other indebtedness which is evidenced by a note, bond, debenture or similar instrument, (c) all capital lease obligations of such Person, (d) all obligations of such Person in respect of outstanding letters of credit, acceptances and similar obligations created for the account of such Person, (e) all liabilities secured by any Lien on any property owned by such Person even though such Person has not assumed or otherwise become liable for the payment thereof, (f) all Contingent Obligations of such Person and (g) net liabilities of such Person under interest rate cap agreements, interest rate swap agreements, foreign currency exchange agreements and other hedging agreements or arrangements (calculated on a basis satisfactory to Issuing Bank and in accordance with accepted industry practice). The Indebtedness of any Person shall include any Indebtedness of any partnership in which such Person is the general partner.

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"Indemnified Liabilities": as defined in Section 12(b).

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"Indemnitee": as defined in Section 12(b).

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"ISP": as defined in Section 18(b).

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"Issuing Bank": as defined in Section 1.

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"L/C Obligations": means at any time, an amount equal to the sum of (a) the aggregate then undrawn and unexpired amount of the then outstanding Letters of Credit and (b) the aggregate amount of drawings under the Letters of Credit for which Issuing Bank has not then been reimbursed pursuant to Section 4.

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"Letters of Credit": as defined in Section 1.

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"Lien": means any mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or other), other charge or security interest; or any preference, priority or other agreement or preferential arrangement of any kind or nature whatsoever (including, without limitation, any conditional sale or other title retention agreement or any capital lease obligation having substantially the same economic effect as any of the foregoing).

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"Material Adverse Effect": means a material adverse effect on (a) the business, operations, property, condition (financial or otherwise) or prospects of Account Party, (b) the ability of Account Party to perform

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its obligations under any Credit Document or (c) the validity or enforceability of (i) any of the Credit Documents or (ii) the rights or remedies of Issuing Bank thereunder.

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"Maximum Amount": as defined in Section 1.

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"OFAC": means the Office of Foreign Assets Control of the U.S. Department of the Treasury.

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"Person": means an individual, partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture, governmental authority or other entity of whatever nature.

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"Reimbursement Amounts": as defined in Section 4(b).

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"Requirement of Law": means as to any Person, the certificate of incorporation and by-laws or other comparable organizational or governing documents of such Person, and any law, treaty, rule, restriction or regulation or determination of an arbitrator or a court or other governmental authority (including, without limitation, any federal, state or local environmental and employee benefit laws and regulations), in each case applicable to or binding upon such Person or any of its property or to which such Person or any of its property is subject.

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"Sanctioned Jurisdiction" means any country or territory that is the subject of comprehensive Sanctions broadly restricting or prohibiting dealings with, in or involving such country or territory (currently, Iran, Cuba, Syria, Sudan, North Korea and the Crimea region of Ukraine).

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"Sanctioned Person" means any individual or entity (a) identified on a Sanctions List, (b) organized, domiciled or resident in a Sanctioned Jurisdiction, or (c) otherwise the subject or target of any Sanctions, including by reason of ownership or control by one or more individuals or entities described in clauses (a) or (b).

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"Sanctions" shall mean any economic or financial sanctions or trade embargoes imposed, administered or enforced by (a) the U.S. (including OFAC and U.S. Department of State), (b) the United Nations Security Council, (c) the European Union or any member state, (d) the United Kingdom (including Her Majesty's Treasury), or (e) any other applicable jurisdiction.

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"Sanctions List" shall mean any list of designated individuals or entities that are the subject of Sanctions, including (a) the Specially Designated Nationals and Blocked Persons List maintained by OFAC, (b) the Consolidated United Nation Security Council Sanctions List, (c) the consolidated list of persons, groups and entities subject to EU financial sanctions maintained by the European Union or any member state and (d) the Consolidated List of Financial Sanctions Targets in the United Kingdom maintained by Her Majesty's Treasury.

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"SEC": means the Securities and Exchange Commission.

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"Subsidiary": means as to any Person, a corporation, partnership or other entity of which shares of stock or other ownership interests having ordinary voting power (other than stock or such other ownership interests having such power only by reason of the happening of a contingency) to elect a majority of the board of directors or other managers of such corporation, partnership or other entity are at the time owned, or the management of which is otherwise controlled, directly or indirectly through one or more intermediaries, or both, by such Person. Unless otherwise qualified, all references to a "Subsidiary" or to "Subsidiaries" in this Agreement shall refer to a Subsidiary or Subsidiaries of Account Party.

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"Taxes": as defined in Section 5.

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"UCP": as defined in Section 18(b).

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"U.S.": means the United States of America.

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"U.S. Dollars" or "U.S.\$": means the lawful currency of the U.S.

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"USA Patriot Act": means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act, Title III of Pub. L. 107-56 (signed into law October 26, 2001)).

3. Issuance and Terms of Letters of Credit; Fees;

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(a) At any time after the date hereof, Account Party may request Issuing Bank to issue a Letter of Credit by issuing a written request to Issuing Bank at its address specified on its signature page hereto, together with an Application therefor, completed to the satisfaction of Issuing Bank (which request and Application must be received by Issuing Bank prior to 10:00 A.M. (New York time) on the proposed date of utilization (which must be a Business Day on or prior to the Expiration Date)). Issuing Bank shall inform Account Party of its decision in its sole discretion to accept or reject such request within three (3) Business Days. If Issuing Bank does not respond within such period of time, the request will be considered to be rejected.

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(b) Each Letter of Credit shall (i) be governed by the provisions hereof and of the relevant Application, (ii) be issued in either U.S. Dollars or an Agreed Foreign Currency and in a face amount to be mutually agreed, and (iii) expire on a Business Day (A) no later than twelve (12) months after the date of the issuance in the case of a financial Letter of Credit and (B) no later than five (5) years in the case of a performance Letter of Credit; provided that the aggregate amount of all L/C Obligations outstanding at any time hereunder shall not exceed the Maximum Amount; and provided, further, that the aggregate amount of performance Letters of Credit with a tenor greater than twelve (12) months to be issued hereunder may not exceed U.S.\$10,000,000.

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(c) Account Party shall pay to Issuing Bank a commission on each individual Letter of Credit at a rate to be agreed upon at issuance of each individual Letter of Credit, quarterly and payable in arrears. In addition, Account Party shall pay to Issuing Bank a non-refundable amendment fee with respect to each amendment to any Letter of Credit in the amount of U.S.\$250 payable in advance on the date of such amendment.

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(d) With respect to any obligation of Account Party to Issuing Bank under this Agreement payable in any Foreign Currency: (i) Account Party shall indemnify, defend and hold Issuing Bank harmless from all loss arising from any fluctuation in the value of such Foreign Currency from the date such obligation is payable to Issuing Bank by the terms hereof until paid in full; and (ii) upon the failure or inability of Account Party to pay Issuing Bank immediately upon demand the full amount of such obligation in such Foreign Currency, Account Party shall immediately upon Issuing Bank's demand pay to Issuing Bank the Dollar Equivalent of such amount in same day funds which shall be sufficient to fully compensate Issuing Bank for all amounts paid and all changes, costs and expenses incurred by Issuing Bank in acquiring the full amount of such Foreign Currency and Account Party shall pay interest accrued thereon at the highest rate permitted to be charged by Issuing Bank under applicable law, in U.S. Dollars, from the date such obligation is payable to Issuing Bank by the terms hereof until the date of receipt by Issuing Bank of full payment. For purposes of this Agreement the amount of any Letter of Credit denominated in any Foreign Currency shall be deemed to be the Dollar Equivalent of the amount of the Foreign Currency of such Letter of Credit.

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4. Reimbursements; Overdue Amounts:

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(a) Account Party will reimburse Issuing Bank (in same day funds without set-off, counterclaim or any other deduction of any nature whatsoever and in the Currency of the applicable Letter of Credit), on the date of any drawing under a Letter of Credit, if such drawing is made prior to 11:00 A.M. (New York time), or the next Business Day after the date of such drawing, if such drawing is made on or after 11:00 A.M. (New York time), amounts due in respect of drawings under the Letters of Credit ("Reimbursement Amounts"), and any interest (to the extent permitted by law) and other amounts due hereunder or under any other Credit Document; provided that if the Credit Documents provide for acceptance of a time draft or incurrence of a deferred payment obligation and if Account Party notifies

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Issuing Bank of such acceptance or incurrence at least one (1) Business Day in advance of its maturity, reimbursement shall be due sufficiently in advance of its maturity to enable Issuing Bank, as issuer, to arrange for its cover in same day funds to reach the place where it is payable no later than the date of its maturity.

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(b) Any amounts that are not paid on the date when due shall bear interest (before as well as after judgment) payable on demand at 2% over the Base Rate from and including the date when such payment was due to, but excluding, the date of receipt of payment.

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5. Calculations; Payments; Taxes:

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(a) All payments hereunder, including for Reimbursement Amounts and computations of fees and interest shall be made on the basis of a 360-day year for actual days elapsed. Except as required by law, any and all payments by Account Party under the Credit Documents shall be made free and clear of and without reduction or withholding for any and all present or future taxes, levies, deductions, imposts, charges or withholdings, imposed by any governmental authority (all such taxes, levies, deductions, imposts, charges, and withholdings being hereinafter called "Taxes"), excluding (i) franchise taxes, branch profits taxes or taxes imposed on or measured by the overall net income of Issuing Bank, (ii) any U.S. tax that is imposed on amounts payable to Issuing Bank under the law applicable at the time such Issuing Bank acquires an interest in a Letter of Credit (or designates a new lending office), except to the extent Issuing Bank (or its assignor, if any) was entitled, at the time of the designation of a new lending office (or assignment) to receive additional amounts from Account Party with respect to such withholding tax, (iii) taxes attributable to Issuing Bank's failure or inability to comply with Section 5(b), and (iv) any withholding taxes imposed under FATCA.

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(b) (i) If Issuing Bank is entitled to an exemption from or reduction of withholding tax with respect to payments made under any Credit Document, Issuing Bank shall deliver to Account Party, at the time or times prescribed by applicable law and reasonably requested by Account Party, such properly completed and executed documentation reasonably requested by Account Party as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, Issuing Bank, if requested by Account Party, shall deliver such other documentation prescribed by law or reasonably requested by Account Party as will enable Account Party to determine whether or not Issuing Bank is subject to backup withholding or information reporting requirements.

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(ii) If Account Party shall be required by law to deduct any Taxes from or in respect of any sum payable under the Credit Documents to Issuing Bank, (A) Account Party shall forthwith pay to Issuing Bank such additional amounts as may be necessary so that after making all required deductions for Taxes Issuing Bank receives an amount equal to the sum it would have received had no such deductions been made and (B) Account Party shall make such deductions and shall pay the full amount deducted to the relevant taxing authority in accordance with applicable law. Account Party shall, provide appropriate documentation, including receipts, evidencing payment by Account Party of any such Taxes. The obligations of Account Party under this Section 5 shall survive the termination of this Agreement, the repayment or reimbursement of all Reimbursement Amounts and all other amounts payable hereunder and under the other Credit Documents.

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(iii) Without limiting the generality of the foregoing, if a payment made to Issuing Bank under any Credit Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Issuing Bank were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Issuing Bank shall deliver to Account Party at the time or times prescribed by law and at such time or times as reasonably requested by Account Party such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by Account Party as may be necessary for Account Party to comply with its obligations under FATCA and to determine that Issuing Bank has complied with Issuing Bank's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for purposes of this sub-clause (b)(iii), "FATCA" shall include any amendments made to FATCA after the date of this Agreement.

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(iv) Issuing Bank agrees that if any form or certification it previously delivered pursuant to this Section 5 becomes obsolete or inaccurate in any respect (other than as a result of expiration), it shall update such form or certification or promptly notify Account Party in writing of its legal inability to do so.

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6. Increased Costs:

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In the event of the introduction of, or any change in, any applicable law, rule, regulation or official directive (whether or not having the force of law), or in the interpretation or application thereof by any governmental authority after the date hereof which results in an increase in the cost to Issuing Bank of making or maintaining, or which reduces the rate of return on capital of Issuing Bank as a consequence of its obligations with respect to, execution or maintenance of this Agreement or the issuance, maintenance or extension or amendment of any Letter of Credit by reason of reserve (including, without limitation, the imposition of any reserves with respect to "Eurocurrency Liabilities" (as defined in Regulation D of the Board)), liquidity, capital adequacy or similar requirements, or which results in a reduction of amounts otherwise receivable by Issuing Bank from Account Party of principal, interest or other fees and charges hereunder and thereunder by reason of tax (other than tax on the overall net income of Issuing Bank), levy, impost, fee, charge, withholding or similar requirements of any kind, Account Party will pay to Issuing Bank upon demand an amount equal to such actual increased cost or reduction. For clarity, the foregoing sentence shall apply to all requests, rules, guidelines or directives concerning capital adequacy issued in connection with the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives concerning capital adequacy promulgated by the Bank for International Settlements, the Basel Committee on Banking Regulations and Supervisory Practices (or any successor or similar authority) or the U.S. financial regulatory authorities, regardless of the date adopted, issued, promulgated or implemented. If Account Party becomes liable for the payment of any additional amounts pursuant to this Section 6, it may avoid further liability for such additional amounts by: as to each outstanding Letter of Credit, seeking and obtaining replacements therefor from other financial institutions which fully cancel all obligations of Issuing Bank under such Letter of Credit (which shall thereupon be returned promptly to Issuing Bank) and the relevant Application and paying to Issuing Bank in full on the date of replacement all interest, fees and other amounts or charges due relating to such obligations. The obligations of Account Party under this Section 6 shall survive the termination of this Agreement the repayment or reimbursement of all principal and all other amounts payable hereunder and under the other Credit Documents.

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7. Representations and Warranties:

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Account Party represents and warrants as of the date hereof and as of the date of each Letter of Credit issued, renewed, extended or amended that:

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(a) (i) it is a corporation duly organized and validly existing under the laws of the State of New York, (ii) it is in good standing therein, (iii) it is duly qualified to transact business in all jurisdictions where its ownership, lease or operation of property, or conduct of its business requires such qualification, (iv) no consent or authorization of, approval by, notice to, filing with or other act by or in respect of, any governmental authority or any other Person is required in connection with the execution, delivery, performance, validity or enforceability of any of the Credit Documents, and (v) it has the legal right and corporate power and authority to own its assets and properties and enter into, execute, deliver and perform the Credit Documents and all documents, instruments and agreements related thereto and perform the transactions and agreements contemplated thereby;

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(b) the execution, delivery and performance of the Credit Documents have been duly authorized by all necessary corporate action;

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(c) this Agreement has been, and each of the Credit Documents when delivered hereunder, will have been, duly executed and delivered by it, and this Agreement is, and each of the Credit Documents when delivered hereunder will, constitute the legal, valid and binding obligations of Account Party enforceable in accordance with their respective terms except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the

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enforcement of creditors' rights generally and by general equitable principles (whether enforcement is sought by proceedings in equity or at law);

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(d) it is not in default under any material agreement to which it is a party or by which its businesses, assets or properties are bound, which default would materially adversely affect such Borrower's financial condition and the execution and delivery of, and the performance by it under, the Credit Documents do not and will not, create any Lien on its businesses, properties or assets, contravene, violate or conflict with any material Requirement of Law, nor result in a breach or default under any material agreement to which it is a party or by which its businesses, assets or properties are bound, except for such defaults or breaches that would not have a Material Adverse Effect;

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(e) except as disclosed on Schedule 7(e) or in Account Party's annual reports on Form 10-K or quarterly reports on Form 10-Q filed with the SEC, there are no actions, suits or proceedings of any kind pending or threatened against Account Party or its assets or properties which, in any one case or in the aggregate, could reasonably be expected to have a Material Adverse Effect;

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(f) it is in compliance with all Requirements of Law except where such non-compliance could not reasonably be expected to have a Material Adverse Effect; provided, however, that where such compliance relates to any Anti-Corruption Laws, Anti-Money Laundering Laws or Sanctions, each of Account Party and its Subsidiaries is in compliance in all respects and subject to no exceptions;

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(g) it has filed or caused to be filed all federal, state and local tax returns which are, to its knowledge, required to be filed by it, and has paid or has made provision for the payment of all taxes shown to be due and payable on such returns or on any assessments received by it, other than any taxes or assessments it is contesting in good faith by appropriate proceedings and with respect to which it shall, to the extent required by GAAP, have set aside adequate reserves on its books;

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(h) no part of the proceeds of any Letter of Credit will be used for "purchasing" or "carrying" any "margin stock" within the respective meanings of such quoted terms under Regulations T, U and X of the Board or for any purpose, which violates, or which would cause Issuing Bank to violate, the provisions of any such regulations;

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(i) it is not subject to regulation under the Investment Company Act of 1940, as amended, or subject to any federal or state statutes or regulations limiting its ability to incur the indebtedness contemplated under, or otherwise affecting the validity or enforceability of, the Credit Documents;

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(j) Account Party's obligations hereunder and under any other Credit Document do and, at all times hereafter, shall rank pari passu with all other unsecured and unsubordinated indebtedness of Account Party;

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(k) the Financial Statements were prepared in accordance with GAAP consistently applied unless expressly disclosed therein and fairly present the consolidated financial position of the Account Party during the relevant financial year unless expressly disclosed therein to the contrary;

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(l) Account Party shall, and shall cause its Subsidiaries to, maintain and enforce policies and procedures designed to promote and achieve compliance by Account Party and its Subsidiaries with applicable Anti-Corruption Laws, Anti-Money Laundering Laws and Sanctions;

(m) none of Account Party or any of its Subsidiaries or, any of their respective directors, officers or, to Account Party's knowledge, any of their respective Affiliates, agents or employees (i) has conducted their respective businesses or taken any action that would constitute or give rise to a violation of any Anti-Corruption Law or Anti-Money Laundering Law or (ii) is or has been subject to any action, proceeding, litigation, claim or, to Account Party's knowledge, investigation with regard to any actual or alleged violation of any Anti-Corruption Laws or Anti-Money Laundering Laws;

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(n) none of Account Party or any of its Subsidiaries or any of their respective directors, officers or, to Account Party's knowledge, any of their respective Affiliates, agents or employees (i) is a Sanctioned Person, (ii) is currently engaging or has engaged in any dealings or transactions with, involving or for the benefit of a Sanctioned Person, or in or involving any Sanctioned Jurisdiction, in each case in violation of applicable Sanctions, or (iii) is subject to any action, proceeding, litigation, claim or, to Account Party's knowledge, investigation with regard to any actual or alleged violation of Sanctions; and

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(o) since September 30, 2016, no event, circumstance or change has occurred that has caused, either individually or in the aggregate, a Material Adverse Effect.

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8. Covenants:

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Until the later of (a) the Expiration Date and (b) the date on which all obligations of Account Party in respect of the Credit Documents are indefeasibly paid in cash in full and all Letters of Credit have expired or been released by the beneficiaries thereof and tendered to Issuing Bank for cancellation, Account Party agrees and covenants with Issuing Bank as follows:

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(i) Account Party shall be deemed to have furnished Issuing Bank with its audited annual Financial Statements when its annual report on Form 10-K is filed with the SEC and its quarterly unaudited Financial Statements when its quarterly report on Form 10-Q is filed with the SEC;

(ii) Account Party shall provide prompt written notice of any Default or Event of Default;

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(iii) Account Party shall continue to engage in business of the same general type as now conducted by it and preserve, renew and keep in full force and effect its corporate existence and take all reasonable action to maintain all rights, privileges and franchises necessary in the normal conduct of its business and comply with its material contractual obligations;

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(iv) Account Party shall not convey, sell, lease, transfer or otherwise dispose of, or create, assume or suffer to exist any Lien on, all or substantially all of its assets (in each case, whether in one transaction or in a series of transactions);

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(v) Account Party shall not consolidate with, or merge into, any other Person (unless there is no Change of Control of Account Party and no Default or Event of Default shall have occurred and be continuing or result therefrom);

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(vi) Account Party is in compliance, and shall comply with all Requirements of Law (other than those specifically referenced in clauses (vii) through (ix) below) except where the failure to so comply could not reasonably be expected to have a Material Adverse Effect;

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(vii) Account Party's obligations hereunder and under the other Credit Documents shall rank pari passu with all other unsecured and unsubordinated indebtedness of Account Party;

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(viii) Account Party shall, and shall cause its Subsidiaries to, continue to maintain and enforce policies and procedures designed to promote and achieve compliance by Account Party and its Subsidiaries with applicable Anti-Corruption Laws, Anti-Money Laundering Laws and Sanctions;

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(ix) Account Party shall not, directly or indirectly, (A) use any part of the proceeds of the Letters of Credit, or otherwise make available such proceeds to any Person in any manner that would constitute or give rise to a violation of Sanctions by any party hereto or (B) fund all or part of any repayment or reimbursement of the obligations hereunder out of proceeds derived from any transaction or activity involving a Sanctioned Person or Sanctioned Jurisdiction; and

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(x) Account Party shall not, directly or indirectly, use any part of the proceeds of the Letters of Credit for any payments to any governmental official or employee, political party, official of a political party, candidate for political office, or anyone else acting in an official capacity, in order to obtain,

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retain or direct business or obtain any improper advantage, in each case in violation of Anti-Corruption Law.

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9. Events of Default:

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The occurrence of any one or more of the following events shall constitute an "Event of Default" under the Credit Documents:

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(a) if Account Party shall (i) fail to reimburse any Reimbursement Amount when due and payable or (ii) fail to pay interest or any other amounts due under the Credit Documents within five (5) days of the date on which such payment of interest or other amount was due and payable;

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(b) if Account Party shall fail to perform any of its obligations for the payment of any Indebtedness (i) under its \$1,500,000,000 Revolving Credit Agreement dated as of April 5, 2016, as amended, with JPMorgan Chase Bank, N.A., as Administrative Agent, et al., or (ii) in the aggregate amount of more than U.S.\$50,000,000 (other than Indebtedness described in subsection 9(a)) when due (whether at scheduled maturity or upon acceleration, demand or otherwise) or if Account Party shall default under any agreement or instrument relating to such Indebtedness or any other event shall occur and continue after any grace period applicable thereto, if the effect of such default or event is to accelerate, or permit the acceleration of, the maturity of such Indebtedness;

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(c) if Account Party shall:

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(i) commence a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any material part of its property, or shall consent to any such relief or to the appointment of or taking possession by any such official in an involuntary case or other proceeding commenced against it, or shall make a general assignment for the benefit of creditors, or shall fail generally to pay its debts as they become due, or shall take any action to authorize any of the foregoing; or

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(ii) suffer the commencement of an involuntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any material part of its property, and such involuntary case or other proceeding shall not be controverted by appropriate proceedings within thirty (30) days of the commencement thereof or shall remain undismissed or undischarged for a period of sixty (60) days; or suffer the entry of an order for relief or be adjudicated a bankrupt or insolvent under the bankruptcy, insolvency or similar laws of any competent jurisdiction;

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(d) if any representation, warranty or statement made by Account Party in any Credit Document or in any certificate or statement furnished pursuant to, or in connection with, any Credit Document shall prove to have been incorrect, misleading or incomplete in any material respect when made or deemed made;

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(e) if Account Party shall fail to perform or observe in any material respect any term, covenant or agreement on its part to be performed or observed pursuant to any Credit Document (other than those covered by subsection 9(a)) and such failure shall continue unremedied for thirty (30) days after the earlier of (i) an officer of Account Party obtaining knowledge thereof and (ii) receipt by Account Party of written notice thereof from Issuing Bank;

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(f) if one or more judgments or decrees shall be entered against Account Party or any of its Subsidiaries involving in the aggregate for all such Persons a liability (not paid or fully covered by insurance) of U.S.\$50,000,000 or more and all such judgments and decrees shall not have been vacated, discharged, stayed or bonded pending appeal within sixty (60) days from the entry thereof;

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(g) if an event shall occur with respect to Account Party which, in the reasonable judgment of Issuing Bank, has or is likely to have a Material Adverse Effect; or

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(h) if a Change of Control or any material alteration of the structure or organization of Account Party, including without limitation, as a result of a leveraged buyout, recapitalization, merger or consolidation shall occur.

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Upon the occurrence of any Event of Default (other than any Event of Default specified in subsection 9(c) in respect of Account Party), Issuing Bank may, by written notice to Account Party, declare this Agreement canceled and/or declare all amounts outstanding under this Agreement (including, without limitation, all amounts of L/C Obligations, whether or not the beneficiaries of the then outstanding Letters of Credit shall have presented the documents required thereunder) to be immediately due and payable in full, whereupon this Agreement shall be canceled and/or such amounts shall become immediately due and payable; provided, however, that upon the occurrence of any Event of Default specified in subsection 9(c) in respect of Account Party, this Agreement automatically shall be canceled and all amounts outstanding under this Agreement (including, without limitation, all amounts of L/C Obligations, whether or not the beneficiaries of the then outstanding Letters of Credit shall have presented the documents required thereunder) automatically shall become immediately due and payable in full, in each case without notice, presentment, demand, protest or other action of any kind, all of which are hereby expressly waived by Account Party.

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With respect to any Letters of Credit with respect to which presentment for honor shall not have occurred at the time of an acceleration pursuant to the immediately preceding paragraph, Account Party shall at such time deposit in a cash collateral account on Issuing Bank's books, within Issuing Bank's sole dominion and control, designated by Issuing Bank and over which Issuing Bank shall have exclusive right of withdrawal (the "Collateral Account"), an amount (in the Currency of such Letter of Credit; provided that upon the failure or inability of Account Party for any reason to so effect such payment in the required Currency, Account Party shall be obliged to perform in accordance with Section 3(e)) equal to the aggregate then undrawn and unexpired amount of such Letters of Credit. The Collateral Account (and any and all funds and investments held therein) shall be held in the name of, and subject to the sole dominion and control of, Issuing Bank, as cash collateral for the reimbursement obligations of Account Party in the event of any drawing under the Letters of Credit. Any and all amounts held in the Collateral Account shall be applied by Issuing Bank to satisfy Account Party's L/C Obligations for which Issuing Bank has not been reimbursed, and any unused portion of such amounts after the Letters of Credit shall have expired and all L/C Obligations shall have been satisfied, shall be applied to repay other obligations of Account Party under this Agreement and the other Credit Documents. Except as expressly provided in this Section 9, notice, presentment, demand, protest and any other action of any kind are hereby expressly waived by Account Party.

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Account Party hereby grants to Issuing Bank a security interest in, and right of set-off against, any and all funds and investments held in the Collateral Account from time to time and any instrument evidencing the foregoing to secure the obligations of Account Party hereunder in respect of the Letters of Credit, any and all reimbursement obligations arising in connection therewith and other obligations under this Agreement and the other Credit Documents.

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Issuing Bank shall have the rights, powers and remedies of a secured party under the Uniform Commercial Code as in effect from time to time in the State of New York with respect to the funds and investments held in the Collateral Account from time to time. Account Party shall take such actions from time to time as Issuing Bank may reasonably request to perfect and preserve the security interests provided for in this Agreement.

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Issuing Bank shall release all funds and investments held in the Collateral Account to, or upon the order of, Account Party (or as a court of competent jurisdiction may otherwise direct) upon the later to occur of the date that (i) this Agreement and the other Credit Documents terminate and (ii) all obligations of Account Party under the Letters of Credit and all L/C Obligations are satisfied and indefeasibly paid in full and such Letters of Credit have been canceled or expired and all amounts drawn thereunder have been reimbursed in full.

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The rights and remedies of Issuing Bank under this Agreement are in addition to, and not in substitution of, the rights and remedies Issuing Bank is entitled to exercise at law, in equity and under the other Credit Documents.

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10. Effectiveness of Agreement; Conditions Precedent:

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(a) The effectiveness of this Agreement is subject to receipt by Issuing Bank, in form and substance satisfactory to it, of each of the following:

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(i) a copy of this Agreement, duly executed by Issuing Bank and Account Party;

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(ii) a customary certificate duly executed by an authorized officer of Account Party, attaching (A) a copy of the articles of incorporation or comparable organizational document duly certified by the Secretary of State of the State of New York as of a recent date; (B) a copy of the by-laws or comparable organizational document of Account Party, duly certified by an authorized officer of Account Party as being in full force and effect; (C) a copy of Account Party's resolutions certified by an authorized officer of Account Party authorizing Account Party to enter into the transactions contemplated by the Credit Documents to which Account Party is a party, including, without limitation, requesting the issuance of Letters of Credit as contemplated hereunder from Issuing Bank in the aggregate amount contemplated hereunder, and evidencing the authority of the officer(s) named therein to sign the Credit Documents and such other documents on behalf of Account Party as Issuing Bank shall require; (D) a certificate of incumbency and specimen signatures of the authorized signers of the Credit Documents issued by the secretary or assistant secretary of Account Party; and (E) a certificate of good standing duly certified by the Secretary of State of the State of New York;

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(iii) a customary certificate duly executed by an authorized officer of Account Party, certifying as to (A) the truth in all respects of the representations and warranties contained in this Agreement and the other Credit Documents as though made on and as of the date of the effectiveness of this Agreement and (B) the absence of any Default or Event of Default; and

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(iv) such other documents, instruments or agreements as Issuing Bank shall reasonably request.

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(b) An additional condition precedent to the issuance of each Letter of Credit is the receipt by Issuing Bank of a duly executed Application in respect of such Letter of Credit.

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(c) Each request to issue, renew, amended or extend a Letter of Credit by Account Party hereunder shall constitute a representation and warranty that (i) each of the representations and warranties made by Account Party contained herein or in any other Credit Document shall be true and correct on and as of the date of such issuance, renewal, amendment or extension as if made on and as of such date and (ii) no Default or Event of Default exists (either immediately before or immediately after giving effect to such issuance, renewal, amendment or extension).

11. Authorization to Debit; Right of Set-Off:

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With respect to the payment of amounts due hereunder and under any Letter of Credit, Account Party hereby authorizes Issuing Bank to debit any demand deposit account of Account Party maintained with Issuing Bank for such amount when due. In the event Account Party shall default in the payment of any amount due hereunder, under any Letter of Credit, or under the other Credit Documents, Issuing Bank shall have the right to set off and apply any deposit, general or special, time or demand, provisional or final, at any time held or owing by any branch or office of Crédit Agricole S.A. to, or for the credit of, Account Party.

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12. Costs and Expenses; Indemnity; Waiver of Special Damages:

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(a) Account Party agrees to pay or reimburse Issuing Bank for all Issuing Bank's charges, costs and expenses (including, without limitation, reasonable fees and disbursements of counsel to Issuing Bank) incurred in connection with (i) the issuance, amendment, renewal or extension of any Letter of Credit or any demand for, or collection of, payment thereunder and (ii) the enforcement, protection or preservation of any rights under this Agreement and the other Credit Documents and any other document prepared in connection therewith.

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(b) Account Party agrees to indemnify Issuing Bank and any of its Affiliates and the respective branches, agencies, directors, officers, employees, agents, advisors, partners, trustees and administrators of Issuing Bank and its Affiliates (each such Person being called an "Indemnitee") against, and pay and hold each Indemnitee harmless from, any and all losses, claims, damages and related costs and expenses, including the fees, charges and disbursements of any counsel for any Indemnitee, suffered or incurred by, or asserted against, any Indemnitee however characterized or arising out of, in connection with, or as a result of (i) any delay in paying, stamp, excise and other taxes, if any, which may be payable or determined to be payable in connection with the execution and delivery of, or consummation or administration of, any of the transactions contemplated by, or any amendment, supplement or modification of, or any waiver or consent under or in respect of, any Credit Document and any such other document, (ii) any Letter of Credit or the use of the proceeds therefrom (including any refusal by Issuing Bank to honor a demand for payment under a Letter of Credit if the documents presented in connection with such demand do not strictly comply with the terms of such Letter of Credit) and (iii) any and all other liabilities, obligations, losses, damages, penalties, any actual or prospective actions, claims, litigation, suites, investigation or proceeding (whether sounding in contract, in tort or on any other ground and regardless of whether any Indemnitee is a party thereto), judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever with respect to the execution, delivery, enforcement, performance or administration of, or in any other way arising out of or relating to, any Credit Document or any other documents contemplated by or referred to therein or any action taken or omitted to be taken by any Indemnitee with respect to any of the foregoing (all the foregoing, collectively, the "Indemnified Liabilities"); provided, however, that Account Party shall have no obligation hereunder to any Indemnitee with respect to Indemnified Liabilities arising solely from the gross negligence or willful misconduct of such Indemnitee, as determined by a court of competent jurisdiction in a final, non-appealable judgment.

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(c) Neither party hereto shall be liable in any action initiated by one against the other for punitive, special, indirect or consequential damages resulting from or arising out of this Agreement, including, without limitation, loss of profit or business interruptions, however the same may be caused.

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All amounts due under this Section 12 shall be payable immediately after demand therefor. Without prejudice to the survival of any other provision hereof, the terms of this Section 12 shall survive the termination of this Agreement and the repayment or reimbursement of all Reimbursement Amounts and all other amounts payable hereunder.

13. **Obligations Absolute; Risks:**

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(a) The obligation of Account Party to reimburse Issuing Bank, its correspondents, any of its branches, agencies or Affiliates for each drawing under each Letter of Credit shall be absolute, unconditional and irrevocable, and shall be paid strictly in accordance with the terms of this Agreement under any and all circumstances and irrespective of, including the following: (i) any form, lack of accuracy, legal effect, validity or enforceability of such Letter of Credit, this Agreement, or any other Credit Document or the authority of any persons signing any Credit Documents; provided such Credit Documents appear on their face to be in order; (ii) the existence of any claim, counterclaim, dispute, set-off, defense or other right that Account Party may have at any time against any beneficiary or any transferee of such Letter of Credit (or any Person for whom any such beneficiary or any such transferee may be acting), Issuing Bank or any other Person, whether in connection with this Agreement, any other Credit Document, the transactions contemplated hereby or by such Letter of Credit or any agreement or instrument relating thereto, or any unrelated transaction; (iii) any draft, demand, certificate or other document presented under such Letter of Credit proving to be forged, fraudulent, invalid or insufficient in any respect or any statement therein being untrue, insufficient or inaccurate in any respect; or any loss, error, interruption,

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omission or delay in the transmission, delivery or otherwise of any document required in order to make a drawing under such Letter of Credit; (iv) any payment by Issuing Bank under such Letter of Credit against presentation of a draft or certificate that does not strictly comply with the terms of such Letter of Credit; or any payment made by Issuing Bank under such Letter of Credit to any Person; (v) any act, omission, insolvency or failure in business of any other Person including any branch of Issuing Bank; or (vi) any other event, act or omission, circumstance or happening whatsoever, whether or not similar to any of the foregoing, including any other circumstance that might otherwise constitute a defense available to, or a discharge of, Account Party. For the avoidance of doubt, the occurrence of any of the above contingencies shall not affect or impair Issuing Bank's rights and powers hereunder or the obligations of payments, indemnity or reimbursement of Account Party to Issuing Bank hereunder.

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(b) None of Issuing Bank, nor any of its Affiliates nor the respective branches, agencies, directors, officers, employees, agents, advisors, partners, trustees and administrators of Issuing Bank and its Affiliates, shall have any liability or responsibility by reason of or in connection with the issuance or transfer of any Letter of Credit by Issuing Bank or any payment or failure to make any payment thereunder irrespective of any of the circumstances referred to in Section 13(a) above, or any act, error, omission, interruption, loss or delay in transmission or delivery of any draft, notice or other communication under or relating to any Letter of Credit (including any document required to make a drawing thereunder), any error in interpretation of technical terms or any consequence arising from causes beyond the control of Issuing Bank. The parties hereto expressly agree that:

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(i) Issuing Bank may accept documents that appear on their face to be in substantial compliance with the terms of a Letter of Credit without responsibility for further investigation, regardless of any notice or information to the contrary, and may make payment upon presentation of documents that appear on their face to be in substantial compliance with the terms of such Letter of Credit;

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(ii) Issuing Bank shall have the right, in its sole discretion, to decline to accept such documents and to make such payment if such documents are not in strict compliance with the terms of such Letter of Credit; and

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(iii) This Section 13(b) shall establish the standard of care to be exercised by Issuing Bank when determining whether drafts and other documents presented under a Letter of Credit comply with the terms thereof (and the parties hereto hereby waive, to the extent permitted by applicable law, any standard of care inconsistent with the foregoing).

14. Assignments; Successors and Assigns; Pledges to Federal Reserve Bank:

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(a) This Agreement shall be binding upon and inure to the benefit of Account Party, Issuing Bank and their respective successors and assigns, except that Account Party may not assign, transfer or delegate any of its rights or obligations under this Agreement without the prior written consent of Issuing Bank (such consent not to be unreasonably withheld or delayed). Issuing Bank may, at any time and from time to time, assign all or any part of its rights and obligations under the Credit Documents subject to the prior written consent of Account Party (such consent not to be unreasonably withheld or delayed); provided that no such consent shall be required (i) during the occurrence and continuance of a Default or an Event of Default or (ii) for any assignment to an Affiliate of Issuing Bank.

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(b) Nothing herein shall prohibit Issuing Bank from pledging or assigning this Agreement to any Federal Reserve Bank in accordance with applicable law.

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15. Notices:

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(a) All notices and other communications provided for herein shall be in writing and shall be delivered by hand or overnight courier service, mailed by certified or registered mail or sent by telecopier or electronic communications (including delivery of a "pdf" by email). Notices and other communications sent by hand or overnight courier service, or mailed by certified or registered mail, shall be deemed to have been given when received; notices and other communications sent by fax or email (or

similar electronic communications) shall be deemed to have been given when sent (except that, if not given during normal business hours for the recipient, shall be deemed to have been given at the opening of business on the next Business Day for the recipient).

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(b) Account Party hereby authorized Issuing Bank to accept and process any amendments, transfers, assignments of proceeds, instructions, consents, waivers and all documents relating to any Letter of Credit which are sent to Issuing Bank by electronic transmission, including SWIFT, electronic mail, telex, telecopy, telefax, courier, mail or other computer-generated telecommunications and such electronic communications shall have the same legal effect as if written and shall be binding upon and enforceable against Account Party. Issuing Bank may, but shall not be obligated to, require (a) authentication of such electronic transmission or (b) provision of original documents to Issuing Bank prior to acting on such electronic transmission. Account Party acknowledges and agrees that the privacy and integrity of electronic transmissions cannot be guaranteed to be secure or error free due to the possibility that third parties could intercept, view or alter such electronic transmissions. To the extent that any documents, information or data relating to any Letter of Credit, any Application or any other Credit Document are transmitted electronically, Account Party hereby irrevocably releases Issuing Bank from any loss or liability incurred in connection with the electronic transmission of any such documents, data and information, including any unauthorized interception, alteration or fraudulent generation and transmission of electronic transmissions by third parties.

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16. Amendments and Waivers; Execution in Counterparts; Electronic Execution:

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(a) Neither this Agreement nor any provision hereof may be waived, amended or modified except pursuant to an agreement or agreements in writing entered into by parties hereto.

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(b) This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which taken together shall constitute but one and the same agreement.

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(c) Delivery of an executed counterpart of a signature page to this Agreement by telecopier or electronic communications (including delivery of a "pdf" by email) shall be effective as delivery of a manually executed counterpart of this Agreement.

17. No Waiver; Severability; Integration:

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The failure or delay by Issuing Bank to exercise any right, power or remedy under this Agreement or any other Credit Document or with respect to the indebtedness evidenced hereby or thereby shall not operate as a waiver thereof, nor shall the exercise of any single or partial right, power or remedy preclude any other or further exercise of the same or any other right, power or remedy. Any provision of this Agreement which is illegal, prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such illegality, prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction. This Agreement and the other Credit Documents constitute the entire agreement and understanding among the parties hereto and supersede any and all prior agreements and understandings, oral or written, relating to the subject matter hereof.

18. Governing Law:

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(a) THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK.

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(b) Each Letter of Credit, each Application and all transactions thereunder shall be subject to and governed by either (a) the Uniform Customs and Practice for Documentary Credits (2007 Revision), International Chamber of Commerce, Publication No. 600 (as the same may be modified or amended, the "UCP") or (b) the International Standby Practices (ISP98), International Chamber of Commerce, Publication No. 590 (as the same may be modified or amended, the "ISP") as Issuing Bank shall select in its sole discretion. To the extent not inconsistent with the UCP or the ISP, as the case may

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be, each Letter of Credit, each Application and all transactions thereunder shall be governed by and construed in accordance with, the internal laws of the State of New York.

19. Jurisdiction; Venue; Waiver of Jury Trial:

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(a) Each of the parties hereto hereby irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of any New York State or federal court of the U.S. sitting in New York City, whether trial or appellate, in any action or proceeding arising out of, or relating to, this Agreement or any of the other Credit Documents, or for recognition or enforcement of any judgment in respect thereof, and each of the parties hereto hereby irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in any such New York State court or, to the extent permitted by law, in such federal court and consents that any such action or proceeding may be brought in such courts and waives to the fullest extent permitted by law any objection that it may now or hereafter have to the venue of any such action or proceeding in any such court or that such action or proceeding was brought in an inconvenient court and agrees not to plead or claim the same. Each of the parties hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing in this Agreement shall affect any right that Issuing Bank may otherwise have to bring any action or proceeding relating to this Agreement or any of the other Credit Documents in the courts of any jurisdiction.

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(b) Each of the parties hereto hereby irrevocably waives all right to trial by jury in any action, proceeding or counterclaim arising out of, or relating to, any Credit Document or the actions of Issuing Bank or Account Party in the negotiation, administration, performance or enforcement thereof.

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20. USA Patriot Act Notification:

Issuing Bank hereby notifies Account Party that pursuant to the USA Patriot Act, it is required to obtain, verify and record information that identifies Account Party, including without limitation the name and address of Account Party.

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If the foregoing is acceptable, kindly acknowledge your agreement with the terms and conditions hereof by having one original copy of this Agreement signed by a duly authorized representative of Account Party (pursuant to its resolutions) and returned to Issuing Bank as soon as possible.

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[Signature pages follow]

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Yours truly,

CRÉDIT

AGRICOLE CORPORATE AND INVESTMENT BANK

U

By: /s/ Ghislain Descamps
Name: Ghislain Descamps
Title: Managing Director

U

By: /s Louis-Marie Dubois
Name: Louis-Marie Dubois
Title: Vice President

U

Address for notices:

U

1301 Avenue of the Americas
New York, New York 10019
Attention: Louis-Marie Dubois, Export and Trade Finance,
18th Floor
Email: etf-us@ca-cib.com

U

Accepted and Agreed:

U

AVANGRID, INC.

U

By: /s/ Howard Coon
Name: Howard Coon
Title: Vice President & Treasurer

U

U

By: /s/ Daniel Alcain
Name: Daniel Alcain
Title: Senior Vice President – Controller

U

U

Address for notices:

U

70 Farm View Drive
New Gloucester, Maine 04260
Attention: Howard Coon, Vice President, Treasurer
Email: howard.coon@avangrid.com

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EXHIBIT A

**APPLICATION AND AGREEMENT FOR
IRREVOCABLE STANDBY LETTER OF CREDIT**

U

To: Crédit Agricole Corporate and Investment Bank ("Crédit Agricole CIB" or "you")

Issuing Office: _____ Date: _____

U

Application and Agreement for Irrevocable Standby Letter of Credit (this "Application") is hereby made for the issuance by you of your irrevocable standby letter of credit (the "Credit") in conformity with your practices and procedures and, to the extent not inconsistent therewith, in accordance with the following instructions:

(Complete Each Section Fully or Indicate "Not Applicable")

U

Please send the Credit to the Beneficiary by your customary means as follows:

U

_____ Directly to the Beneficiary.
_____ Through the Advising Bank specified below.
_____ Through your Correspondent.

U

Name and address of the "Beneficiary": _____

U

Name and address of the Advising Bank: _____

U

Name and address of each "Applicant" to be named as an Account Party: _____

U

Amount of the Credit: _____

U

Currency: _____

U

The Credit shall expire at your counters on: _____

U

The Credit shall provide for an extension of the expiry date: _____ Yes _____ No

U

Automatic Renewal Clause: _____ Yes _____ No

U

Cancellation Period (check one): ___ 30 Days ___ 90 Days ___ 120 Days; Other: _____

U

Amounts under the Credit shall be available as follows: _____

U

Partial Drawings under the Credit: _____ Are permitted. _____ Are not permitted.

U

Special Instructions:

U

In order to induce you to issue the Credit as provided herein, each Applicant (if more than one) hereby expressly agrees to be bound by this Application and the Offer, dated as of December 2, 2016 for a U.S.\$50,000,000 Uncommitted Line of Credit for Standby Letters of Credit, as amended, restated, amended and restated, supplemented, extended or otherwise modified from time to time (the "Offer"). Any capitalized term not defined herein shall have the definition set forth in the Offer.

U

[Applicant] [Applicant]

By: _____

Name: _____

Title: _____

Address: _____ Address: _____

U

By: _____

Name: _____

Title: _____

U

For Office Use Only

No. of Credit: _____ Approved by: _____

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SUBSTITUTION AGREEMENT

This SUBSTITUTION AGREEMENT, dated as of December 19, 2016 (the “Agreement”), is entered into by and between UIL HOLDINGS CORPORATION, a corporation duly organized and existing under the laws of the State of Connecticut (“UIL”) and AVANGRID, INC., a corporation duly organized and existing under the laws of the State of New York (“Avangrid”).

RECITALS

WHEREAS, the predecessor company to UIL, UIL Holdings Corporation (“predecessor UIL”) and The Bank of New York Mellon, a corporation organized under the laws of the State of New York authorized to conduct a banking business, as Trustee (“Trustee”), entered into an Indenture dated as of October 7, 2010 (the “Base Indenture” and, as amended and supplemented to the date hereof, the “Indenture”) to provide for the issuance of predecessor UIL’s unsecured senior debt securities to be issued from time to time in one or more series as might be determined by predecessor UIL under the Indenture;

WHEREAS, predecessor UIL and the Trustee have heretofore executed and delivered the First Supplemental Indenture, dated as of October 7, 2010, pursuant to which predecessor UIL issued its 4.625% Notes due 2020, in the aggregate principal amount of \$450,000,000 (the “2010 Notes”);

WHEREAS, on December 15, 2015, predecessor UIL merged with and into UIL, a wholly-owned subsidiary of Avangrid.

WHEREAS, UIL, predecessor UIL and the Trustee have heretofore entered into a Second Supplemental Indenture, pursuant to which UIL assumed all of the obligations of predecessor UIL under the Indenture and the 2010 Notes;

WHEREAS, UIL, Avangrid and the Trustee intend to execute a Third Supplemental Indenture (the “Third Supplemental Indenture”) pursuant to which Avangrid will be substituted for UIL as issuer of the 2010 Notes and assume all of the obligations and perform every covenant in the Indenture (including every supplemental indenture) (collectively, the “Obligations”); and

WHEREAS, upon assumption of the Obligations by Avangrid, UIL shall be relieved of all obligations and covenants under the Indenture;

NOW THEREFORE: in consideration of the premises and the covenants and agreements provided for herein, and for other good and valuable consideration the receipt of which is hereby acknowledged, UIL and Avangrid mutually covenant and agree as follows:

SECTION I. *Payments by UIL*

UIL shall transfer, on December 19, 2016 (the “Transfer Date”), (i) to such account as shall be designated by Avangrid to UIL, an amount equal to \$ in respect of the market value of the aggregate outstanding principal amount of the 2010 Notes (the “Principal Payment”) plus (ii) \$ in respect of the aggregate interest accrued under the 2010 Notes from and including the relevant last interest payment date up to but excluding the Transfer Date (“Interest Payment”).

Upon receipt of the Principal Payment and the Interest Payment on the Transfer Date, Avangrid shall assume all of the Obligations arising out of the execution of the Third Supplemental Indenture, and UIL shall be simultaneously discharged from such obligations.

SECTION 3. *Effect of Headings.*

The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

SECTION 4. *Successors and Assigns.*

All covenants and agreements in this Agreement by Avangrid shall bind its successors and assigns, whether so expressed or not.

SECTION 5. *Counterparts.*

This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute but one and the same instrument.

SECTION 6. *Governing Law.*

This Agreement shall be governed by and construed in accordance with the laws of New York.

IN WITNESS WHEREOF, the parties hereto have caused this Substitution Agreement to be duly executed as of the day and year first written above.

UIL Holdings Corporation

Avangrid, Inc.

By: /s/ Steven P Fauzza
Name: Steven P Fauzza
Title: Vice President, Controller & Treasurer

By: /s/ Howard Coon
Name: Howard Coon
Title: Vice President & Treasurer

By: /s/ Leonard Rodriquez
Alcain
Name: Leonard Rodriquez
Title: General Counsel

By: /s/ Daniel
Name: Daniel Alcain
Title: Senior Vice President – Controller

LIST OF SUBSIDIARIES OF Avangrid, Inc.

Name of Subsidiary	U	State or Jurisdiction of Incorporation Or Organization
Avangrid Networks, Inc.(1)*	U	Maine
New York State Electric & Gas Corporation(2)	U	New York
Rochester Gas and Electric Corporation (2)	U	New York
Central Maine Power Company(2)	U	Maine
Maine Natural Gas Corporation(2)	U	Maine
UIL Holdings Corporation.(2)	U	Connecticut
The United Illuminating Company(5)	U	Connecticut
The Southern Connecticut Gas Company(5)	U	Connecticut
Connecticut Natural Gas Corporation(5)	U	Connecticut
The Berkshire Gas Company(5)	U	Massachusetts
Avangrid Renewables Holdings, Inc.(1)*	U	Delaware
Avangrid Renewables, LLC(3)	U	Oregon
Enstor Gas, LLC(3)*	U	Delaware
Enstor Energy Services, LLC(4)	U	Delaware
Enstor, Inc.(4)	U	Oregon

- (1) Subsidiary of Avangrid, Inc.
(2) Subsidiary of Avangrid Networks, Inc.
(3) Subsidiary of Avangrid Renewables Holdings, Inc.
(4) Subsidiary of Enstor Gas, LLC
(5) Subsidiary of UIL Holdings Corporation

* Holding Company

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 No. 333-212616) pertaining to Avangrid, Inc.'s common stock to be available for issuance under the Avangrid, Inc. Omnibus Incentive Plan, and

(2) Registration Statement (Form S-8 No. 333-208571) pertaining to Avangrid, Inc.'s common stock to be available for issuance under the UIL Holdings Corporation 2008 Stock and Incentive Compensation Plan and the UIL Holdings Corporation Deferred Compensation Plan;

of our reports dated March 10, 2017, with respect to the consolidated financial statements and schedule and the effectiveness of internal control over financial reporting of Avangrid, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2016.

/s/ Ernst & Young LLP

New York, New York

March 10, 2017

Consent of Independent Accountants

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (333-208571) of Avangrid, Inc. of our report dated April 1, 2016 relating to the consolidated balance sheet of UIL Holdings Corporation, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Boston, MA
March 10, 2017

CERTIFICATION

I, James P. Torgerson, certify that:

1. I have reviewed this annual report on Form 10-K of Avangrid, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 10, 2017

U
U

U/s/ James P. Torgerson

UJames P. Torgerson
UDirector and Chief Executive Officer

CERTIFICATION

I, Richard J. Nicholas, certify that:

1. I have reviewed this annual report on Form 10-K of Avangrid, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 10, 2017

/s/ Richard J. Nicholas

Richard J. Nicholas
Chief Financial Officer

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. 1350, the undersigned, James P. Torgerson and Richard J. Nicholas, the Chief Executive Officer and Chief Financial Officer, respectively, of Avangrid, Inc. (the "issuer"), do each hereby certify that the report on Form 10-K to which this certification is attached as an exhibit (the "report") fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and that information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

/s/ James P. Torgerson

James P. Torgerson
Director and Chief Executive Officer
Avangrid, Inc.
March 10, 2017

/s/ Richard J. Nicholas

Richard J. Nicholas
Chief Financial Officer
Avangrid, Inc.
March 10, 2017



VINEYARD WIND

ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-14 Iberdrola SA Accounts 2018



Annual Financial Report

Iberdrola, S.A. and
subsidiaries
Financial year 2018

AUDITOR'S REPORT



KPMG Auditores, S.L.
Torre Iberdrola
Plaza Euskadi, 5
Planta 17
48009 Bilbao

Independent Auditor's Report on the Consolidated Annual Accounts

(Translation from the original in Spanish. In the event of discrepancy, the Spanish-language version prevails.)

To the Shareholders of Iberdrola, S.A.

REPORT ON THE CONSOLIDATED ANNUAL ACCOUNTS

Opinion

We have audited the consolidated annual accounts of Iberdrola, S.A. (the "Parent") and subsidiaries (together the "Group"), which comprise the consolidated statement of financial position at 31 December 2018, and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and consolidated notes.

In our opinion, the accompanying consolidated annual accounts give a true and fair view, in all material respects, of the consolidated equity and consolidated financial position of the Group at 31 December 2018 and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS-EU) and other provisions of the financial reporting framework applicable in Spain.

Basis for Opinion

We conducted our audit in accordance with prevailing legislation regulating the audit of accounts in Spain. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Annual Accounts* section of our report.

We are independent of the Group in accordance with the ethical requirements, including those regarding independence, that are relevant to our audit of the consolidated annual accounts in Spain pursuant to the legislation regulating the audit of accounts. We have not provided any non-audit services, nor have any situations or circumstances arisen which, under the aforementioned regulations, have affected the required independence such that this has been compromised.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the consolidated annual accounts of the current period. These matters were addressed in the context of our audit of the consolidated annual accounts as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Recoverability of non financial assets

See note 12 to the consolidated annual accounts

<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>The principal activities of the different businesses included in the consolidated annual accounts of the Group are related to the generation, transmission, distribution and supply of electricity, and therefore the balances recognised under intangible assets and property, plant and equipment are highly significant.</p> <p>Furthermore, as a result of the acquisitions made in recent years, the consolidated annual accounts include goodwill for an amount of Euros 7,838 million.</p> <p>IFRS-EU determine the need to carry out an analysis of the recoverable amounts of assets in those cases in which indications of impairment were identified. Goodwill, intangible assets with indefinite useful lives and in-process intangible assets are not amortised, but are instead tested for impairment at least on an annual basis.</p> <p>The calculation of the recoverable amount of non-current assets indicated in the preceding paragraphs is determined through the use of methodologies based on discounted cash flows, the estimation of which requires the use of a high degree of judgement.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Assessing the design and implementation of the key controls related to the process of determining recoverable amount. ▪ Assessing the reasonableness of the methodology used to calculate value in use and the main assumptions considered, with the involvement of our specialists. ▪ Analysing the consistency of the estimated growth in future cash flows with the business plans approved by the governing bodies. We also contrasted the cash flow forecasts estimated in prior years with the actual cash flows obtained. ▪ Assessing the sensitivity of certain assumptions to changes that are considered reasonable. ▪ Assessing whether the disclosures in the consolidated annual accounts comply with the requirements of the applicable financial reporting framework.

Provisions for pensions and similar obligations
See note 25 to the consolidated annual accounts

<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>The Group has important commitments with personnel in relation to retirement and other long-term liabilities. These commitments are mainly in Spain, the United States, the United Kingdom and Brazil.</p> <p>The present value of commitments undertaken is Euros 10,087 million, while the fair value of plan assets amounts to Euros 7,923 million, of which Euros 1,769 million is classified as level 3 of the fair value hierarchy.</p> <p>Non-material variations in the relevant assumptions that determine the valuation of the commitments undertaken or the fair value of the associated assets could have a significant impact on the amounts recognised in the consolidated annual accounts.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Assessing the design and implementation of controls related to the valuation process. ▪ Reading and understanding of collective agreements and other commitments assumed with personnel. ▪ Evaluation of the integrity and accuracy of the databases used for the beneficiaries of the different commitments. ▪ Analysis of the reasonableness of the main actuarial assumptions and calculation methods applied by the Group in the different jurisdictions in which it operates through the involvement of our specialists. ▪ Performance of substantive procedures on a sample of the assets subject to the different plans in order to verify the reasonableness of their valuation. Our procedures included obtaining external confirmations. ▪ Evaluation of the reasonableness of the sensitivity analyses performed. ▪ Analysis of compliance with the disclosure requirements established in IFRS-EU.

Provisions for litigation and claims See note 26 to the consolidated annual accounts	
<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>As a result of the operations carried out by the entities that comprise the Group, the consolidated statement of financial position includes significant provisions amounting to Euros 1,357 million that are shown in the "provisions for litigation, indemnities and other items" and "other provisions" columns of note 26 to the consolidated annual accounts.</p> <p>The criteria for the recognition and disclosure of contingencies and provisions require the application of a high degree of judgement.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Assessing the design and implementation of the controls related to the process of recognising and evaluating litigations and claims. ▪ Obtaining details of litigation prepared by the Group's legal services department and analysing the reasonableness of the amounts recognised in the consolidated annual accounts. ▪ Sending confirmations to the lawyers with whom the Group operates. ▪ Readings of the minutes of board of directors' meetings. ▪ Selection of a sample of the main litigation procedures and analysis with supporting documentation with the involvement of our specialists. ▪ Analysis of compliance with the disclosure requirements established in IFRS-EU.

Revenue recognition See note 5 a) to the consolidated annual accounts	
<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>The Group's businesses that carry out electricity supply activities must make estimates of unbilled supplies to end customers in the period between the last meter reading and the end of the fiscal year.</p> <p>Unbilled electricity supplied is estimated based on internal and external information that is compared with the measurements contained in the management systems used by the businesses. Revenue is calculated by multiplying the volume of estimated unbilled use by the tariff agreed for each customer, a process that is subject to a high degree of uncertainty.</p> <p>Estimated electricity supplied and not invoiced amounts to Euros 2,067 million.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Analysis of the design, implementation and operating effectiveness of the key controls related to the estimation of unbilled revenue. ▪ Evaluation of the reasonableness of the calculation model used by comparing the estimates made at the close of the previous period and actual invoicing data (retrospective analysis). ▪ Verification of the reasonableness of the volume of unbilled electricity through an analysis of historical information and other available internal and external data. ▪ Verification of the tariffs applied by comparing them with the data contained in the customer contract databases.

Other information: Consolidated Directors' Report

Other information solely comprises the 2018 consolidated directors' report, the preparation of which is the responsibility of the Parent's Directors and which does not form an integral part of the consolidated annual accounts.

Our audit opinion on the consolidated annual accounts does not encompass the consolidated directors' report. Our responsibility regarding the content of the consolidated directors' report is defined in the legislation regulating the audit of accounts, which establishes two different levels:

- a) A specific level applicable to the consolidated non-financial information statement and to certain information included in the Annual Corporate Governance Report, as defined in article 35.2. b) of Audit Law 22/2015, which consists solely of verifying that this information has been provided in the directors' report, or where applicable, that the directors' report makes reference to the separate report on non-financial information, as provided for in legislation, and if not, to report on this matter.
- b) A general level applicable to the rest of the information included in the consolidated directors' report, which consists of assessing and reporting on the consistency of this information with the consolidated annual accounts, based on knowledge of the Group obtained during the audit of the aforementioned accounts and without including any information other than that obtained as evidence during the audit. Also, assessing and reporting on whether the content and presentation of this part of the consolidated directors' report are in accordance with applicable legislation. If, based on the work we have performed, we conclude that there are material misstatements, we are required to report them.

Based on the work carried out, as described above, we have verified that the information mentioned in a) above has been provided in the consolidated directors' report and that the rest of the information contained in the consolidated directors' report is consistent with that disclosed in the consolidated annual accounts for 2018 and the content and presentation of the report are in accordance with applicable legislation.

Directors' and Audit Committee's Responsibility for the Consolidated Annual Accounts

The Parent's Directors are responsible for the preparation of the accompanying consolidated annual accounts in such a way that they give a true and fair view of the consolidated equity, consolidated financial position and consolidated financial performance of the Group in accordance with IFRS-EU and other provisions of the financial reporting framework applicable to the Group in Spain, and for such internal control as they determine is necessary to enable the preparation of consolidated annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated annual accounts, the Parent's Directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

The Parent's audit committee is responsible for overseeing the preparation and presentation of the consolidated annual accounts.

Auditor's Responsibilities for the Audit of the Consolidated Annual Accounts

Our objectives are to obtain reasonable assurance about whether the consolidated annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with prevailing legislation regulating the audit of accounts in Spain will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence economic decisions of users taken on the basis of these consolidated annual accounts.

As part of an audit in accordance with prevailing legislation regulating the audit of accounts in Spain, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated annual accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Parent's Directors.
- Conclude on the appropriateness of the Parent's Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated annual accounts or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated annual accounts, including the disclosures, and whether the consolidated annual accounts represent the underlying transactions and events in a manner that achieves a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated annual accounts. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Audit and Risk Monitoring Committee of Iberdrola, S.A. regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Parent's Audit and Risk Monitoring Committee with a statement that we have complied with the applicable ethical requirements, including those regarding independence, and to communicate with them all matters that may reasonably be thought to bear on our independence and, where applicable, related safeguards.

From the matters communicated to the audit committee of the Parent, we determine those that were of most significance in the audit of the consolidated annual accounts of the current period and which are therefore the key audit matters.

We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

Additional Report to the Audit Committee of the Parent

The opinion expressed in this report is consistent with our additional report to the Parent's audit committee dated 22 February 2019.

Contract Period

We were appointed as auditor of the Group by the shareholders at the ordinary general meeting on 31 March 2017 for a period of three years, from the year ended 31 December 2017.

KPMG Auditores, S.L.

On the Spanish Official Register of Auditors ("ROAC") with No. S0702

(Signed on original in Spanish)

Enrique Asla García

On the Spanish Official Register of Auditors ("ROAC") with No. 1,797

22 February 2019



**CONSOLIDATED ANNUAL ACCOUNTS AND CONSOLIDATED DIRECTORS' REPORT
FOR THE YEAR ENDED 31 DECEMBER 2018**

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IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AT 31 DECEMBER 2018

Thousands of Euros			
ASSETS	Note	31.12.2018	31.12.2017 (*)
Intangible assets	8	21,000,248	21,148,027
Goodwill		7,837,843	7,932,404
Other intangible assets		13,162,405	13,215,623
Investment property	9	428,592	424,029
Property, plant and equipment	10	66,109,320	64,082,379
Property, plant and equipment in use		58,517,671	57,301,296
Property, plant and equipment under construction		7,591,649	6,781,083
Current financial investments		5,191,132	5,013,504
Equity-accounted investees	13.a	1,709,518	1,790,896
Non-current securities portfolio		68,831	65,342
Other non-current financial investments	13.b	2,685,387	2,612,565
Derivative Financial instruments	28	727,396	544,701
Trade and other receivables-non-current	14	1,480,252	838,690
Deferred tax assets	31	5,485,999	5,382,373
Non-current assets		99,695,543	96,889,002
Assets held for sale	6	62,164	355,731
Nuclear fuel	16	272,674	331,883
Inventories	17	2,173,831	1,870,121
Trade and other receivables current		6,854,733	6,721,258
Current tax assets	32	252,907	546,304
Public entities, other	32	503,444	318,582
Trade and other receivables current	18	6,098,382	5,856,372
Current Financial investments		1,177,821	1,323,224
Non-current securities portfolio		–	1,744
Other current financial investments	13.b	571,568	598,883
Derivative financial instruments	28	606,253	722,597
Cash and cash equivalents	19	2,801,157	3,197,340
CURRENT ASSETS		13,342,380	13,799,557
TOTAL ASSETS		113,037,923	110,688,559

(*) The consolidated statement of financial position at 31 December 2017 is presented for comparative purposes only.
The accompanying Notes 1 to 54 and the Appendix are an integral part of the consolidated statements of financial position at 31 December 2018.

Translation of Annual accounts originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 55). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

Consolidated statement of financial position at 31 December 2018

Thousands of Euros			
EQUITY AND LIABILITIES	Note	31.12.2018	31.12.2017 (*)
Parent company	20	36,582,199	35,509,260
Subscribed capital		4,798,222	4,738,136
Valuation adjustments		(32,196)	(42,254)
Other reserves		32,731,625	31,435,651
Treasury shares		(1,010,348)	(597,797)
Translation differences		(2,919,156)	(2,828,470)
Net profit for the year		3,014,052	2,803,994
Non-controlling interests		5,668,803	5,671,380
Perpetual subordinated bonds		1,725,552	1,552,546
EQUITY		43,976,554	42,733,186
NON-CURRENT SECURITIES PORTFOLIO HAVING THE SUBSTANCE OF A FINANCIAL LIABILITY	22	140,582	14,762
Capital grants	23	1,477,928	1,481,111
Facilities transferred or financed by third parties	24	4,823,396	4,763,148
Provisions		5,447,587	5,486,820
Provision for pensions and similar obligations	25	2,420,032	2,533,465
Other provisions	26	3,027,555	2,953,355
Financial debt		31,138,863	29,784,705
Financial debt - loans and borrowings	27	30,751,710	29,465,739
Derivative financial instruments	28	387,153	318,966
Other non-current liabilities	30	874,006	1,140,638
Deferred tax liabilities	31	9,042,567	8,558,419
TOTAL NON-CURRENT LIABILITIES		52,804,347	51,214,841
CURRENT SECURITIES PORTFOLIO HAVING THE SUBSTANCE OF A FINANCIAL LIABILITY	22	36,647	32,519
Liabilities linked to assets held for sale	6	561	134,544
Provisions		579,984	626,841
Provision for pensions and similar obligations	25	22,874	40,604
Other provisions	26	557,110	586,237
Financial debt		7,023,143	7,509,809
Financial debt - loans and borrowings	27	6,574,762	7,224,759
Derivative financial instruments	28	448,381	285,050
Trade and other payables		8,476,105	8,422,057
Trade payables	33	5,428,933	5,307,551
Income tax	32	349,314	259,633
Public entities, other	32	1,039,449	988,926
Other current liabilities	30	1,658,409	1,865,947
Current Liabilities		16,079,793	16,693,251
TOTAL EQUITY AND LIABILITIES		113,037,923	110,688,559

(*) The consolidated statement of financial position at 31 December 2017 is presented for comparative purposes only.
The accompanying Notes 1 to 54 and the Appendix are an integral part of the consolidated statements of financial position at 31 December 2018.

Translation of Annual accounts originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 55). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED INCOME STATEMENT FOR THE YEAR ENDED AT 31 DECEMBER 2018

Thousands of Euros			
	Note	31.12.2018	31.12.2017
PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS			
Revenue	35	35,075,873	31,263,262
Supplies	36	(19,640,736)	(17,899,454)
GROSS MARGIN		15,435,137	13,363,808
Personnel expenses	37	(2,678,725)	(2,775,994)
Capitalised personnel expenses	37	658,719	604,398
Net personnel expenses		(2,020,006)	(2,171,596)
External services		(2,797,175)	(2,578,653)
Other operating income		661,950	579,644
Net external services		(2,135,225)	(1,999,009)
Net operating expenses		(4,155,231)	(4,170,605)
Taxes	39	(1,931,003)	(1,874,503)
GROSS OPERATING PROFIT (EBITDA)		9,348,903	7,318,700
Change in Trade and other contract assets	2.a	(253,656)	(197,399)
Amortisations, depreciation and provisions	40	(3,655,874)	(4,408,670)
OPERATING PROFIT (EBITDA)		5,439,373	2,712,631
Result of equity-accounted investees - net of taxes	13.a	55,904	(28,733)
Finance income	42	839,911	921,790
Financial costs	43	(1,996,005)	(1,858,892)
Financial result		(1,156,094)	(937,102)
Gains on sales of non-current assets	41	48,468	299,093
Losses on sales of non-current assets	41	(39,617)	(20,039)
Non-current asset profit/(loss)		8,851	279,054
PROFIT OF THE YEAR BEFORE TAX		4,348,034	2,025,850
Income tax	31	(959,499)	1,397,127
PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS		3,388,535	3,422,977
PROFIT FOR THE PERIOD FROM CONTINUING OPERATIONS (NET)		(51,167)	(253,011)
Non-controlling interests	20	(323,316)	(365,972)
NET PROFIT FOR THE YEAR ATTRIBUTABLE TO THE PARENT		3,014,052	2,803,994
BASIC AND DILUTED EARNINGS PER SHARE IN EUROS FOR CONTINUING OPERATIONS	53	0.475	0.458
BASIC AND DILUTED EARNINGS PER SHARE IN Euros FOR DESCONTINUED OPERATIONS	53	(0.008)	(0.038)

(*)The consolidated income statement at 31 December 2017 is presented for comparative purposes only.
The accompanying Notes 1 to 54 and the Appendix are an integral part of the consolidated income statement.

Translation of Annual accounts originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 55). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED AT 31 DECEMBER 2018

Miles de euros		31.12.2018				31.12.2017 (*)			
	Note	Of the parent company	From Non-controlling shares	Of perpetual subordinated bonds	Total	Of the parent company	From Non-controlling shares	Of perpetual subordinated bonds	Total
NET PROFIT FOR THE YEAR		3,014,052	285,747	37,569	3,337,368	2,803,994	333,730	32,242	3,169,966
OTHER COMPREHENSIVE INCOME/(LOSS) TO BE RECLASIFIED TO PROFIT OR LOSS IN SUBSEQUENT PERIODS									
Valuation adjustments		14,368	(7,298)	–	7,070	114,278	4,836	–	119,114
Change in value of available-for-sale investments	2.a	–	–	–	–	577	–	–	577
Change in value of cash flow hedges		25,554	(9,884)	–	15,670	158,462	7,993	–	166,455
Change in hedging cost		1,041	–	–	1,041	–	–	–	–
Tax effect		(12,227)	2,586	–	(9,641)	(44,761)	(3,157)	–	(47,918)
Differences in exchange rates		(90,686)	(193,420)	–	(284,106)	(1,769,353)	(555,977)	–	(2,325,330)
Valuation gains or losses		(90,686)	(193,420)	–	(284,106)	(2,065,566)	(555,977)	–	(2,621,543)
Amounts transferred to the consolidated income statement	6	–	–	–	–	296,213	–	–	296,213
TOTAL		(76,318)	(200,718)	–	(277,036)	(1,655,075)	(551,141)	–	(2,206,216)
OTHER COMPREHENSIVE INCOME NOT TO BE RECLASSIFIED TO PROFIT OR LOSS IN SUBSEQUENT PERIODS EQUITY-ACCOUNTED INVESTEEES									
Other reserves		(39,595)	(634)	–	(40,229)	(151,887)	1,110	–	(150,777)
Actuarial gains and losses on pension schemes	25	(48,501)	(333)	–	(48,834)	(57,818)	28,490	–	(29,328)
Tax effect		8,906	(301)	–	8,605	(20,090)	(10,587)	–	(30,677)
Impact of US Tax reform	31	–	–	–	–	(73,979)	(16,793)	–	(90,772)
Valuation adjustment		5,613	–	–	5,613	(17,596)	–	–	(17,596)
Change in value of cash flow hedges		7,233	–	–	7,233	(21,992)	–	–	(21,992)
Tax effect		(1,620)	–	–	(1,620)	4,396	–	–	4,396
TOTAL		(33,982)	(634)	–	(34,616)	(169,483)	1,110	–	(168,373)
OTHER COMPREHENSIVE INCOME OF EQUITY-ACCOUNTED INVESTEEES EQUITY-ACCOUNTED INVESTEEES (NET OF TAXES)									
Other reserves		(862)	–	–	(862)	(11,952)	–	–	(11,952)
Valuation adjustments		(11,031)	–	–	(11,031)	10,458	–	–	10,458
TOTAL	13.a	(11,893)	–	–	(11,893)	(1,494)	–	–	(1,494)
TOTAL NET PROFIT RECOGNISED DIRECTLY IN EQUITY		(122,193)	(201,352)	–	(323,545)	(1,826,052)	(550,031)	–	(2,376,083)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		2,891,859	84,395	37,569	3,013,823	977,942	(216,301)	32,242	793,883

(*) The consolidated statement of comprehensive income at 31 December 2017 is presented for comparison purposes only.
The accompanying Notes 1 to 54 and the Appendix are an integral part of the comprehensive income for the year ended at 31 December 2018.

Translation of Annual accounts originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 55). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED AT 31 DECEMBER 2018

	Other reserves												
Thousands of Euros	Subscribe d capital	Treasury shares	Legal reserve	Revaluatio n reserves	Share premium	Other restricted reserves	Retained earnings	Valuation adjustments	Translation differences	Net profit for the year	Non- controlling interests	Perpetual subordinated bonds	Total
Balance at 01.01.2018	4,738,136	(597,797)	968,998	236,866	14,667,676	693,684	14,868,427	(42,254)	(2,828,470)	2,803,994	5,671,380	1,552,546	42,733,186
Adjustments due to IFRS 9 (Note 2.a.)	–	–	–	–	–	–	100,731	1,108	–	–	(8,017)	–	93,822
Adjustments due to IFRS 15 (Note 2.a.)	–	–	–	–	–	–	(40,325)	–	–	–	–	–	(40,325)
Adjusted Balance at 01.01.2018	4,738,136	(597,797)	968,998	236,866	14,667,676	693,684	14,928,833	(41,146)	(2,828,470)	2,803,994	5,663,363	1,552,546	42,786,683
Net profit for the year	–	–	–	–	–	–	(40,457)	8,950	(90,686)	3,014,052	84,395	37,569	3,013,823
Transactions with shareholders or owners													–
Share capital increase (Note 20)	208,866	–	–	(208,866)	–	–	(859)	–	–	–	–	–	(859)
Share capital reduction (Note 20)	(148,780)	1,245,420	–	–	148,780	–	(1,245,469)	–	–	–	–	–	(49)
Restructuring Distribution of year 2017	–	–	–	–	–	–	2,661,298	–	–	(2,803,994)	(197,955)	–	(340,651)
Acquisition of free allocation rights (Note 20)	–	–	–	–	–	–	(97,899)	–	–	–	–	–	(97,899)
Transactions with treasury shares (Note 20)	–	(1,657,971)	–	–	–	–	(225)	–	–	–	–	–	(1,658,196)
Other changes in equity													–
Securities portfolio-based payments (Note 21)	–	–	–	–	–	–	2,671	–	–	–	(448)	–	2,223
Issue of perpetual subordinated bonds (Note 20)	–	–	–	–	–	–	(2,538)	–	–	–	–	700,000	697,462
Write-off of perpetual subordinated bonds (Note 20)	–	–	–	–	–	–	–	–	–	–	–	(525,000)	(525,000)
Other movements	–	–	–	–	–	–	19,132	–	–	–	119,448	(39,563)	39,017
Balance at 31.12.2018	4,798,222	(1,010,348)	968,998	28,000	14,816,456	693,684	16,224,487	(32,196)	(2,919,156)	3,014,052	5,668,803	1,725,552	43,976,554

Thousands of Euros	Other reserves						Retained earnings	Valuation adjustments	Translation differences	Net profit for the year	Non-controlling interests	Perpetual subordinated bonds	Total
	Subscribe d capital	Treasury shares	Legal reserve	Revaluatio n reserves	Share premium	Other restricted reserves							
Balance at 01.01.2017 (*)	4,771,559	(1,083,367)	958,271	368,436	14,667,676	528,691	14,983,227	(149,394)	(1,059,117)	2,704,983	3,445,898	550,526	40,687,389
Comprehensive income for the year (excluding impact of Changes to the consolidation perimeter) (Note 6)	–	–	–	–	–	–	(163,839)	107,806	(2,407,780)	2,759,982	(216,301)	32,242	112,110
Transactions with shareholders or owners													
Scrip issue (Note 20)	131,570	–	–	(131,570)	–	–	(834)	–	–	–	–	–	(834)
Share capital decrease (Note 20)	(164,993)	1,280,176	–	–	–	164,993	(1,280,214)	–	–	–	–	–	(38)
Distribution of 2016 profit	–	–	10,727	–	–	–	2,507,184	–	–	(2,704,983)	(101,332)	–	(288,404)
Acquisition of free allocation rights (Note 20)	–	–	–	–	–	–	(645,800)	–	–	–	–	–	(645,800)
Transactions with treasury shares (Note 20)	–	(794,606)	–	–	–	–	2,950	–	–	–	–	–	(791,656)
Other movements in equity													–
Share-based payments (Note 21)	–	–	–	–	–	–	6,830	–	–	–	845	–	7,675
Modification of the consolidation perimeter (Note 6)	–	–	–	–	–	–	(500,926)	(666)	638,427	44,012	2,320,651	–	2,501,498
Issue of Perpetual subordinated bonds (Note 20)	–	–	–	–	–	–	(5,150)	–	–	–	–	1,000,000	994,850
Other changes	–	–	–	–	–	–	(35,001)	–	–	–	221,619	(30,222)	156,396
Balance at 31.12.2017 (*)	4,738,136	(597,797)	968,998	236,866	14,667,676	693,684	14,868,427	(42,254)	(2,828,470)	2,803,994	5,671,380	1,552,546	42,733,186

(*) The consolidated statement of changes in equity at 31 December 2017 is presented for comparison purposes only.
The accompanying Notes 1 to 54 and the Appendix are an integral part of the consolidated statement of changes in equity for the year ended at 31 December 2018.

Translation of Annual accounts originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 55). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEARS ENDED AT 31 DECEMBER 2018

Thousand of Euros	Note	31.12.2018	31.12.2017 (*)
Profit of the year from continuing activities before tax		4,348,034	2,025,850
Profit of the year before tax discontinued operations before tax		(64,660)	(321,490)
Adjustments for			
Amortisation, depreciation, provisions valuation adjustments finance assets and personnel expenses for pensions	37, 40	4,080,238	4,969,021
Results of companies accounted for using the equity method net of taxes	13	(55,904)	28,405
Grants credited to income and other deferred income	23	(282,898)	(276,795)
Income and expenses financial	42, 43	1,156,094	946,812
Profit from the disposal on non-current assets	41	(8,851)	(278,962)
Changes in working capital			
Change in trade and other receivables		(434,905)	36,145
Change in inventories		(313,389)	(169,087)
Change in trade and other payables		(24,057)	(310,640)
Change in non-current receivables and other payables		(24,520)	(1,397)
Provisions paid		(511,382)	(470,723)
Income tax paid		(332,891)	(542,169)
Dividends received		55,339	50,483
Cash flows from (used in) operating activities		7,586,248	5,685,453
Change in cash due to variations in the method and / or perimeter of consolidation	6	–	76,366
Investments in intangible assets	8	(1,113,978)	(530,992)
Capitalised interests paid for intangible assets	42	(35,735)	(21,506)
Investments in associates	13.a	(91,305)	(77,331)
Sale of subsidiaries		(1,746)	(1,641)
Other investments		(675,737)	1,016
Acquisition of investment property	9	(11,878)	(4,169)
Acquisition property, plant and equipment	10	(5,237,151)	(5,594,372)
Capital grants and other deferred income	23	14,040	42,761
Capitalised interests paid for property, plant and equipment	42	(156,896)	(112,536)
Net Inflow/outflow due to current financial assets		(67,300)	584,087
Interest received		192,291	130,830
Income tax		22,076	–
Proceeds from sales of non-financial assets		6,604	2,800
Proceeds from sales of financial assets		47,152	312,017
Sale of subsidiaries		1,059,150	–
Net cash flows from (used in) investing activities		(6,050,413)	(5,192,670)
Free-of-charge allocation rights acquisition	20	(97,899)	(645,800)
Dividends paid		(142,696)	(187,072)
Dividends paid to non-controlling interests		(161,241)	(104,029)
Issuance of perpetual subordinated bonds	20	697,462	1,000,000
Reimbursement of perpetual subordinated obligations	20	(525,000)	–
Payments of perpetual subordinated bonds interests	20	(39,563)	(35,337)
Issues and disposal from borrowings	20	13,325,103	13,637,173
Repayment of borrowings	29, 22	(12,493,320)	(10,419,647)
Interest paid excluded capitalised interest		(879,389)	(840,985)
Cash outflows due to capital decrease		(49)	(38)
Cash outflows due to capital increase		(859)	(834)
Treasury shares acquisition	20	(1,674,480)	(1,004,890)
Proceeds from sale of treasury shares	20	63,286	90,589
Transactions with non-controlling interests		132,483	(67,503)
Net cash flows from (used in) financing activities		(1,796,162)	1,421,627
Effect of exchange rate changes on cash and cash equivalents		(135,856)	(149,756)
Net increase / (decrease) in cash and cash equivalents		(396,183)	1,764,654
Cash and cash equivalents at the beginning of the year		3,197,340	1,432,686
Cash and cash equivalents at the ending of the year		2,801,157	3,197,340

(*) The consolidated statement of cash flows for 2017 is presented for comparison purposes only.

The accompanying Notes 1 to 54 and the Appendix are an integral part of the consolidated statements of cash flows for the year ended at 31 December 2018.

IBERDROLA, S.A. AND SUBSIDIARIES

Consolidated financial statement for the year ended at 31 December 2018

1. ACTIVITY OF THE GROUP

IBERDROLA S.A. (hereinafter, IBERDROLA), a company incorporated in Spain and with registered office at Plaza Euskadi 5, in Bilbao, is the parent of a group of companies whose main activities are the following:

- Production of electricity from renewable and conventional sources.
- Sale and purchase of electricity and gas in whole sale markets.
- Transmission and distribution of electricity.
- Supply of electric power, gas and energy-related services.
- Other activities mainly linked to the energy sector.

The aforementioned activities may be carried out in Spain as well as abroad, and may be carried out, in whole or in part, either directly by IBERDROLA or through the ownership of shares or equity interests in other companies, subject in all cases and at all times to applicable legal provisions for each industry, especially the electricity industry. The IBERDROLA Group carries out its activities mainly in five countries in the Atlantic region: Spain, United Kingdom (UK), United States of America (USA), Mexico and Brazil.

2. BASIS OF PRESENTATION OF THE CONSOLIDATED ANNUAL ACCOUNTS

2.a) Applicable accounting legislation

The IBERDROLA Group's 2018 consolidated annual accounts authorised for issue by the directors on 19 February 2019, in accordance with International Financial Reporting Standards (hereinafter, IFRS), as adopted by the European Union, in conformity with Regulation (EC) No 1606/2002 of the European Parliament and of the European Council. The directors of IBERDROLA expect these consolidated annual accounts to be approved at the General Shareholders' Meeting without modification.

The IBERDROLA Group's 2017 consolidated annual accounts were approved by the shareholders at their General Meeting held on 13 April 2018.

At 31 December 2018, the annual accounts present negative working capital of Euros 2,774 million. The directors declare the deficit will be offset by the generation of funds from the IBERDROLA Group's businesses. Moreover, as shown in Note 4, the IBERDROLA Group has an undrawn granted borrowings of Euros 10,211 million.

These consolidated annual accounts have been prepared on the basis of a historical cost, except for available-for-sale financial assets and derivatives, which have been measured at fair value. The carrying amounts of assets and liabilities hedged by fair value hedges are adjusted to reflect variations in their fair value as a result of the risk hedged.

The accounting policies used in the preparation of these consolidated annual accounts are those used for the year ended on 31 December 2017, except for the application on January 1 2018, of IFRS 9 “Financial instruments” and IFRS 15 “Revenues from contracts with customers” published by the International Accounting Standards Board (IASB), adopted by the European Union for its use in Europe:

The main impacts of applying the new standards above are:

IFRS 15: “Revenues from contracts with customers”

According to the core principle of IFRS 15, an entity recognises revenue from ordinary activities to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

The IBERDROLA Group will adopt IFRS 15 retroactively recording the effect of applying this standard at 1 January 2018. Thus, annual accounts for 2017 do not include any effects resulting from the application of IFRS 15.

The adoption of IFRS 15 has affected the accounting treatment of the following concepts::

- The capitalisation of incremental costs incurred in obtaining contracts with customers, which, prior to application of IFRS 15 used to be posted under “External services” in the consolidated income statement.

Incremental costs capitalised by IBERDROLA Group mainly refer to sales commissions incurred to obtain a contract with a customer which would not otherwise have been incurred if the contract had not been obtained.

Assets recognised for this item are amortised on a systematic basis according to the average expected life of contracts with customers that are associated with such costs.

- Claims against customers in construction contracts. IFRS 15 establishes that to recognise modifications to contracts with customers as revenue, either because new rights and obligations are generated or because pre-existing ones are changed, these have to be approved in writing, by verbal agreement or implicitly on account of customary business practices. However, under the previous IAS 11 “Contracts under construction” claims were included under income to the extent that they are probable and can be reliably measured.
- Penalties with customers in construction contracts for delays or other reasons. IFRS 15 establishes that the estimated amount of variable consideration is to be included in the transaction price only to the extent that it is highly likely that there will be no significant reversal of the amount of revenue when the uncertainty associated with the variable consideration is subsequently resolved. However, under the previous IAS 11 “Contracts under construction” penalties were included under income to the extent that they are probable or the uncertainties related to them were settled.
- The timing of recognition of the revenue that corresponds to assignment agreements applicable to the capacity of technical facilities.

The impact from the above items that was recognised by the IBERDROLA Group in implementing IFRS 15 as of 1 January 2018 was:

Thousands of Euros	Cost capitalisation	Claims/penalties	Time income recognition	Total
Intangible assets.	175,001	-	-	175,001
Trades and other accounts receivable	-	(133,049)	(50,579)	(183,628)
Deferred tax assets	-	64,562	15,174	79,736
Non-current assets	175,001	(68,487)	(35,405)	71,109
Trades and other accounts receivable	-	(57,792)	-	(57,792)
CURRENT ASSETS	-	(57,792)	-	(57,792)
TOTAL ASSETS	175,001	(126,279)	(35,405)	13,317
Parent company	134,496	(192,116)	17,295	(40,325)
EQUITY	134,496	(192,116)	17,295	(40,325)
Other non-current payables	-	-	(75,286)	(75,286)
Deferred tax liabilities	40,505	-	22,586	63,091
NON-CURRENT LIABILITIES	40,505	-	(52,700)	(12,195)
Provisions	-	(1,202)	-	(1,202)
Trade and other payables	-	67,039	-	67,039
Current Liabilities	-	65,837	-	65,837
TOTAL EQUITY AND LIABILITIES	175,001	(126,279)	(35,405)	13,317

While undertaking the performance through transfer of goods or services to the client before the client pays the consideration or before payment may be enforced, IBERDROLA Group submits the contract as an asset of the contract, excluding the amounts submitted as accounts receivable. An account receivable is the unconditional right to receive compensation subject to the passing of time for payment to be enforced. IBERDROLA Group submits the agreement's assets in the sub-headings "Trade debtors and other non-current assets" and "Trade debtors and other current assets-Other trade debtors and other current assets" of the consolidated annual accounts (Notes 14 and 18).

A liability of the agreement is the obligation that IBERDROLA Group has to transfer goods or services to a client from whom it has already received a consideration (or this client consideration has come due). IBERDROLA Group presents the contract's assets in the sub-headings "Other non-current liabilities" and "Trade creditors and other liabilities-Other trade creditors" of the consolidated annual accounts (Notes 30 and 33).

Given below is the amount by which each item in the annual accounts had been affected by implementation of IFRS 15 as of 31 December 2018 compared with the previously applied rules:

Thousands of Euros	In accordance with IFRS 15	Effects due to changes in rules	In accordance with previous rules
Intangible assets	21,000,248	(254,714)	20,745,534
Real estate investments	428,592	-	428,592
Property, plant and equipment	66,109,320	-	66,109,320
Non-Current financial investments	5,191,132	-	5,191,132
Trade and other receivables-non-current	1,480,252	183,628	1,663,880
Deferred tax assets	5,485,999	(79,955)	5,406,044
NON-CURRENT ASSETS	99,695,543	(151,041)	99,544,502
Assets held for sale	62,164	-	62,164
Nuclear fuel	272,674	-	272,674
Inventories	2,173,831	-	2,173,831
Trade and other receivables current	6,854,733	57,792	6,912,525
Current financial investments	1,177,821	-	1,177,821
Cash and cash equivalents	2,801,157	-	2,801,157
CURRENT ASSETS	13,342,380	57,792	13,400,172
TOTAL ASSETS	113,037,923	(93,249)	112,944,674

Thousands of Euros	In accordance with IFRS 15	Effects due to changes in rules	In accordance with previous rules
Parent company	36,582,199	(21,075)	36,561,124
Share capital	4,798,222	-	4,798,222
Valuation adjustments	(32,196)	-	(32,196)
Other reserves	32,731,625	40,325	32,771,950
Treasury shares	(1,010,348)	-	(1,010,348)
Translation differences	(2,919,156)	1,417	(2,917,739)
Net profit for the year	3,014,052	(62,817)	2,951,235
Non-controlling interests	5,668,803	-	5,668,803
Perpetual subordinated bonds	1,725,552	-	1,725,552
EQUITY	43,976,554	(21,075)	43,955,479
NON-CURRENT SECURITIES PORTFOLIO HAVING THE	140,582	-	140,582
Capital grants	1,477,928	-	1,477,928
Facilities transferred or financed by third parties	4,823,396	-	4,823,396
Provisions	5,447,587	-	5,447,587
Financial debt	31,138,863	-	31,138,863
Other non-current liabilities	874,006	75,381	949,387
Deferred tax liabilities	9,042,567	(80,841)	8,961,726
NON-CURRENT LIABILITIES	52,804,347	(5,460)	52,798,887
NON-CURRENT SECURITIES PORTFOLIO HAVING THE	36,647	-	36,647
Liabilities linked to assets held for sale	561	-	561
Provisions	579,984	1,203	581,187
Financial debt	7,023,143	-	7,023,143
Trade and other payables	8,476,105	(67,917)	8,408,188
CURRENT LIABILITIES	16,079,793	(66,714)	16,013,079
TOTAL EQUITY AND LIABILITIES	113,037,923	(93,249)	112,944,674

Thousands of Euros	In accordance with IFRS 15	Effects due to changes in rules	In accordance with previous rules
Revenue	35,075,873	(6,458)	35,069,415
Provisions	(19,640,736)	-	(19,640,736)
GROSS MARGIN	15,435,137	(6,458)	15,428,679
Net personnel expenses	(2,020,006)	-	(2,020,006)
Net External services	(2,135,225)	(155,462)	(2,290,687)
Net Operating Expenses	(4,155,231)	(155,462)	(4,310,693)
Taxes	(1,931,003)	-	(1,931,003)
Gross operating profit (EBITDA)	9,348,903	(161,920)	9,186,983
Change in Trade and other contract assets	(253,656)	-	(253,656)
Amortisations, depreciation and provisions	(3,655,874)	80,580	(3,575,294)
Operating profit (EBITDA)	5,439,373	(81,340)	5,358,033
Result of equity-accounted investees - net of taxes	55,904	-	55,904
Finance income	839,911	-	839,911
Financial costs	(1,996,005)	-	(1,996,005)
Financial result	(1,156,094)	-	(1,156,094)
Non-current asset profit/(loss)	8,851	-	8,851
profit of the year before tax	4,348,034	(81,340)	4,266,694
Income tax	(959,499)	17,865	(941,634)
PROFIT FOR THE YEAR FROM CONTINUING ACTIVITIES	3,388,535	(63,475)	3,325,060
PROFIT FOR THE YEAR FROM DISCONTINUED OPERATIONS (NET)	(51,167)	658	(50,509)
Non-controlling interests	(323,316)	-	(323,316)
NET PROFIT FOR THE YEAR ATTRIBUTABLE TO THE PARENT	3,014,052	(62,817)	2,951,235

IFRS 9: “Financial instruments”.

IFRS 9 establishes the requirements for recognising and measuring financial assets, financial liabilities and certain contracts to buy and sell non-financial items and replaces the previously applied IAS 39.

Classification and measurement of financial assets and liabilities

IFRS 9 replaces the previous classification of financial assets and these are now classified in accordance with the business model within which they are held and the cash flow characteristics under their contractual terms. On the other hand, the new standard to a great extent retains the requirements in IAS 39 for classifying and measuring financial liabilities.

The IBERDROLA Group has adopted the classification and measurement requirements retroactively, with initial application on 1 January 2018, thus taking the option of not restating the figures for comparative periods.

The IBERDROLA Group has classified its financial assets into the following categories:

Categories	
Financial Assets at amortised cost	Financial assets that: - are held within a business model where the objective is to hold the assets to obtain the contract cash flows, and - whose contract terms produce, on specific dates, cash flows which are only payments of the principal and interest on the amount of the outstanding principal.
Financial assets at fair value through profit and loss:	This category embraces those financial assets which fail to meet the conditions for being classified as “measured at amortised cost”.

The IBERDROLA Group has irrevocably decided that securities portfolio existing at the time of the initial application of IFRS 9 should be classified at fair value through profit and loss where the changes in fair value are recognised under “Financial costs” and “Financial income” in the consolidated income statement. Under IAS 39 these investments were classified in the category of available-for-sale assets and changes in their fair value were debited or taken to “Value adjustments” in the consolidated statement of financial position up until the time of sale of such investments or their impairment, at which point the cumulative amount for this item was allocated to the consolidated income statement.

Under IAS 39 the amounts classified under IAS 39 have the following equivalent in the new IFRS 9 categories:

In accordance with IAS 39	In accordance with IFRS 9
Loans and receivables	Financial Assets at amortised cost
Available-for-sale assets	Financial assets at fair value through profit and loss:
Assets held for trading	Financial assets at fair value through profit and loss:

On the other hand, classification of the IBERDROLA Group’s financial liabilities has not undergone any changes with respect to what featured in the consolidated annual accounts for 2017.

Impairment of financial assets at amortised cost and contract assets

Under IFRS 9 it is no longer necessary for there to be some event that evidences impairment to recognise credit losses. Instead, expected credit losses are carried, which means bringing forward recognition of credit losses compared to IAS 39.

The IBERDROLA Group has adopted the value impairment requirements retroactively, with initial application on 1 January 2018, thus taking the option of not restating the figures for comparative periods.

The impact recognised by the IBERDROLA Group from applying the new expected loss model (Note 3.I) to calculate value impairment of financial assets at amortised cost and contract assets as of 1 January 2018 was:

Thousands of Euros	01.01.2018
Current Financial investments	(475)
Trades and other accounts receivable	(9,090)
Deferred tax assets	2,652
NON-CURRENT ASSETS	(6,913)
Trades and other accounts receivable	(7,372)
Current Financial investments	(6,918)
Cash and cash equivalents	(710)
CURRENT ASSETS	(15,000)
TOTAL ASSETS	(21,913)
Parent company	(14,640)
Non-controlling interests	(7,273)
TOTAL EQUITY AND LIABILITIES	(21,913)

Valuation adjustment due to impairment in “Non-current trade and other non-current assets” and “Current trade and other current assets” is detailed separately in the consolidated income statement under “Valuation adjustments trade and other contract assets”. Subsequently, the amount of Euros 197,399 million has been reclassified which, in accordance with the previous IAS 39, was detailed in “Amortisations and provisions” in the income statement for 2017.

Hedge accounting

The requirements of IFRS 9 make hedge accounting more closely aligned with risk management, establish a focus that is more in accordance with principles and tackle the incongruences and shortcomings of the hedge accounting model in IAS 39 that was previously applied.

In accordance with IFRS 9, the IBERDROLA Group will record as hedge cost the temporary value of option contracts and term of term contracts should they be excluded from hedges (Note 20). Under IAS 39 these elements were carried in the consolidated income statement.

The transition to IFRS 9 in relation to the recording of hedges will be made prospectively, with the exception of the accounting treatment of the temporary value of those option contracts for which changes in its intrinsic value was designated as hedging instrument. In such case, it will be applied retrospectively. The effect of initial application of IFRS 9 as of 1 January 2018 as regards the above-mentioned time value has meant a charge of Euros 1,552 thousand to “Other reserves” in the consolidated statement of financial position along with a credit to “Value adjustments” in the consolidated statement of financial position (Note 20).

Changes to financial liabilities

The changes of financial liabilities to amortised cost not resulting from the derecognition of a financial liability (for considering this to be a non-material change) imply recording in the consolidated annual accounts the result on the date of the change, the difference between amortised cost of financial liabilities and the amount of cash flows still in financial liabilities deducted from the original effective tax rate.

Previous to this change, in changes of financial liabilities whose conditions were not substantially different, the amortised cost of the financial liability is determined using the effective interest rate method. The effective interest rate is the rate that matches the carrying amount of the financial liability at the date of modification with the cash flows payable under the new terms.

The result of retroactively applying these criteria on 1 January 2018 is as follows:

Thousands of Euros	01.01.2018
Parent company	117,627
EQUITY	117,627
Finance debt (Note 27).	(156,434)
Deferred tax liabilities	38,807
NON-CURRENT LIABILITIES	(117,627)
TOTAL EQUITY AND LIABILITIES	-

The consolidated income statement for 2018 includes a greater cost of Euros 34,600 thousand recognised under "Financial cost" in the consolidated income statement as a result of the rise in the effective interest rate under the new accounting rule for financial liabilities that have been modified to an insignificant degree with respect to the rate which was applied for 2017.

Rules issued pending of application

At the reporting date of these consolidated annual accounts, the following standards, interpretations, and amendments had been adopted, becoming effective after December 31, 2018:

		Mandatory application	
Regulation		IASB	European Union
IFRS 16	Leases	01.01.2019	01.01.2019
IFRS 17	Insurance contracts	01.01.2021	(*)
IFRIC 23	Uncertainties over income tax treatments	01.01.2019	01.01.2019
Modifications to IFRS 9	Prepayment Features with Negative Compensation	01.01.2019	01.01.2019
Modifications to IAS 28	Long-term interests in subsidiaries and joint business	01.01.2019	(*)
Modifications to IAS 19	Changes, reductions or settlement of defined benefit retirement plans	01.01.2019	(*)
Cycle 2015-2017	Annual improvements several standards	01.01.2019	(*)
Modifications to IFRS 3	Business definition	01.01.2020	(*)
Modifications to AIS 1 & AIS 8	Material definition	01.01.2020	(*)

(*) Pending approval from the European Union

The IBERDROLA Group has not applied in advance of the formulation of these consolidated annual accounts any published standard, interpretation or amendment that has not yet come into force.

The IBERDROLA Group believes that their application would not have had a material impact on these consolidated annual accounts, and, furthermore, would not have a material impact when they are applied, except for the application of IFRS 16 “Leases”.

IFRS 16: “Leases”

The IBERDROLA Group will apply on the annual accounts starting from 01 January 2019 the IFRS 16: “Leases”. All the quantitative effects are shown below in gross figures.

From the perspective of the lesser, IFRS 16 eliminates the current classification among operating and financial leases and sets, as regards lease agreements, that the lessee shall recognise in the income statement an asset for right of use and a liability for the present value of the lease during said period.

The lease expense, which in these consolidated annual accounts is recognised under “External services” on the consolidated income statement, will now be recognised in the consolidated income statement under “Amortisations and provisions” due to the amortisation of said right of use asset and “Financial cost” due to the current value of the liability.

From the perspective of the lessor, IFRS 16 does not introduce relevant changes.

IBERDROLA Group has carried out an analysis in order to assess whether an agreement is or includes a lease on the date of its first application in accordance with the conditions set in IFRS 16. In said analysis, IBERDROLA Group has interpreted that assignment of land use does not imply a lease when its owner has the right to carry out any kind of financial activity implying the financial profit inherent to the use of the asset subject to the agreement has not been assigned.

IBERDROLA Group will transition to IFRS 16 through the modified retroactive alternative which does not imply re-stating the comparative period and recognising the effect of the application of IFRS 16 for the first time on 1 January 2019 (date it was first applied). Therefore, in lease agreements in which IBERDROLA Group acts as lessee, lease liabilities will be measured at the present value of the remaining lease payments to which the discount rate at the time of the first application will be discounted. With some exceptions, right-of-use assets will be measured in the same amount as liabilities.

In accordance with the options offered by IFRS 16, the IBERDROLA Group has opted for not applying it to lease agreements for intangible assets, as well as applying the exemption when recognising current leases (lease term equal or under 12 months), which will continue being accounted for as presently.

The same contract may include different lease elements, some of them not qualifying as leases. The IBERDROLA Group has opted for not separating both elements for accounting purposes and recognising them as a sole element, except for the type of underlying assets for which the separation may have a significant impact on the annual accounts.

The implementation of IFRS 16 is well advanced. In this regard, it is estimated that IFRS 16 at 1 January 2019 will imply an increase in current and non-current liabilities of Euros 399,139 million in accordance with the following agreements in accordance with this type of assets:

Thousands of Euros	01 January 2019
Buildings and real property	231,437
Vehicle fleet	34,543
Optical fibre and others (Networks)	38,334
Land related to renewable facilities (solar and other)	46,048
Other	48,803
Total	399,165

Details of discount rates (minimum and maximum ranges) used at the time of the first application are as follows:

Currency	Less than 5 years		Between 20 and 30 years	
	Minimum	Maximum	Minimum	Maximum
Euro	-	2.15	1.87	2.94
Sterling Pound	1.12	3.21	3.19	4.94
US dollar	2.68	3.3	4.16	4.48
Mexican Pesos	9.09	9.46	11.36	12.62
Brazilian Reals	8.68	11.96	14.55	15.15

Details of the reconciliation between the future minimum payment for non-cancellable operating leases under the scope of the current IAS 17 at 31 December 2018 (Note 38) and lease liabilities estimated to be recognised at 1 January 2019 in the transition to IFRS 16 are as follows:

Thousands of Euros	
Future minimum payments for non-cancellable operating leases in accordance with IAS 17 (Note 38)	1,462,154
Re-stated contracts not qualifying as lease in accordance with IFRS 16	(846,374)
Lease agreements starting after 1 January 2019 and other	(127,144)
Difference in financial discount	(89,471)
Lease liabilities at 1 January 2019 under IFRS 16	399,165

Under current standards, the majority of lease agreements for land in which the wind generation facilities are located qualify under operating leases. In application of IFRS 16, IBERDROLA Group interprets that the majority of these agreements do not include lease in accordance with the criteria previously described. Said interpretation in the application of IFRS 16 is in accordance with international practice in the scope of the application of the IFRS.

However, the accounting treatment of agreements observing shared used of underlying assets is subject to changes in accordance with future interpretations. The Group intends on following possible discussions on the matter that may take place in the future in order to confirm the reasonability of the accounting treatment adopted. In the event lease agreements for the use of land in which the wind generation facilities qualified as lease agreements under the scope of IFRS 16 on the date the standard is applied for the first time, estimated current and non-current liabilities for the IBERDROLA Group would increase, in the maximum amount of Euros 846,374 million.

2.b) Basis of consolidation

Appendix I to these consolidated annual accounts lists all IBERDROLA subsidiaries, joint ventures and associates, together with the consolidation method or measurement basis used and other related disclosures.

Subsidiaries

The subsidiaries over which the IBERDROLA Group exercises control have been fully consolidated from the date they were acquired, except when they have a negligible effect on the true and fair view of the IBERDROLA Group.

The IBERDROLA Group considers that it maintains control of a company when it is exposed, or has the right to variable returns from its involvement in the company, and has the capability to influence these returns through its power thereover. For the purpose of preparing these consolidated annual accounts, control is deemed to be exercised in companies in which the Group holds over 50% of the share capital and can prove the existence of this control. The Appendix to these consolidated annual accounts contains information on fully consolidated companies in which the Group holds less than a 50% interest, and on companies in which the Group holds more than 50% interest that have not been consolidated.

The results of subsidiaries acquired or sold during the year are included in the consolidated income statement as from the effective date of acquisition or up to the effective date of sale. All accounts and transactions between fully consolidated companies have been eliminated in the consolidation process.

On the takeover date, assets, liabilities and contingent liabilities of a subsidiary are recognised at fair value. Any excess of the subsidiary's acquisition cost over the market value of its assets and a liability is recognised as goodwill, as it corresponds to assets that cannot be identified and measured separately. If the difference is negative, it is taken to the consolidated income statement.

Non-controlling interests are recognised upon initial recognition at an amount equivalent to their proportional interest in the fair value of the acquiree on the takeover date. The value of non-controlling interests' share of equity and results of fully consolidated subsidiaries is presented under the "Equity –Non-controlling interests" in the consolidated statement of financial position and under the "Non-controlling interests" in the consolidated income statement, respectively.

When there is a loss of control of a company of the Group, its assets, liabilities and any non-controlling interest are derecognised. The resulting gains or losses are recognised in profit or loss. Investments remaining in subsidiaries over which control has been lost are measured at their fair value on the date this loss of control occurred. Gains/losses on shares purchased from non-controlling interests in controlled companies and sales of shares without loss of control, are debited or taken to reserves.

Equity-accounted investees

Equity-accounted investees include investments in associates and joint ventures. Associates are companies in which the IBERDROLA Group has significant influence, i.e., the power to intervene in decisions regarding financial and operating policies but without having control or joint control. A joint venture is a joint agreement in which the Group has the right to net assets of the agreement.

For the purpose of preparing these consolidated annual accounts, significant influence is deemed to be exercised in companies in which the Group holds over 20% of the share capital and can prove the existence of this significant influence.

Appendix I to these consolidated annual accounts contains information on equity-accounted companies in which the Group holds less than a 20% interest, and companies in which the Group holds between a 20% and 50% interest that have not been accounted for using the equity method.

In transactions carried out with associates and joint ventures, the gains or losses on the operation are eliminated at the percentage of interest held in each company. The result of measuring investments in equity-accounted associates is recognised under "Other reserves" and "Share of profit/(loss) of equity-accounted investees - net of taxes" in the consolidated statement of financial position and the consolidated income statement, respectively.

Closing date of the annual accounts

The closing date of the annual accounts of subsidiaries, joint ventures and associates is 31 December, with the exception of Siemens Gamesa Renewable Energy, S.A. (hereinafter SIEMENS GAMESA), whose closing date is 30 September. However, for the purposes of preparing these consolidated annual accounts harmonisation has been applied so that the equity method includes the equity of the associate at 31 December.

The accounting policies applied by the companies of the consolidated Group are the same or have been harmonised with those used by the IBERDROLA Group.

Conversion of the annual accounts of foreign companies

The annual accounts of each foreign company were prepared in their respective functional currencies, understood as the currency of the economic environment in which each company operates and in which it generates and uses cash.

The conversion of the annual accounts of foreign companies has been carried out by applying the year-end exchange rate method. This method consists of converting all the assets, rights and obligations to Euros at the exchange rates prevailing at the reporting date of the consolidated annual accounts, and the average exchange rate for the year (provided that there have not been significant transactions that warrant the use the average exchange rate) for the consolidated income statement items, keeping equity at the historical exchange rate at the date of acquisition (or at the average exchange rate of the year in which they were generated in the case of accumulated results). The resulting translation differences are taken directly to equity accounts.

2.c) Comparative information

When comparing the figures for 2018 included in these consolidated annual accounts with those corresponding to 2017, it is necessary to take into account the following:

The acquisition of Neoenergia, S.A.

As indicated in Note 6, on 24 August 2017, the incorporation of the activity and businesses of Elektro Holding, S.A. (ELEKTRO) in Neoenergia S.A. (NEOENERGIA) was completed, according to the agreement of the NEOENERGIA shareholders (BB Banco de Investimento S.A.- Banco do Brasil, Caixa de Previdência dos Funcionários do Banco do Brasil –Previ and IBERDROLA Energía, S.A.U. - IBERDROLA ENERGÍA), notified on 8 June 2017 and once the suspensive conditions have been met that were subject to the operation. As a result of this transaction, IBERDROLA Group acquired NEOENERGIA compared to the previous control granted by its prior stake. This thus resulted in a business combination in stages.

After the transaction took effect, Banco do Brasil and Previ own 9.35% and 38.21% approximately and respectively of the capital of NEOENERGIA, and IBERDROLA ENERGÍA now holds 52.45%, including the businesses of ELEKTRO as consideration. Currently, Banco do Brasil and Previ are holders of 12% and 49% respectively of the capital of NEOENERGIA, with 39% remaining owned by IBERDROLA ENERGÍA.

The acquisition of NEOENERGÍA should be considered when comparing the figures for 2018 included in these consolidated annual accounts with the 2017 figures.

New applicable rules from 1 January 2018

As mentioned in Note 2.a., on 1 January 2018 IFRS 15 and IFRS 9 were applied for the first time.

Tax reform in the US

On 22 December 2017 the *Tax Cuts and Jobs Act of 2017* (Tax Act), referred to as “US Tax reform”, was signed and passed. The standard includes relevant changes in the US Federal Tax Structure, the most significant aspect of which is the reduction in federal tax for legal persons from 35% to 21%. This circumstance affected the comparison under “Corporate income tax” in the consolidated annual accounts (Note 31).

Merge GAMESA-SIEMENS

In the first half of 2017, as a result of the conclusion of the decision to merge the wind power businesses of Gamesa Corporación Tecnológica, S.A. (GAMESA) and Siemens AG (SIEMENS) whereby Siemens Wind HoldCo (as disappearing company) was taken over by GAMESA (as surviving company), there was dilution to IBERDROLA Group’s percentage holding in GAMESA, which was reduced by 19.69% to 8.07%.

The profit as a result of the aforementioned dilution of the operation reached Euros 250,695 million, which were recognised under ‘Gains on disposal of non-current assets’ in the 2017 consolidated income statement (Notes 13.a and 41).

2.d) Amendment to comparative information

Geographical and business segment reporting (Note 7)

As provided in IFRS 8: “Operation segments” revises comparative information from the previous year for the following reasons:

- From 1 January 2018, hydropower assets in the countries where the IBERDROLA Group operates have been transferred from the Liberalised business to the Renewables business. The purpose of this restructure is to group clean generation assets in only one operation segment. Said change in the management of hydropower assets entails corporate restructuring completed on 1 August 2018, when all administrative authorisations had been obtained.
- In 2017, the gas business in the United States and Canada was included under the Liberalised-Rest of the World segment. In 2018, after having sold the whole gas business in the United States (Note 41), the remaining assets and liabilities of this business in Canada are included under “Other businesses”.

Earnings per share (Note 53)

As described in Note 20 and 51 of these consolidated annual accounts, in July 2018 and January 2019 two free capital increases took place in the context of the “IBERDROLA scrip dividend” programme. According to IAS 33: “Earning per share” these scrip issues meant that earnings per share for 2017 included in the consolidated annual accounts for that year had to be corrected, and have been taken into account when calculating basic and diluted earnings per share for 2018.

3. ACCOUNTING POLICIES

3.a) Goodwill

Goodwill represents future economic benefits arising from other financial assets acquired in a business combination that are not individually identified or separately recognised.

Goodwill arising from acquisitions of companies with a functional currency other than the Euro is converted to Euros at the exchange rate prevailing at the reporting date of the consolidated statement of financial position.

Goodwill acquired on or after 1 January 2004 are measured at acquisition cost and those that are acquired earlier are measured at the carrying amount at 31 December 2003 in accordance with Spanish accounting standards in effect on that date, as provided for in IFRS 1: "First-time adoption of IFRS".

Goodwill is not amortised. However, at the end of each reporting period its recoverability is analysed and any impairment is recognised (Note 3.i).

3.b) Other intangible assets

Concessions, patents, licenses, trademarks and similar rights

The amounts recognised as concessions, patents, licenses, trademarks and similar rights reflect the cost incurred in their acquisition.

The electricity distribution and transmission concessions held in UK by SCOTTISH POWER and those linked to the activities of AVANGRID, are not subject to any limits of a legal or other nature. Accordingly, as they are intangible assets with an indefinite useful life, they are not amortised by the IBERDROLA Group, although they are tested yearly for impairment, as described in Note 3.i.

IFRIC 12: "Service concession arrangements" affects public-private service concession arrangements that meet two prerequisites:

- the grantor controls or regulates which services the operator must provide for the infrastructure, to whom it must provide them to and at what price; and
- the grantor controls any significant residual interest in the infrastructure at the end of the term of the arrangement.

Infrastructures within the scope of a service concession arrangement are not recognised as property, plant and equipment of the operator, because the operator does not have the contractual right to control them.

If the operator performs more than one service (e.g. operation services and construction or upgrade services), the consideration received under the agreement for provision of services is recognised separately in accordance with IFRS 15 "Ordinary income from contracts with customers".

In the case of IBERDROLA Group, IFRIC 12 only affects the electricity distribution and transmission activities carried out by in Brazil (Note 11). Remuneration for network construction and upgrade work carried out by the IBERDROLA Group in this country consisted, on the one hand, of an unconditional right to receive cash and, on the other hand, of the right to charge certain amounts to consumers. As a result, by applying IFRIC 12, two different assets were recognised for the two types of consideration received:

- A financial asset, which is recognised under "Other non-current financial investments" in the consolidated statement of financial position (Note 13.b).
- An intangible asset, amortisable in the concession period, which is recognised under "Other intangible assets" in the consolidated statement of financial position (Note 8).

The costs incurred in relation to the other items included under this heading in the consolidated statement of financial position are amortised on a straight-line basis over their useful lives, of between five and ten years.

Computer software

The acquisition and development costs incurred in relation to computer software are recognised with a charge to "Other intangible assets" in the consolidated statement of financial position. Maintenance costs of computer software are recorded with a charge to the consolidated income statement for the year in which they are incurred.

Computer software is amortised on a straight-line basis over a period of between three and five years from the entry into service of each software application.

Customer acquisition costs

IBERDROLA Group recognises the incremental costs of signing contracts mainly from commissions for signing sales contracts as an intangible asset and they are redeemed during the estimated duration of those contracts.

Research and development expenditure

The IBERDROLA Group's policy is to record research expenses in the consolidated income statement for the period when they are incurred.

Development costs are recognised as an intangible asset in the consolidated statement of financial position if the Group can identify them separately and show the technical viability of the asset, its intention and capacity to use or sell it, and how it will generate probable future economic benefits.

3.c) Investment property

Real estate investments will be recognised at its acquisition cost net of accumulated depreciation. Investment properties are depreciated on a straight-line basis, minus material residual value, over each asset's estimated useful life which ranges between 37.5 y 75 years in accordance with the features of each asset concerned.

3.d) Property, plant and equipment

Items of property, plant and equipment are measured at acquisition or production cost less depreciation and accumulated impairment. Acquisition cost includes, where applicable, the following:

1. Prior to the date of transition to IFRS (1 January 2004), the IBERDROLA Group revalued certain Spanish assets under "Property, plant and equipment" in the consolidated statement of financial position as permitted by applicable legislation, including Royal Decree-Law 7/1996, and considered the amount of these revaluations as part of the cost of the assets, in accordance with IFRS 1.

2. Finance costs relating to external funding accrued exclusively during the construction period, are determined as follows:
 - Interests accrued on specific sources of financing used to build certain assets are fully capitalised.
 - Interests accrued on external general-purpose borrowings is capitalised by applying the average effective interest rate of this financing to the average cumulative investment qualifying for capitalisation, after deducting the investment financed with specific-purpose borrowings, provided that it does not exceed the total finance costs incurred in the year.
3. Personnel expenses relating directly or indirectly to constructions in progress (Note 37).
4. If the IBERDROLA Group is required to dismantle its facilities or restore the place where they are located, the present value of said costs are included in the carrying amount of the asset at their present value, with a credit to "Provisions - Other provisions" of the consolidated statement of financial position (Note 3.s).

The IBERDROLA Group periodically checks its estimate of this current value increasing or decreasing the assets value depending on the results of said estimate.

The IBERDROLA Group transfers property, plant and equipment under construction to property, plant and equipment in use at the end of the related trial period.

Expansion or improvement costs leading to increased productivity, capacity or to a lengthening of the useful lives of the assets are capitalised. Replacements or renewals of complete items are recorded as additions to property, plant and equipment, and the items replaced are derecognised.

Gains or losses arising on the disposal of items of property, plant and equipment are calculated as the difference between the amount received on the sale and the carrying amount of the asset disposed of.

3.e) Depreciation of property, plant and equipment in use

Every year, the IBERDROLA group reviews the useful life of its assets in accordance with internal and external information sources.

Since 2017, following this review, the IBERDROLA Group considers that the best useful life estimation is 40 years for combined cycle plants (compared to the 35 years considered previously) and 50 years for the electromechanical equipment at hydroelectric power plants (compared to the 35 years considered previously). As a result, "Amortisation and provisions" in the 2017 consolidated income statement includes the impact of this change in estimate, which as per accounting regulations has been applied prospectively since 01 January 2017, and resulted in a lower depreciation charge of approximately Euros 65 million. This amount is gradually decreasing as the useful life of hydroelectric and combined cycle power plants in use draws an end 1 January 2017.

The cost of property, plant and equipment in use is depreciated by depreciating the cost of the different items on a straight-line basis, less any residual value, over their estimated useful lives, the majority of which are as follows:

	Average years of estimated useful life
Conventional thermal power plants	25-50
Combined cycle power plants	40
Nuclear plants	40
Wind farms	
Structural components	40
Non-structural components	25
Gas storage facilities	25-40
Transmission facilities	40-56
Distribution facilities	30-54
Conventional meters and measuring devices	10-40
Electronic or smart meters	10
Buildings	50-75
Dispatching centres and other facilities	4-50

As hydroelectric plants are operated under concessions (Note 11), civil engineering assets are depreciated over the life of the concession, while their electromechanical equipment is depreciated in 50 years or in the concession period if this was lower.

Significant components of the property, plant and equipment with different useful lives are considered separately.

3.f) Lease agreements

The IBERDROLA Group classifies all lease arrangements under which the lessor transfers to the lessee substantially all the risks and rewards incidental to ownership of the asset as finance leases. All other leases are classified as operating leases.

Assets acquired under finance leases are recognised as non-current assets in accordance with their nature and function. Assets are measured at the lower of the fair value of the leased asset and the present value of the future lease payments, and are amortised over the useful life of each asset.

Expenses arising from operating leases are taken to the consolidated income statement on an accrual basis over the term of the lease agreement.

3.g) Nuclear fuel

The IBERDROLA Group measures its nuclear fuel stocks on the basis of the costs actually incurred in acquiring and subsequently processing the fuel.

Nuclear fuel costs include the finance costs accrued during construction, calculated as indicated in Note 3.d (Note 42).

Nuclear fuel consumed is recognised under "Supplies" in the consolidated income statement from when the fuel loaded into the reactor starts to be used, in accordance with the cost of the fuel and the degree of burning in each reporting period.

3.h) Inventories

Energy resources

Energy resources are measured at acquisition cost, calculated weighted average cost or at net realisable value, if it were lower. No adjustments are made to the value of energy sources that are part of the production process if the finished products into which they will be incorporated are expected to be sold at above cost.

Real estate inventories

Real estate inventories are measured at acquisition cost, which includes both the acquisition cost of the land and plots and the costs of urbanisation and construction of real estate developments incurred until year end. These costs include those incurred by the architecture and construction departments.

Acquisition cost also includes finance costs to the extent that such expenses relate to the period of town planning permits, urbanisation or construction up until the time at which the land or plot is ready for operation, calculated using the method set out in Note 3.d (Note 42).

Trade costs are charged to the consolidated income statement in the year in which they are incurred except for those incremental costs needed to close contracts with clients.

The IBERDROLA Group periodically compares the cost of acquisition of real estate inventories with their net realisable value, recognising the necessary impairment losses with a charge to the consolidated income statement when the latter is lower. If the circumstances leading to impairment no longer exist, it is reversed recognising the corresponding income.

For land, construction in progress and unsold units, net realisable value is used taking into account the appraisals by independent experts. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs to finish production and the costs necessary to sell the element.

This value is determined using the residual method, where the estimated total cost of the work is deducted from the total gross value of the project, and the profit margin for developer's risk is added. The key variables of the residual method are:

- Forecast revenues: consists of the estimated price at which each of the units of the promotion can be sold, according to a pace of sales as estimated by independent experts.
- The cost of the development, including all disbursements to be made by the developer of the work depending on the type (e.g. government-sponsored or private single-family dwellings) and the quality of the construction. In addition to the cost of the work, it includes the cost of projects and licenses (10%-12% of the physical construction project), legal fees (1%-1.5% of the material implementation project), marketing and promotional expenses (2%-4% of income) and unforeseen contingencies (3% of income).
- Development time: the time necessary for different planning, management, and town planning phases, as well as the forecast building and sale period.
- The developer profit considered for each asset, depending on the zone state of the land, size and complexity of the development, ranging from 15% to 35% of total costs.

For land with licences, construction in progress and unsold units, the main difference with regard to unlicensed land is the developer profit, which in this case is lower given the stage of completion of the work and the decrease in risk as the completion of construction nears.

Emission allowances and renewables obligation certificates

Inventories of emission allowances and renewables obligation certificates (ROCs) are measured at acquisition cost, calculated at weighted average cost and at net realisable value, if it were lower. No adjustments are made to the value of emission allowances and ROCs that are part of the production process if the finished products into which they will be incorporated are expected to be sold at above cost.

Emission allowances and ROCs acquired to obtain benefits from fluctuations in their market price are measured at fair value with a credit or debit to the consolidated income statement.

Emission allowances and ROCs are derecognised from the consolidated statement of financial position when they are sold to third parties, have been delivered or expire. When the allowances are delivered, they are derecognised with a charge to the provision made when the CO₂ emissions were produced.

3.i) Non-Financial assets impairment

At least at each reporting date, the IBERDROLA Group reviews the carrying amounts of its non-current assets, testing them for any indications of impairment. If such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss, if necessary. For this purpose, in the case of assets that do not generate cash flows that are largely independent of other assets, the IBERDROLA Group estimates the recoverable amount of the cash-generating unit to which they belong.

In the case of goodwill and other intangible assets which have not come into use or which have an indefinite useful life, the IBERDROLA Group performs the recoverability analysis systematically every year, except when there are indications of impairment in another moment, in which case recoverability analysis is performed at the same time.

For purposes of this recoverability analysis, goodwill is allocated to the cash generating units in which it is controlled for internal management purposes (Note 8).

Recoverable amount is the higher of fair value less costs sell and value in use, which is taken to be the present value of the estimated future cash flows. The assumptions used in calculating value in use include discount rates, growth rates and expected changes in selling prices and direct costs. The discount rates reflect the time value of money and the risks specific to each cash-generating unit. The growth rates and the changes in prices and direct costs are in accordance with contractual commitments that have already been signed, information in the public domain, sector forecasts and the experience of the IBERDROLA Group (Note 12).

If the recoverable amount of an asset is less than its carrying amount, the difference is recognised as a charge to "Amortisation and provisions" in the consolidated income statement.

The IBERDROLA Group distinguishes between impairment allowances and write-downs depending on whether the impairment is reversible or not reversible. A write-down involves derecognising the carrying amount of an asset, either because impairment is considered definitive and non-reversible, because of an accounting standard, such as the case of goodwill, or when the value of the asset is not deemed to be recoverable from its use or disposal. Impairment arises when future expected earnings to be obtained are less than the carrying amount.

Impairment losses recognised for an asset are reversed with a credit to “Amortisation, depreciation and provisions” when there is a change in the estimates used to calculate the recoverable amount of the asset, and the asset’s carrying amount is increased to the amount that would have been determined had no impairment loss been recognised.

3.j) Associates and joint ventures

Investments in associates and joint ventures are accounted for using the equity method. Under this method, investments are measured initially at acquisition cost, subsequently adjusted for changes to each company’s equity, taking into consideration the percentage of ownership and, if applicable, any impairment.

Some investments in associates and joint ventures which in the context of these consolidated annual accounts are immaterial are recorded at acquisition cost within “Non-current financial assets – Non-current securities portfolio” of the consolidated statement of financial position.

The IBERDROLA Group regularly analyses the existence of impairment in its associates and joint ventures by comparing the total carrying amount of the associate or joint venture, including goodwill, to its recoverable amount. If the carrying amount exceeds the recoverable amount, the IBERDROLA Group recognises the related impairment with a debit to the consolidated income statement under “Share of profit/(loss) of equity-accounted investees - net of taxes”.

3.k) Joint operations

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets liability, obligations, relating to the arrangement. These consolidated annual accounts include the proportional part of the assets, liabilities, income and expenses of the joint operations in which the IBERDROLA Group takes part in (Note 45).

3.l) Finance instruments

Classification and assessment of financial assets

The IBERDROLA Group measures its current and non-current investments in accordance with the criteria described below:

1. Assets at amortised cost

Under this category financial assets that met the following conditions are included:

- Assets held within a business model where the objective is to hold the assets to obtain the contract cash flows, and
- whose contract terms produce, on specific dates, cash flows which are only payments of the principal and interest on the amount of the outstanding principal.

These assets are initially recognised at fair value adding transaction costs and are subsequently measured at amortised cost. Interests accrued on these liabilities are recognised in the income statement using the effective interest rate method. However, loans and receivables maturing in less than a year that do not have a contractual interest rate, are measured both initially and subsequently at nominal value when the impact of not discounting cash flows is not significant.

2. Assets at fair value through profit and loss:

The IBERDROLA Group includes in this category the derivative financial instruments which do not satisfy the conditions necessary for hedge accounting in accordance with the requirements established for this purpose in IFRS 9: "Financial instruments (Note 28).

Assets held for trade are recognised at fair value. The transaction costs directly attributable to purchase or issuing is recognised as an expense in the consolidated income statement as it is incurred. The changes that occur in their fair value are allocated to the consolidated income statement for the period in the headings "Expenses" e "Income" of the consolidated annual accounts, as may be applicable.

The IBERDROLA Group determines the most appropriate classification for each asset on acquisition and reviews the classification at each year end date.

Before 1 January 2018, prior to the application of IFRS 9: "Financial instruments" for the first time (Note 2.a.), IBERDROLA Group classified financial assets into the following categories:

- Loans and accounts receivable: valued at amortised cost through the application of the effective interest method.
- Held-for-sale assets: valued at fair value with changes to the consolidated financial statement of the overall result.
- Assets held for trading: valued at fair value with changes to the results. The IBERDROLA Group includes the derivative financial instruments which did not satisfy the conditions necessary for hedge accounting in this category, based on the requirements established for this purpose in IAS 39: "Financial instruments".

Impairment of financial assets at amortised cost

The IBERDROLA Group recognised valuation adjustments resulting from credit losses expected from financial assets and contract assets at amortised cost.

The IBERDROLA Group will apply the general model for calculation of expected loss on financial assets other than trade and lease receivables, where the simplified model will be applied.

Under the general model, credit losses expected in the next twelve months are recorded unless the credit risk of financial instruments has significantly increased from the initial recording. In such case, they will qualify as expected credit losses over the life of the asset. IBERDROLA Group recognises that the credit risk of a financial instrument has not increased in a significant manner since its initial recognition if it is determined that at reporting date it has a low credit risk.

Under the simplified model, they qualify as expected credit losses over the life of the asset. The IBERDROLA Group has adopted the practical solution whereby it calculates the expected credit loss on trade receivables by using a matrix of provisions in accordance with its experience of losses historically adjusted for available prospective information.

Valuation adjustments and reversals of trade receivables and contract assets are recognised in “Valuation adjustments in trade and other contract assets” in the consolidated income statement. Impairment losses recognised and reversed relating to other financial assets valued at amortised cost are recorded in the “Finance cost” section of the consolidated statement of comprehensive income (see Note 43).

Derecognition of financial assets

Financial assets are derecognised when the rights to receive cash flows in relation thereto have extinguished or have been transferred or when the risks and profits are considered to have been substantially assigned arising from its ownership.

The derecognition of a financial assets implies a recognition in the consolidated income statement of the difference between its carrying amount and the consideration received, net of expenses, including assets obtained or liabilities assumed and any deferred gain or loss from other comprehensive income.

Classification and assessment of financial liabilities

The IBERDROLA Group classifies all finance liabilities at amortised cost using the effective interest method, except for the derivatives which do not meet the conditions necessary for hedge accounting in accordance with the requirements established for this purpose in IAS 9: “Financial instrument” recognised at fair value.

Derecognition of financial assets and liabilities

A financial liabilities are derecognised when they are extinguished, this means, when the obligation under the liability is discharged or cancelled or expires. Moreover, when a debt instrument between IBERDROLA and the counterparty is replaced by another on substantially different terms, the original financial liability is derecognised and the new liability is recognised. Similarly, substantial modifications in the terms of an existing financial liability are treated in the same way.

The difference between the carrying value of the financial liability or of the part of it that has given below and the paid consideration, including the attributable transaction costs, and in which any transferred asset different from the assumed cash or liability is also included, recognised in the consolidated income statement of the period in which it takes place.

IBERDROLA considers that the conditions are substantially different if the current value of the discounted cash flows under the new conditions, including any net paid fee of any received fee, and using the original effective interest rate for the discount, differs at least 10 per cent from the current discounted value of the cash flows that still remain from the original financial liability.

When a debt instrument exchange is made that does not have substantially different conditions, the original financial liability is not under the consolidated statement of financial position, recording the amount of the paid fees as an adjustment of its book value. The amortised cost of the financial liability is determined using the effective interest rate method. The effective interest rate is the rate that matches the carrying amount of the financial liability at the date of modification with the cash flows payable under the new terms.

Interests and dividends

Interest income is accrued on a time proportional basis, by reference to the outstanding principal and the applicable effective interest rate, which is the rate that exactly discounts estimated future cash receipts through the expected life of the asset to that asset's carrying amount.

Dividend income is recognised when the IBERDROLA Group companies are entitled to receive them.

Contracts to buy or sell non-financial items

The IBERDROLA Group performs a detailed analysis of all its contracts to buy or sell non-financial items to ensure they are classified correctly for accounting purposes.

As a general rule, those contracts that are settled net in cash or in another financial asset are classified as derivatives and are recognised and measured as described in this note, except for contracts entered into and held for the purpose of the receipt or delivery of a non-financial item in accordance with the IBERDROLA Group's purchase, sale, or usage requirements.

Contracts to buy or sell non-financial items to which the treatment described in IAS 9 "Finance instruments" is not applicable, are designated as own-use contracts and are recognised as the IBERDROLA Group receives or delivers the rights or obligations originating thereunder.

Derivative financial instruments and hedge accounting

Financial derivatives are initially recognised at acquisition cost in the consolidated statement of financial position and the required value adjustments are subsequently made to reflect their fair value at all times. Gains and losses arising from these changes are recognised in the consolidated income statement, unless the derivative has been designated as a cash flow hedge or a hedge of a net investment in foreign countries.

At hedge inception, hedging relationships were formally defined and documented, as were risk management aims and strategy. At the commencement of the hedging relationship, ongoing assessment also ensured that hedge effectiveness thresholds were being met prospectively.

Changes in temporary value of options hedging a component related to a forecasted transaction are recognised in the consolidated comprehensive income statement. If the hedged component results in the recognition of a non-financial asset or liability, the accumulated amount is recognised as a non-financial asset or liability adjustment in the consolidated comprehensive income statement. For other hedges, the deferred amount in the consolidated comprehensive income statement is reclassified as profit for the year or for periods in which the expected cash flows affect the profit.

Changes in temporary value of options hedging a component related to a period of time are recognised in the consolidated comprehensive income statement. The accumulated amount in another comprehensive income is systematically amortised during the period over which the hedge adjustment for the intrinsic option value affecting the consolidated income statement or the consolidated comprehensive income statement when the fundamental contractual terms match the hedged component. The Group also separates the term of term contracts and the differences in exchange rates of financial instruments applying criteria similar to those in previous sections. The election is made on a contract by contract basis.

The accounting treatment for hedging transactions is as follows:

1. Fair value hedges:

All changes in the fair value of the derivative financial instruments designated as hedging, or the exchange rate component of a monetary item in the case of non-derivative hedge instruments, such as changes in the fair value of the hedged item produced by the hedged risk are recognised with a charge or credit to the same caption of the consolidated income statement.

2. Cash flow hedges:

The IBERDROLA Group recognises the portion of the gain or loss on the measurement at fair value of a hedging instrument that is determined to be an effective hedge under "Valuation adjustments", in the case of cash flow hedges and "Translation differences", in the case of net investment hedges. The portion of the hedge deemed ineffective, as well as the specific component of the gain or loss or cash flows related to the hedging instrument, excluding the assessment of hedge effectiveness, are recognised in the consolidated income statement.

The gain or loss accumulated in these captions is transferred to the consolidated income statement caption affected by the hedged item as it affects the consolidated income statement.

If a hedge of a future transaction results in a non-financial asset or liability, this balance is taken into account when determining the initial value of the asset or liability generating the hedging transaction.

If a hedge of future transactions results in a financial asset or a liability, this balance is maintained in "Valuation adjustments" until the hedged risk in the future transaction has an impact on the consolidated income statement

3. Fair value hedges and net investment in foreign operations:

The IBERDROLA Group recognises the portion of the gain or loss on the measurement at fair value of a hedging instrument that is determined to be an effective hedge under "Valuation adjustments", in the case of cash flow hedges, and "Translation differences", in the case of net investment hedges. The portion of the hedge deemed ineffective, as well as the specific component of the gain or loss or cash flows related to the hedging instrument, excluding the assessment of hedge effectiveness, are recognised under "Financial Income" and "Financial Cost" in the consolidated income statement.

Discontinuation of hedge accounting

The IBERDROLA Group prospectively discontinues the fair value hedge accounting in the cases in which the hedging instrument matures, is sold, let go of or exercised, the goal of the risk management has changes, there is no financial relation between the hedge element and the hedged item, the credit risk effect dominates value changes, the hedge instrument matures or is liquidated or the underlying hedge ceases to exist.

When hedge accounting is discontinued, the cumulative amount at that date recognised under “Adjustments for changes in value” and “Translation differences” in cash flow hedges and net investment hedges abroad, respectively, is retained under said headings until the hedged transaction occurs, at which time the gain or loss on the transaction will be adjusted. If a hedged transaction is no longer expected to occur, the gain or loss recognised under the aforementioned headings is transferred to the consolidated income statement.

Implicit derivatives

Implicit derivatives in financial liabilities and transactions whose main contract is out of the scope of IFRS 9: Derivatives embedded in other financial instruments are recognised separately when the IBERDROLA Group considers that their risks and characteristics are not closely related to the financial instruments in which they are embedded, providing the entire contract is not carried at fair value, and changes in value are recognised in the consolidated income statement.

Fair value of derivative financial instruments

The fair value of the derivative financial instruments is calculated as follows (Note 15):

- For derivatives quoted on an organised market corresponds to its market price at year end.
- To measure derivatives not traded on an organised market, the IBERDROLA Group uses assumptions in accordance with market conditions at year end. In particular,
 - the fair value of interest rate swaps is calculated as the value discounted at market interest rates of the interest rate swap contract spread.
 - currency futures are measured by discounting the future cash flows calculated using the forward exchange rates at year end.;
 - finally, the fair value of contracts to trade non-financial items falling under the scope of IAS 9 is calculated on the basis of the best estimate of future price curves for the underlying non-financial items at the year end of the consolidated annual accounts, using, wherever possible, prices established on futures markets.

These measurement models take into account the risks of the asset or liability, among these, the credit risk of both the counterparty (Credit Value Adjustment) and the entity itself (Debit Value Adjustment). The credit risk is calculated according to the following parameters:

- Exposure at default: the amount of the risk arising at the time of non-payment by a counterparty, taking into account any collateral or compensation arrangements connected to the transaction.
- Probability of default: the probability that a counterparty will breach its obligations to pay the principal and/or interests, depending mainly on the features of the counterparty and its credit rating.
- Loss given default: the estimated loss in the event of default.

Offsetting of financial instruments principle

The financial assets and liabilities can be offset: the corresponding net amount must be shown in the Statement of financial position if the company currently has a legally enforceable right to offset the recognised amounts and the intention of settling them for the net amount or realising the assets and settling the liabilities simultaneously.

3.m) Treasury shares

At year end, the IBERDROLA Group's treasury shares are included under "Treasury shares" in the consolidated statement of financial position and are measured at acquisition cost.

The gains and losses obtained on disposal of treasury shares are recognised in "Other reserves" in the consolidated statement of financial position.

3.n) Capital grants

This heading includes any non-repayable government grants for financing property, plant and equipment, including the cash received from the US Government in the form of investment tax credits as a result of setting up wind power facilities. All capital grants are taken to "Other operating income" in the consolidated income statement as the financed facilities are depreciated.

3.o) Facilities transferred or financed by third parties

According to the regulation applicable to electricity distribution in the countries in which IBERDROLA operates, the Group occasionally receives cash payments from third parties for the construction of electricity grid connection facilities or direct assignment of such facilities. Both the cash received and the fair value of the facilities received are taken to "Deferred income" heading in the consolidated statement of financial position. These amounts are subsequently recognised under "Other operating income" in the consolidated income statement as the facilities are depreciated.

3.p) Post-employment and other employee benefits

The contributions to be made to the defined contribution post-employment benefit plans are expensed under the "personnel expenses" heading in the consolidated income statement on an accrual basis.

In the case of the defined benefit plans, the IBERDROLA Group recognises the expenditure relating to these obligations on an accrual basis over the working life of the employees by commissioning the appropriate independent actuarial studies using the projected unit credit method to measure the obligation accrued at the year end. The provision recognised under this concept represents the present value of the defined benefit obligation reduced by the fair value of the related plans.

New measurement of net liabilities corresponding to defined provision commitments including positive or negative actuarial differences, the performance of the plan assets, excluding amounts included in the net interest on assets or liabilities and any changed impacting the limit of assets, are recognised under "Other reserves" heading when they arise.

If the fair value of the assets exceeds the present value of the obligation, the net asset is not recognised in the consolidated statement of financial position limited to the updated value of future revenue to receive from the plan o reduction in future contributions to said plan.

The IBERDROLA Group determines the net financial costs (income) related with their commitments for pensions by applying the discount rate used in its measurement on their value at the beginning of the period once considering the changes in the net commitments for pensions made during the period in terms of contributions and repayments made. The net interest and the amount corresponding to other expenses related with the commitments undertaken are recorded in the consolidated income statement.

The IBERDROLA Group determines the discount rate with reference to the market yields at the end of the reporting period, corresponding to the bonds or business obligations of high credit quality (IBERDROLA Group considers rating equivalent to AA/Aa). In the countries where there is not a deep market to such bonds and obligations, the discount rate is determined with reference to Government bonds.

For the Eurozone, United Kingdom and the United States of America, there is a deep bond market with a sufficient period of maturity to cover all payments expected. In reference to the countries related to the Eurozone, the depth of the bond or obligation market is evaluated for the monetary union and not for the particular country. In the case of Brazil and Mexico, the discount rate has been determined taking into account the Brazilian sovereign credit, because a deep corporate market does not exist as they don't satisfy the indicated credit qualifications.

The IBERDROLA Group applies a weighted average discount rate that reflects the estimate timing and amount of benefit payment, as well as the currency in which the benefits are to be paid.

The calculation methodology is mainly in accordance with the following principles:

- The universe and spectrum of the outstanding bonds that meet the criteria of an AA/Aa rating is generated. The source of information corresponds with Bloomberg. The IBERDROLA Group has adopted the notional issues that are higher than Euros 50 million or its equivalent in local currency as the selection criteria.
- Once the bonds' database is obtained, the result is screened and the bonds that show any deficiencies are eliminated.
- The sample is grouped in accordance with the bonds' duration and the return on each duration and outstanding nominal amount of the issue is shown. As far as possible, the price return is in accordance with the midpoint of the bid/ask spread.
- The benefit payment is calculated using a mathematical formula, i.e., the minimum approximation of the quadratic function, resulting in a market return curve in accordance with the duration. The market curve result will provide the discount rates for each future maturity date of the bonds.
- For markets in which government bonds or corporate bonds with maturity dates beyond 25/30 years are not available, the reference sovereign rates for those terms combines with the AA corporate credit spread at liquid terms.
- As far as possible, the price return is in accordance with the midpoint of the bid/ask spread.

The discount rate reflects the time value of money and estimated schedule for the benefit payments. However, it does not reflect the actuarial risk, investment, credit or deviation in compliance with the actuarial assumptions risk.

3.q) Collective redundancy procedure and other early retirement plans for employees

IBERDROLA recognises termination benefits when the Group can no longer remove the offer or when the expenses of restructuring are recognised from which the payment of severance payments arises, in the case that said recognition is made previously.

The payments related with restructuring processes are recognised when the IBERDROLA Group has an implicit debenture, i.e., at the time that there is a detailed formal plan to perform the restructuring (in which are identified, at least, the company activities, or part of them, implied, the main locations affected, the location, function and approximate number of employees that will be paid for the termination of their contracts, the repayments that will be carried out, and the dates on which the plan will be implemented) and has generated a valid expectation amongst the affected personnel which the restructuring will be carried out, either for having started to execute the plan or for having announced its main characteristics.

The IBERDROLA Group recognises the full amount of the expenditure relating to these plans when the obligation arises by performing the appropriate actuarial studies to calculate the present value of the actuarial obligation at year end. The actuarial gains and losses are recognised in the consolidated income statement.

3.r) Provision for CO2 emissions

The IBERDROLA Group records a provision for liabilities and charges in order to recognise the obligation to deliver CO2 emission allowances in Spain and ROCs (Renewables Obligation Certificates) in Scotland (Note 26), under "Supplies" in the consolidated income statement.

3.s) Production facility closure costs

The IBERDROLA Group will incur in several decommissioning costs of its production plants, among which include those arising from necessary tasks to fit the land where they are located. Additionally, in accordance with the current legislation, the Group must perform certain tasks prior to the decommissioning of its nuclear plants, of which Empresa Nacional de Residuos Radioactivos, S.A. (hereinafter, ENRESA) is responsible for.

The estimated present value of these costs is capitalised with a credit to "Provisions – Other provisions" at the beginning of the useful life of the related asset (Note 26).

This estimate is subject to annual revision so that the provision reflects the present value of the full amount of the estimated future costs. The value of the asset is only adjusted for variances with respect to the initial one.

The IBERDROLA Group applies a risk-free rate to financially update the provision because the estimated future cash flows to satisfy the obligation reflect the specific risks of the corresponding liability. The risk-free rate used corresponds to the yield at year end on which reports, government bonds with enough depth and solvency in the same currency and similar due date to the obligation.

Any change in the provision as a result of its discounting is recognised in "Finance cost" in the consolidated income statement.

3.t) Other provisions

The IBERDROLA Group recognises provisions to cover present obligations, whether these are legal or implied, which arise as a result of past events, provided that it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation (Note 26). A provision is recognised when the liability or obligation arises, with a charge to the relevant heading in the consolidated income statement depending on the nature of the obligation, for the present value of the provision when the effect of discounting the value of the obligation to present value is material. The change in the provision due to its discounting each year is recognised under "Finance cost" in the consolidated income statement.

These provisions include those recorded to cover environmental damage, which were determined on the basis of a case-by-case analysis of the situation of the polluted assets and the cost of decontaminating them.

3.u) Current and non-current debt classification

In the consolidated statement of financial position debts are classified by their maturity date at year end. Debts that are due within twelve months are classified as current items and those due within more than twelve months as non-current items.

3.v) Revenue recognition

Revenues from sales is measured at the fair value of the assets or rights received as consideration for the goods and services provided in the normal course of the Group companies' business, net of discounts and applicable taxes.

The amount of the consideration to be received from the customer does not match the financial component in those cases in which, at the start of the contract, the period between the moment at which the asset or service in question is transferred and the moment at which the customer makes payment is a year or less.

Regulated income

Income from regulated activities where remuneration is in accordance with a fixed margin is booked by the IBERDROLA Group under "Net revenue" in the consolidated income statement for the corresponding year.

In the case of some regulated activities carried out by the IBERDROLA Group, any discrepancies between costs estimated when setting the annual tariff and costs actually incurred are recognised as income or expense for the year in which they arise only if its proceed or payment is certain, regardless of future sales.

Revenues from Construction contracts

IBERDROLA Group undertakes construction projects whose revenues are recognised during the time they are being executed since the asset's control in the client's favour is transferred in an ongoing manner.

Income is related to construction contracts recognised in an amount proportionate to the degree of completion of the construction project by measuring the contract costs incurred to date as a proportion of the total estimated costs until the termination of the contract.

Changes to construction work and any claims are included within contract revenue the contract amendments are legally required.

Revenues from the sale of real estate

As to real estate sales, the IBERDROLA Group follows the principle of recognising income at the time when legal title is transferred to the purchaser, which usually matches the date of notarisation of the respective contracts.

Criteria applied on previous years

Up until 2018 the Group's income was recognised, mainly, in accordance with IAS 18: "Revenue recognition" and IAS 11: "Construction contracts". IAS 18 determined that revenue recognition from a model based on transfer of risk, whereas IFRS 15 revenue from customer contracts is based on transfer of control.

The main differences between IFRS 15 and the revenue recognition applied to previous years are detailed in Note 2.a).

3.w) Transactions in foreign currency

Transactions carried out in currencies other than the functional currency of the Group companies are recorded at the exchange rates prevailing at the transaction date.

The monetary assets and liabilities denominated in foreign currency have converted to euros applying the existing rate at the close of the financial year, while the non-monetary ones assessed at historical cost are converted applying the exchange rates applied on the date on which the transaction took place.

During the year, the differences arising between the exchange rates at which the transactions were recorded and those in force at the date on which the related proceeds are made are charged or credited to "Financial Cost" or "Financial Income", as appropriate, to the consolidated income statement.

Those foreign currency transactions in which the IBERDROLA Group has decided to mitigate translation risk through the use of financial derivatives or other hedging instruments are recorded as described in Note 3.l.

3.x) Income Tax

Since 1986, IBERDROLA has filed consolidated tax Returns with certain Group companies. Foreign companies are taxed according to the current legislation of their respective jurisdiction.

The expense or income for the corporate income tax includes both the current and deferred tax. The tax on the current or deferred earnings is recognised in the consolidated income statement, unless arising from a transaction or economic success that has been recognised in the same year or in a different one, against net equity or from a business combination.

The assets or liabilities from tax on the current earnings are assessed for the quantities expected to pay or recover from the tax authorities, using the regulations and tax rates that are approved or are about to be approved on the closing date.

Income Tax is accounted for using the general balance liability method, which consists of determining deferred tax assets and liabilities on the basis of the carrying amounts of assets and liabilities and their tax base, using the tax rates that can objectively be expected to be in force when the assets or liabilities are realised or settled. Deferred tax assets and liabilities arising as a result of direct charges or credits to equity are also accounted for with a debit or credit to equity.

The IBERDROLA Group recognises deferred tax liabilities in all cases but those when:

- arise from the initial recognition of the goodwill or from an asset or liability in a transaction that is not a business combination and on the date of the transaction does not affect the accounting income or the taxable income;
- correspond to temporary differences related with investments in subsidiary companies, associates and joint ventures over which the Group has the ability to control the moment of their reversal and was not probable that their reversal occurred in a foreseeable future.

The IBERDROLA Group recognises deferred tax assets in all cases but when:

- it is probable that there are sufficient future tax earnings for clearing or when the tax legislation includes the possibility of future conversion of assets for deferred tax in a credit due to the public administration. However, the deferred tax assets that arise from the initial recognising of assets or liabilities in a transaction that is not a business combination and on the date of the transaction does not affect the accounting income or the taxable income, are not recognised;
- correspond to temporary differences related with investments in subsidiaries, associates and joint ventures inasmuch as the temporary differences will not be reinvested in a foreseeable future and are not awaiting creating future positive tax earnings to clear the differences.

Deductions in order to avoid double taxation and other tax credits as well as tax relief earned as a result of economic events occurring in the year are deducted from the Income Tax expense, unless there are doubts as to whether they can be realised.

The existence of uncertainties is considered in the taxable events, credits for negative taxable income or applied deductions. In those cases in which the asset or the liability for tax calculated with these criteria, exceeds the amount in the self-settlements, this is presented as current or not current on the consolidated statement of financial position taking into account the expected recovery or settlement date, considering, where applicable, the amount of the corresponding interest on arrears on the liability as earned in the profit and loss account. The IBERDROLA Group records the changes in facts and circumstances regarding tax uncertainties as a change in the estimate.

3.y) Final radioactive waste management costs

On 8 November 2003, the Royal Decree 1349/2003 was published regulating the ENRESA activities and its financing. This royal decree grouped together the previous legislation regulating the activities that ENRESA develops as well as its financing, and repeals, inter alia, the Royal Decree 1899/1984, of 1 August 1984.

Meanwhile, the Royal Decree-law 5/2005 and the Law 24/2005 establish that the costs relating to the management of radioactive waste and spent fuel from nuclear plants, and to the dismantling and closure of the plants attributable to their operation and incurred after 31 March 2005, will be financed by the owners of the nuclear plants in use.

On the other hand, on 7 May 2009, the Royal Decree-law 6/2009 was published, adopting various energy sector measures and approving the social tariff. The principal measures introduced are as follows:

- Necessary costs incurred in the management of radioactive waste and nuclear fuel at nuclear power stations that are definitively dismantled before the state-owned radioactive waste management company ENRESA begins operating, which had not yet been done at the date of these consolidated annual accounts, and all necessary costs incurred in dismantling and closing these power stations, will be treated as diversification and capacity guarantee costs.

Amounts used to cover the cost of managing radioactive waste generated by research activities directly related to nuclear electricity generation and the costs deriving from the reprocessing of spent fuel sent overseas prior to the entry into force of the Electricity Industry Law 54/1997, and all other costs that may be specified by the royal decree, shall also be considered diversification and capacity guarantee costs.

- Amounts used to register provisions to cover the costs incurred in managing radioactive waste and spent fuel generated at operational nuclear power stations after the establishment of ENRESA as well as dismantling and closure costs will not be treated as supply diversification and security costs, since these will be financed by the owners of the nuclear power stations while they are operational, irrespective of the date on which they are generated.
- The balance of ENRESA's provision remaining after deduction of the amounts needed to cover the supply security and diversification costs will be used to cover costs not included in this category.
- To cover the costs associated with nuclear power plants in operation, the companies owning the stations must pay a charge directly proportional to the volume of energy generated at each plant according to the methodology proposed by them

After a detailed analysis of the impact of the Royal Decree-law 6/2009, the IBERDROLA Group considers that the rate is the best estimate available of the accrued expenses originated for that royal decree-law.

3.2) Earnings per share

Basic earnings per share are calculated by dividing the net profit for the year attributable to the parent company by the weighted average number of ordinary shares outstanding during the year, excluding the average number of shares of the parent company held by Group companies (Notes 20 and 53).

Meanwhile, diluted earnings per share are calculated by dividing the net profit for the year attributable to the parent company by the weighted average number of ordinary shares outstanding during the year, adjusted by the weighted average number of ordinary shares that would have been outstanding assuming the conversion of all the potential ordinary shares into ordinary shares of IBERDROLA. For these purposes, it is considered that shares are converted at the beginning of the year or at the date of issue of the potential ordinary shares, if the latter were issued during the current period.

3.aa) Non-current assets held for sale and discontinued operations

If the carrying amount of a non-current asset (or a disposable group of assets) is recovered principally through its sale rather than through its continued use, the IBERDROLA Group classifies it as held for sale and values it at the lower of its carrying amount and its fair value less the costs of sale.

The impairment losses related with the disposal asset groups are assigned first to the goodwill and then to the rest of assets and liabilities proportionally. Value adjustments that could affect the stocks, financial assets, deferred tax assets, assets related with commitments with staff are not recognised. These assets are assessed in accordance with the principles contained in the previous sections. The losses recognised at the time of initial classification in this sub-heading and the capital gains and/or losses that are highlighted later are recognised in the consolidated income statement.

The elements classified as non-current kept for their disposal are not amortised.

A discontinued operation is a component of the entity that either has been sold or disposed of by other means, or is classified as held for sale and:

- represents a business line or geographical area that is significant and can be considered separately from the rest;
- is part of a single and coordinated plan to sell or dispose by other means a business line or geographical area that can be considered separately from the rest; or
- is a subsidiary acquired exclusively with intention to resale.

The IBERDROLA Group recognises a single heading in the consolidated statement of comprehensive income comprising the total of:

- profit or loss after tax from discontinued operations, and
- profit or loss after tax recognized by measurement at fair value less costs of sale, or sale or disposal by other means of the assets or disposable groups of assets that constitutes the discontinued operation.

During the second half of 2017, the activities related to the provision of engineering and construction services were abandoned, meeting the requirements to be considered a discontinued activity. Profit or loss after tax of the discontinued operations is included in "Net profit for the year from discontinued operations (net)" of the consolidated income statement for 2018 and 2017.

3.ab) Consolidated statements of cash flow

In the consolidated statements of cash flow, which were prepared using the indirect method, the following terms are considered:

- Operating activities: the typical activities of the Group companies, as well as other activities that are not investing or financing activities.
- Investing activities: the acquisition, sale or disposal by other means of long-term assets and other investments not included in cash and cash equivalents.
- Financing activities: activities that result in changes in the size and composition of the equity and liabilities of the company that are not operating activities.

3.ac) Share-based employee compensation

The delivery of IBERDROLA shares to employees as compensation for their services is recognised under “personnel expenses” in the consolidated income statement as the employees perform the remunerated services, with a credit to equity under “Equity – Other reserves” in the consolidated statement of financial position at the fair value of the securities portfolio on the delivery date, defined as the date the IBERDROLA Group and its employees reach an agreement establishing the terms of the share delivery.

Fair value is determined in reference to the market value of shares at the concession date deducting estimated dividends, to which employees are not entitled, during the irrevocability period.

If remuneration in accordance with securities portfolio is paid in cash, the amount booked as “Personnel expenses” in the consolidated income statement is taken to “Other non-current payables” or “Trade and other payables - Other current liabilities” on the liabilities side of the consolidated statement of financial position, as appropriate. The fair value of the cash-settled compensation is remeasured at each reporting date.

The amount recognised on the consolidated income statement is adjusted to reflect the number of the market conditions and other conditions that are not related with vesting, they are considered in the assessment of the fair value of the instrument. The rest of the conditions are considered adjusting the number of securities portfolio included in the determination of the transaction amount, so that finally, the amount recognised for the services received, is in accordance with the number of securities portfolio that will prospectively be consolidated.

The securities portfolio retained to make the payment of the corresponding tax obligations to the employee do not change the qualification of the plan as settled on securities portfolio.

4. FINANCING AND FINANCIAL RISK POLICY

The IBERDROLA Group is exposed to risks inherent to the different countries, industries and markets in which it operates and in the businesses it carries out, which could prevent it from achieving its objectives and executing its strategies successfully. Section 4 of the consolidated directors' report contains additional information on the Group's risks.

In particular, the financing and financial risk policy of the IBERDROLA Group approved by the board of directors identifies the risk factors described below. The IBERDROLA Group has an organisation and systems which allow the financial risks to which the group is exposed to be identified, measured and controlled.

Interest rate risk

The IBERDROLA Group is exposed to the risk of fluctuations in interest rates affecting cash flows and fair value in respect of financial liabilities.

In order to adequately manage and limit this risk, the IBERDROLA Group determines the desired annual structure of debt between fixed and floating interest rate, taking into account the situation of the financial markets, the pegging of income, either interest rate or price index. On a yearly basis, actions to be carried out are throughout the year are determined: new sources of financing (at a fixed, floating or indexed rate) and/or the use of interest rate derivatives. On a yearly basis, actions to be carried out are determined throughout the year: new sources of financing (at a fixed, floating or indexed rate) and/or the use of interest rate derivatives.

The debt structure at 31 December 2018 and 2017, after considering the effect of hedging derivatives (Note 28), is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Fixed interest rate	22,081,044	18,025,210
Floating interest rate	15,245,428	18,665,288
Total gross loans and borrowings (Note 27)	37,326,472	36,690,498
Cash and cash equivalents (Note 19)	2,801,157	3,197,340
Other current payables	77,840	63,970
Total gross loans and borrowings	34,447,475	33,429,188

Floating rate borrowings and IBERDROLA Group cash placements are basically pegged to market rates (mainly Euribor, Libor- pound sterling, Libor-dollar and the CDI in the case of the debt of Brazilian subsidiaries).

Currency risk

The IBERDROLA Group is exposed to exchange rate movements in the currencies in which financing transactions and business operations are effected against the functional currency with which the Group's various companies operate. These functional currencies are first and foremost the euro, the US dollar, sterling and the Brazilian real.

Similarly, the IBERDROLA Group is exposed to exchange rate risk as a consequence of its net investment in foreign companies (mainly Scottish Power, Avangrid and Neoen) due to fluctuations in the spot rates of the various functional currencies (sterling, the US dollar and the Brazilian real, respectively) against the euro. Exchange rate variations represent a risk in terms of net asset valuation and translation of results which might impact on the IBERDROLA Group's financial circumstances.

The IBERDROLA Group mitigates exchange rate risk in the operating currency of each group company by maintaining foreign currency debt or through financial derivatives.

Note 5.c of these consolidated annual accounts includes information on the potential impact of the Brexit on the IBERDROLA Group.

Commodity price risk

The IBERDROLA Group's activities require the acquisition and sale of raw materials (natural gas, coal, fuel oil, gas oil, emission allowances, etc.), whose price is subject to the volatility of international markets (global and regional) where those raw materials are traded.

Likewise, the prices for such raw materials are linked to the price indexes of other raw materials (mainly oil) and, therefore, they also depend on the volatility of the global oil market.

The margin obtained in the operations depends on the relative competitiveness of the IBERDROLA Group's plants compared to its competitors. This relative competitiveness also depends on raw material prices.

The use of derivatives in risk management

As far as the contracting of derivatives in order to mitigate the aforementioned risk from interest rates, exchange rates and the price of raw materials, the critical terms of the hedging instrument are established under equivalent terms of the hedged element, in line with the IBERDROLA Groups risk management policy. These terms include:

- The notional value of the hedging instrument is equal to or less than that of the hedged element.
- The underlying currency of the hedging instrument is the same as that of the hedged element.
- The term of the hedging instrument is equal to or less than that of the hedged element.
- The variable benchmark interest rate applicable to the hedging instrument is the same as that of the hedged operation, if appropriate.
- The interest frequency of the hedging instrument is the same as that of the hedged element.

Derivatives hired for interest rate, exchange rate and raw material hedging are described in Note 28.

Liquidity risk

Exposure to adverse situations in the debt or capital markets or the IBERDROLA Group's economic and financial situation can hinder or prevent the IBERDROLA Group from obtaining the financing required to properly carry on its business activities.

IBERDROLA Group's liquidity policy is designed to ensure that it can meet its payment obligations without having to obtain financing under unfavourable terms. For this purpose, it uses various management measures such as the arrangement of committed credit facilities of sufficient amount, term and flexibility, diversification of the coverage of financing needs through access to different markets and geographical areas, and diversification of the maturities of the debt issued.

For 2019 the IBERDROLA Group is expected to face the ordinary investment program established with the cash flow generated from its operations and access to the bank financial markets, capital markets and supranational moneylenders (such as EIB), even though, the Group has the treasury and sufficient credits and loans available to meet these investments.

At 31 December 2018 and 2017, the IBERDROLA Group had undrawn loans and credit facilities amounting to Euros 10,210,609 and 6,863,917 thousand, respectively.

The liquidity position of the IBERDROLA Group is Euros 13.012 million. The breakdown is shown below by maturities of the liquidity position at 31 December 2018 and 2017, considering the balance of "Cash and cash equivalents" in the consolidated statement of financial position.

Thousands of Euros	2018	2017
Available maturity		
2018	—	794,991
2019	671,213	364,250
2020	193,605	179,655
2021 onwards	9,345,791	5,525,021
Total	10,210,609	6,863,917
Cash and cash equivalents (Note 19)	2,801,157	3,197,340
Total adjusted liquidity	13,011,766	10,061,257

Credit risk

The IBERDROLA Group is exposed to the credit risk arising from the possibility that counterparties (customers, financial institutions, partners, etc.) might fail to comply with contractual obligations.

Credit risk is managed and limited adequately in accordance with the type of transaction and the credit quality of the counterparties. Specifically, there is a corporate credit risk policy which establishes criteria for admission, approval systems, authorisation levels, rating tools, exposure measurement methodologies, exposure limits, mitigation tools, etc.

Below balances for financial assets and contract assets are detailed at 31 December 2018 and 2017 by country:

Thousands of Euros	Other non-current financial investments (Note 13.b)		Other current financial investments (Note 13.b)		Trade and other non-current assets (Note 14)		Trade receivables and other current (Note 18)	
	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017
Spain	105,451	172,744	167,609	195,090	1,005,490	288,532	2,335,330	2,368,870
United Kingdom	61	16,089	40,018	115,702	80,354	44,111	1,004,961	898,377
United States	55,187	49,230	65,071	62,544	10,247	72,932	1,022,335	910,691
Mexico	5,947	3,972	2,193	8,846	303,212	303,062	158,976	123,404
Brazil	2,514,505	2,363,590	276,831	180,391	76,813	108,624	1,227,178	1,292,174
RoW	4,236	6,940	19,846	36,310	4,136	21,429	349,602	262,856
Total	2,685,387	2,612,565	571,568	598,883	1,480,252	838,690	6,098,382	5,856,372

Balances “Other current and non-current financial investments” correspond to concession agreements executed with Brazilian public administrations (Note 11) and receivables related to regulated activities in Spain. With regard to credit risk on trade receivables and other contract assets, the cost of defaults has remained moderate at levels close to 1% of total turnover of this activity, despite the difficult economic environment of recent years.

With regard to the cash and cash equivalents from the consolidated financial statement, the credit quality of the counter parties is BBB+ according to the Standard and Poor's rating.

Sensitivity analysis

The following sensitivity analyses show, for each type of risk (without reflecting the interdependence among risk variables), how profit for the year and equity might be affected by reasonably possible changes in each risk variable at 31 December 2018 and 2017. Therefore, the sensitivity analysis does not show the effect on profit for the year and equity that might have arisen if during 2018 and 2017 the risk variables had been different.

– Financial:

The sensitivity of consolidated profit and equity to the variation in interest rates is as follows:

Thousands of Euros	Increase/ decrease in interest rate (basis points)	Impact on profit of the year before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2018	25	45	112,923	112,968
	(25)	(45)	(112,923)	(112,968)
2017	25	171	67,229	67,400
	(25)	(171)	(67,229)	(67,400)

The sensitivity of the consolidated profit and equity of the IBERDROLA Group to changes in the dollar/euro, pound sterling /euro and Brazilian real/euro exchange rate is as follows:

Thousands of Euros	Change in the dollar/euro exchange rate	Impact on profit of the year before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2018	Depreciation 5%	(2,826)	(774,761)	(777,587)
	Appreciation 5%	3,123	856,315	859,438
2017	Depreciation 5%	(166)	(680,585)	(680,751)
	Appreciation 5%	183	752,226	752,409

Thousands of Euros	Change in the sterling pound/euro exchange rate	Impact on profit of the year before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2018	Depreciation 5%	409	(583,133)	(582,724)
	Appreciation 5%	(451)	644,515	644,064
2017	Depreciation 5%	771	(524,700)	(523,929)
	Appreciation 5%	(853)	579,932	579,079

Thousands of Euros	Change in the Brazilian real/euro exchange rate	Impact on profit of the year before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2018	Depreciation 5%	–	(221,775)	(221,775)
	Appreciation 5%	–	245,120	245,120
2017	Depreciation 5%	9,479	(242,586)	(233,107)
	Appreciation 5%	(10,477)	268,121	257,644

- Raw materials:

The sensitivity of the consolidated profit and the equity to changes in the market prices of the main raw materials is as follows:

Thousands of Euros

Year 2018	Variation in price	Impact on profit of the year before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
Gas	5%	(2,356)	30,100	27,744
	(5)%	2,360	(30,337)	(27,977)
Electricity	5%	5,825	71,949	77,774
	(5)%	(5,581)	(71,949)	(77,530)
CO2	5%	(171)	–	(171)
	(5)%	171	–	171
Coal	5%	(552)	621	69
	(5)%	552	(621)	(69)

Thousands of Euros

Year 2017	Variation in price	Impact on profit of the year before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
Gas	5%	(1,229)	14,232	13,003
	(5)%	1,363	(14,296)	(12,933)
Electricity	5%	7,126	36,388	43,514
	(5)%	(7,202)	(36,388)	(43,590)
CO2	5%	(62)	227	165
	(5)%	62	(227)	(165)
Coal	5%	(1,116)	412	(704)
	(5)%	1,116	(412)	704

5. USE OF ESTIMATES AND SOURCES OF UNCERTAINTY

5.a) Accounting estimates

The most significant estimates made by the IBERDROLA Group in these consolidated annual accounts are as follows:

- Unbilled power supplied:

Sales for each year includes an estimate of the power supplied to customers of liberalised markets but not billed because it had not been measured at year end due to the regular meter-reading period. Estimated unbilled power at 31 December 2018 and 2017 amounted to Euros 2,066,981 and Euros 2,005,863 thousand, respectively. This amount is included under "Trade and other current assets" in the consolidated statements of financial position at 31 December 2018 and 2017 (Note 18).



– Settlements of regulated activities in Spain:

At the end of each year, the IBERDROLA Group estimates the definitive settlement of regulated activities in Spain for that year, establishing any shortfall in revenue and the amount that will be recovered in the future on the basis of the announcements made by the authorities and the periods during which this recovery will take place (Note 35).

These estimates are made on the basis of the provisional settlements published up to the date the consolidated annual accounts were authorised for issue and all available sector information.

– Contracts to trade energy supplies:

As mentioned in Note 3.h, the IBERDROLA Group analyses its contracts to trade energy supplies to ensure they are properly classified for accounting purposes. This analysis involves estimating final customer demand and other variables. These estimates are revised at regular intervals.

– Provisions for liabilities and charges:

As indicated in Note 3.t, the IBERDROLA Group recognises provisions to cover present obligations arising from past events. For this purpose, it must assess the outcome of certain legal, tax or other procedures that are ongoing at the date of these consolidated annual accounts were authorised for issue in accordance with the best information available.

– Useful lives:

The IBERDROLA Group's tangible assets operate over very prolonged periods of time. The Group estimates their useful lives for accounting purposes (Note 3.e) taking into account each asset's technical characteristics, the period over which they are expected to generate economic benefits and the applicable legislation in each case.

– Costs incurred in closing and dismantling electricity production and distribution facilities:

The IBERDROLA Group periodically revises the estimates made concerning the costs to be incurred in dismantling its facilities.

– Provision for pensions and similar obligations and restructuring plans:

At each year end, the IBERDROLA Group estimates the current actuarial provision required to cover obligations relating to restructuring plans, pensions and other similar obligations to its employees. In certain cases, it involves the valuation of the assets affected to certain plans. In making these estimates, the IBERDROLA Group receives advice from independent actuaries and expert appraisers (Notes 3.p, 3.q and 25).

– Fair value of investment property:

The IBERDROLA Group appraises its investment property each year. While these appraisals are particularly important given the current situation of the real estate market, the IBERDROLA Group considers that its appraisals, commissioned by independent valuers, appropriately reflect this situation.

- Impairment of assets:

As described in Notes 3.i and 12, the IBERDROLA Group, in accordance with applicable accounting regulations, tests the cash-generating units that require testing for impairment each year. Specific tests are also conducted if indications of impairment are detected. These impairment tests involve estimating the future performance of the businesses and the most appropriate discount rate in each case. The IBERDROLA Group believes its estimates in this respect are appropriate and consistent with the current market situation and reflect its investment plans and the best available estimate of its future expense and income, and that its discount rates appropriately reflect the risk of each cash-generating units.

- Other intangible assets:

As disclosed in Note 3.b of these consolidated annual accounts, "Other intangible assets" in the consolidated statement of financial position include wind farm projects in the development phase acquired in business combinations. The IBERDROLA Group estimates that these projects meet the identifiability requirement under IAS 38 for them to be capitalised, and that the Group's future investment plans will include the construction of the facilities proposed in these projects.

5.b) Sources of uncertainty

There are certain aspects that, at the date of the formulation of these consolidated annual accounts, constitute a source of uncertainty concerning the accounting effect:

- Article 12.5 of the amended Corporate Income Tax Act, in the version drafted prior to Act 31/2011, establishes an applicable deduction for those companies that have acquired significant holdings in foreign companies. IBERDROLA is applying said deductibility for the financial goodwill arising from the acquisitions of Scottish Power PLC. (now Scottish Power Limited) and Energy East Inc. (now AVANGRID).

In 2007 the Official Journal of the European Union published a formal investigation procedure launched by the European Commission to determine whether or not this deduction complied with European law, a process that concluded with three EC decisions issued in 2009, 2011 and 2014 (known as the First Decision, the Second Decision and the Third Decision). In differing contexts, these decisions concluded that Article 12.5 was a form of State aid incompatible with the common market, establishing the recovery of the applicable deductions.

After a long process, the General Court passed a series of rulings on 15 November 2018 that established that tax deduction for goodwill, in the terms outlined in Spanish regulations, is a selective measure, despite the fact that all companies subject to corporate income tax may access the advantage that this measure provides for, thus confirming the EC's First and Second Decision. Spain and IBERDROLA (among other companies) have lodged an application for annulment of the Third Decision before the General Court of the European Union which is pending ruling.

We expect that these November 2018 rulings will be challenged in a new cassation appeal before the Court of Justice of the European Union. However, what is most important to IBERDROLA is that these General Court rulings maintain legitimate expectations, confirming the provisions of the first two decisions that allow the application of the deduction for goodwill relating to acquisitions of holdings made before 21 December 2007 or where the operation had been irrevocably agreed before this date. This legitimate expectation is the basis for the Group's application for deduction of goodwill.



From the perspective of the Spanish Administration, an aid retrieval procedure has been initiated by virtue of the General Tax Act recovering from IBERDROLA the amount Euros 665 million (Euros 576 million as tax base and Euros 89 million as late interests accrued) by virtue of section 12.5. IBERDROLA paid said amount by (i) compensating the return of the 2016 corporate income tax in the amount of Euros 363 million and (ii) paying the amount of Euros 302 million in February 2018. All this was carried out in accordance with the Third Decision.

In any case, actual recovery of the aid will be provisional, subject to the final outcome of the appeals submitted against the three European Commission decisions.

- The IBERDROLA Group has an interest in several nuclear plants, all of which are located in Spain. The operating licences in effect for nuclear plants have a term of 30 to 40 years from their coming into operation. Those plants are governed by the Sustainable Economy Law (Ley de Economía Sostenible), enacted on 15 February 2011, which provides, with no time limit, that the share of nuclear power in the production mix must be determined in accordance with its production timetable and the licence renewals requested by nuclear plant owners within the framework of the prevailing law.

Taking this into account, as well as the investment and maintenance policies followed at its nuclear plants, the IBERDROLA Group considers that the corresponding operating licences will be renewed at least until those plants are 40 years old. Accordingly, for accounting purposes the plants will be depreciated over the resulting period (Note 3.e).

However, as long as regulatory changes affect the future use of nuclear technologies, IBERDROLA will revise their useful life estimates, as required by the accounting standards.

- The Notes 31 and 44 of these consolidated annual accounts describe the principal contingent liabilities of the IBERDROLA Group, the majority of which have arisen in ongoing litigation, the future course of which cannot be determined with certainty at the reporting date of these consolidated annual accounts.
- The IBERDROLA Group is currently involved in negotiations and/or arbitration regarding some of its long-term contracts to supply or sell raw materials and believes that their outcomes will not have a significant change on the amounts shown in the consolidated annual accounts.

The IBERDROLA Group and its legal and tax advisors consider that no losses of assets and no significant liabilities will arise for the IBERDROLA Group as a result of the matters detailed in the paragraphs above.

5.c) IBERDROLA and the United Kingdom's exit from the European Union (Brexit)

On the 29 March 2019, the United Kingdom is expected to conclude its withdrawal from the European Union.

After intense negotiations on matters such as the cost of separation, the mutual recognition of the rights of citizens and the prevention of a return to a hard border between Northern Ireland and the Irish Republic, on 25 November 2018, the Council of the European Union approved two key documents: the EU-UK Withdrawal Agreement (a legally binding document that establishes the terms of the UK's exit from the European Union, including citizen's rights and the Irish backstop) and the Political Declaration (which establishes the basis for a future negotiation of the relationship between the United Kingdom and the EU post-Brexit, including trade relations and matters of UK-EU security). To date, this agreement has not been passed by the UK parliament, the government is seeking changes to the deal and there is talk of delaying Brexit beyond 29 March.

If the EU-UK Withdrawal Agreement is not passed by parliament, there is the risk of a no-deal Brexit on 29 March, which would probably mean that the trade relationship between the European Union and the EU will be regulated by World Trade Organization (WTO) rules. The government of the United Kingdom has published a series of technical documents that cover some of the key areas of concern in the event of a no-deal scenario. Essentially, these documents seek to minimise impact as much as possible, including changes existing agreements. However, WTO rules would mean that UK-EU trade, which is currently fluid, would become cross-border trade, subject to customs controls and tariffs. In the event of a no-deal scenario, an economic downturn is forecast for the United Kingdom. IBERDROLA and SCOTTISH POWER are therefore preparing to offset any negative impact arising from this situation. To this end the business and corporate areas have drawn up a no-deal Brexit risk map, as well as the implementation of measures designed to monitor and allay this impact. Some of the key areas of risk that were considered are explained below:

Risk	Measures
Impact stemming from the UK's decision to leave the EU and market reaction to events arising during the negotiations. This impact may include movements in the value of sterling and other financial instruments. In the longer term, there may be positive or negative changes to the UK economy in the political and regulatory environment in which the Group operates.	As well as monitoring new legislative developments and ongoing measures related to Brexit, the existing financial risk policy takes into account the most common financial risk in the short term, such as adverse fluctuations to exchange and interest rates. Any long-term impact on the UK economy and its impact on the Group and its business will be managed in line with future developments. A large legal team that is monitoring any potential risk which might arise from a regulatory perspective is in contact with governments and regulators in order to minimise any impact.
Interruptions to the supply chain: delays to the import of equipment and components that are essential to key project, resulting in setbacks.	The key materials and supplies have been identified, with extra orders put in to increase stock levels on 29 March 2019. We have also studied extra storage needs, taking steps to guarantee sufficient provisions.
Exposure to exchange rates and additional tariffs if WTO rules are applied.	The exchange rate has been covered in existing contracts. There has been a legal review of critical contracts to determine any possible exposure to new tariffs.
Contractual risk to existing non-trade contracts, including the risk of reopening, clauses such as force majeure, change of law and material adverse change.	There has been a legal review of critical contracts to determine any potential exposure and the specific mitigation of each contract.
Contractual risk affecting existing trade contracts (affecting wholesale and retail energy sales), including master trade agreements and broker and swap contracts.	Risk assessment of all contracts, although some only deal with the United Kingdom, and are therefore not affected, as the majority of counter parties and swaps are in the UK.
Free movement of employees: possible restrictions affecting EU citizens working in the UK or international assignments from other IBERDROLA Group companies, who are currently not present in the United Kingdom but who wish to operate there.	Recent announcements from the UK government confirm that EU citizens in Britain will form a part of the agreement with the EU. Ongoing initiative to assess the impact on and support for affected employees during the process. Contingency agreements are being put in place for workers outside the United Kingdom.
Data protection: the impact of the General Data Protection Regulation on the UK's regulations and status post-Brexit could affect the transfer of data between Group companies and suppliers in the normal course of business.	All inter-company contracts have been reviewed in order to update contractual clauses. High-risk suppliers have been identified and, where necessary, negotiation have commenced to modify contractual terms.

Even in the event that agreement is reached, Brexit may yet have risks and opportunities for IBERDROLA and SCOTTISH POWER. Until the exit terms and nature of the future relationship are clear, it will not be possible to reach definitive conclusions. Many of the risks described previously regarding a no-deal scenario stem from the so-called horizontal problems which may affect many sectors in the economy. IBERDROLA and SCOTTISH POWER will continue to monitor the impact of Brexit, taking the necessary steps as the outcome of leaving becomes clearer.

6. MODIFICATION TO CONSOLIDATION PERIMETER

In 2018, IBERDROLA Group undertook the following sales of stock in Group companies:

- At the closing of 2017, the US and Canada gas business complied with the requirements set in IFRS 5: "Non-current assets held for sale and discontinued operations" for their recognition as such in the consolidated annual accounts, as long as i) there was a sale plan at a reasonable cost compared to fair value of assets subject to the transaction and ii) the sale could be expected to be completed in less than a year.

As of 31 December 2017, the IBERDROLA Group reported assets and liabilities linked to the gas business in the US and Canada for sale in the sub-headings "Assets held for sale" and "Liabilities linked to assets held for sale" in the consolidated annual accounts.

On March 1, 2018, Avangrid Renewables Holdings, Inc., subsidiary of AVANGRID, has formalized the sale of the gas trading business, which operated through the company Enstor Energy Services, LLC, to the company CCI U.S. Asset Holdings LLC, a subsidiary of Castleton Commodities International, LLC. Additionally, on May 1, 2018, Avangrid Renewables Holdings, Inc. has formalized the sale of Enstor Gas, LLC, which managed the gas storage business unit, to Amphora Gas Storage USA, LLC, a subsidiary of ArcLight Capital Partners, LLC.

Said transactions resulted in gross losses of Euros 13,881 thousand recorded under "Losses on disposal of non-current assets" in the consolidated financial statement of 2018 (Note 41).

- In November 2018 90% of IBERDROLA Energía Solar of Puertollano, S.A. was sold to Sociedad Ence Energía, S.L.U. for Euros 72,300 thousand, which resulted in gross capital gains of Euros 12,470 thousand recorded under "Profits on disposal of non-current assets" in the consolidated financial statement of 2018 (Note 41).
- On 16 October 2018, Scottish Power agreed the sale of Scottish Power Generation Ltd. to Drax Group PLC. (DRAX), an operation that was concluded on 31 December 2018 for Pounds Sterling 693 million (Euros 779,101 thousand). The agreement includes a series of variable considerations which, as of 31 December 2018, were valued at zero Euros.

The transaction has implied a gross capital gain of Euros 25,579 thousand which has been recorded under the heading "Gains on sale of non-current assets" in the consolidated financial statement for the year 2018 (Note 41).

- In December 2018, the IBERDROLA Group sold an 80% ownership interest in Coyote Ridge Wind LLC to WEC Infrastructure for a sale price of Euros 50,789 thousand, giving rise to a gross loss of Euros 23,116 thousand, which has been recorded under "Losses on disposal of non-current assets" in the consolidated statement of income for 2018 (Notes 13.a and 41).

As regards to 2017, on 24 August 2017, the incorporation of the activity and businesses of Elektro Holding, S.A. (ELEKTRO) in Neoenergia S.A. (NEOENERGIA) was completed, according to the agreement of the NEOENERGIA shareholders (BB Banco de Investimento S.A.- Banco do Brasil, Caixa de Previdência dos Funcionários do Banco do Brasil –Previ and IBERDROLA Energía, S.A.U. - IBERDROLA ENERGÍA), notified on 8 June 2017 and once the suspensive conditions have been met that were subject to the operation. Through this transaction, IBERDROLA Group acquired NEOENERGIA compared to the previous control granted by its prior stake. This thus results in an acquisition in stages.

NEOENERGIA is a leading private electricity group in Brazil, which operates in 11 states and is present in the energy generation, transmission, distribution and marketing business. Currently, do Brasil and Previ are holders of 12% and 49% respectively of the capital of NEOENERGIA, with 39% remaining owned by IBERDROLA ENERGÍA. After the effectiveness of the operation, on Banco do Brasil and Previ own approximately 9.35% and 38.21% respectively of the capital of NEOENERGIA, and IBERDROLA ENERGÍA now holds 52.45%.

The operation was structured between NEOENERGIA and ELEKTRO via the Brazilian legal form called “*incorporação*”, which involved an increase in share capital in NEOENERGIA that will be fully subscribed by IBERDROLA ENERGÍA and will imply the termination of ELEKTRO and the transfer en bloc of its equity to NEOENERGIA, which acquired the rights and obligations of the former through universal succession.

The competent Brazilian authorities, Conselho Administrativo de Defesa Econômica (CADE), have authorised the merger operation between NEOENERGIA and ELEKTRO without restrictions, as it appears published in the Official Journal from 4 July.

The fair value of the assets and liabilities of NEOENERGIA on 24 August 2017 and its carrying value on this date was the following:

Thousands of Euros	Note	Fair value at 24.08.2017	Fair value at 24.08.2017
Intangible assets	8	3,646,381	2,611,485
Property, plant and equipment	10	1,136,997	1,136,997
Non-Current Financial investments		2,879,125	2,707,592
Deferred tax assets	31	176,485	176,485
Non-Current Trades and other accounts receivable		52,048	52,048
Inventories		14,145	14,145
Current Trades and other accounts receivable		1,014,685	1,014,685
Current Financial investments		763,303	763,303
Cash and cash equivalents		76,366	76,366
Total		9,759,535	8,553,106

Thousands of Euros	Note	Fair value at 24.08.2017	Fair value at 24.08.2017
Provision for pensions and similar Non-current obligations	25	273,900	273,900
Other non-current provisions	26	269,544	129,657
Non-current financial debt	29	2,667,380	2,667,380
Other non-current payables		128,992	128,992
Deferred tax liabilities	31	452,915	20,586
Provision for pensions and similar current obligations	25	7,985	7,985
Other current provisions	26	45,201	45,201
Current financial debt	29	1,228,822	1,228,822
Current Trade and other payables		1,361,369	1,361,369
Total		6,436,108	5,863,892
Net assets		3,323,427	
Fair value of previous stake in NEONERGIA at 39%		(1,321,844)	
Adjustments in NEOENERGIA shares due to previous control (1)		8,723	
Recognition of non-controlling interests	20	(1,798,535)	
Goodwill arising on the acquisition	8	244,069	
Total acquisition cost		455,840	

- (1) For the purposes of calculating acquisition cost, the value of NEONERGIA shares has been reduced in Euros 8,723 thousand due to the existence of previous control by IBERDROLA Group over certain assets over which NEONERGIA in turn had an interest.

As mentioned before, the IBERDROLA Group has acquired an additional stake in NEOENERGIA in exchange for the 47.55% interest it had in ELEKTRO, of which IBERDROLA S.A. was the indirect holder of 100% of its shares through the Group company IBERDROLA ENERGÍA.

As a consequence, Euros 606,918 thousand has been recognised in "Equity - Non-controlling interests" in the 2017 consolidated statement of financial position, which represents the 47.55% non-controlling interest in the carrying amount of ELEKTRO at the transaction date (Note 20). The difference between this amount and fair value of ELEKTRO given as consideration resulted in a charge of Euros 493,293 thousand to "Equity - Other reserves" and a credit of Euros 342,214 thousand to "Equity - Translation differences" in the statement of financial position (negative net impact of Euros 151,079 thousand).

As a consequence of this business combination achieved in stages, an amount of Euros 44,012 thousand was taken to 'Gains/losses on disposal of non-current assets' in the 2017 consolidated income statement (Note 41), which included the following effects:

- Measurement of the previous shareholding in NEOENERGIA at the fair value on the acquisition date, which involved a gain of Euros 325.274 thousand as the difference between the fair value of Euros 1,321,844 thousands and a book value of Euros 996,570 thousand.
- Debit and credit in the consolidated income statement for the losses recognised before the transaction under 'Translation differences' and 'Valuation adjustments ' for an amount of Euros 296,213 thousand and Euros 666 thousand, respectively, from the prior investment of the IBERDROLA Group.
- Measurement of the previous shareholding in which IBERDROLA Group had an interest at the fair value on the acquisition date, resulting in a capital gain of Euros 14,285 thousand.



The IBERDROLA Group has opted to measure the non-controlling interests in NEOENERGIA at their fair value at the acquisition date, crediting Euros 1,798,535 thousand to 'Equity –Non-controlling interests' of the consolidated statement of financial position at 31 December 2017 (Note 20).

The contribution of the net assets incorporated in the transaction with NEOENERGIA to the 2017 net profit from continuing operations of the IBERDROLA Group has amounted to a loss of approximately Euros 3,030 thousand from 24 August 2017, before considering the profit of the Euros 44,012 thousand previously described. Had this acquisition taken place on 1 January 2017, the increase in consolidated revenues in 2017 would have amounted to Euros 3,414,226 thousand and the decrease in net profit from continuing operations would have been Euros 21,825 thousand.

Goodwill resulting from this business combination, of Euros 244,069 thousand, is mainly comprised of future economic benefits derived from the activity of NEOENERGIA that do not qualify for separate recognition at the time of the business combination.

The costs incurred in the acquisition were not significant.

7. GEOGRAPHICAL AND BUSINESS SEGMENT REPORTING

The IBERDROLA Group combines their segments tending to the nature of the business activities in the different geographic areas in which said activities take place. The operating segments identified by IBERDROLA bearing in mind the changes described in Note 2.d are as follows:

- Networks business: including all the energy transmission and distribution activities, and any other regulated activity carried out in Spain, the United Kingdom, the United States and Brazil.
- Liberalised business: includes electricity generation and retail businesses carried out by the Group in Spain and Continental Europe, the United Kingdom, Mexico, and Brazil.
- Renewable business: activities related to renewable energies (mainly wind and hydroelectric) in Spain, the United Kingdom, the United States, Mexico, Brazil and the Rest of the world.
- Other businesses: groups supply and gas storage up to the moment of sale (Note 41) and other non-energy related businesses.

Additionally, Corporation includes the costs of the Group's structure (Single Corporation), and of the administration services of the corporate areas that are subsequently invoiced to the other companies through specific service agreements.

Transactions between the different segments are generally carried out at arm's length.

The key figures for the operating segments identified are as follows:

Business segmentation reporting for 2018

	Liberalised					Renewables						Networks					Other business, Corporation and adjustments	Total	
Thousands of Euros	Spain and continental Europe	United Kingdom	Mexico	Brazil	Total	Spain	United Kingdom	United States	Mexico	Brazil	RoW	Total	Spain	United Kingdom	United States	Brazil			Total
REVENUE																			
External revenues	12,789,028	4,942,455	2,252,552	477,457	20,461,492	367,908	119,913	1,026,925	92,976	56,100	250,988	1,914,810	1,994,890	1,113,669	4,274,777	5,184,180	12,567,516	132,055	35,075,873
Intersegment revenue	295,742	80,220	(6,303)	315,432	685,091	1,328,206	577,560	–	(1,981)	187,701	38,697	2,130,183	130,644	161,879	–	1,199	293,722	3,046	3,112,042
Eliminations					(154,406)							–					–	(2,957,636)	(3,112,042)
Total revenue					20,992,177							4,044,993					12,861,238	(2,822,535)	35,075,873
RESULTS																			
Segment operating profit	478,866	55,301	533,518	71,386	1,139,071	588,298	355,549	213,982	39,803	76,071	123,218	1,396,921	1,174,156	605,293	712,063	542,756	3,034,268	(130,887)	5,439,373
Result of equity-accounted investees - net of taxes	23,590	–	–	–	23,590	3,624	1,527	(3,548)	–	11,303	(9)	12,897	2,769	(18)	11,067	–	13,818	5,599	55,904
ASSETS																			
Segment assets	7,091,946	6,297,480	4,483,086	468,940	18,341,452	8,386,777	5,555,003	11,967,083	1,327,027	1,560,275	2,282,958	31,079,123	12,117,292	12,141,816	21,308,069	5,186,168	50,753,345	3,631,729	103,805,649
Equity-accounted investees	10,409	–	–	–	10,409	62,216	7,834	195,226	–	661,553	–	926,829	29,773	–	123,696	–	153,469	618,811	1,709,518
LIABILITIES																			
Segment liabilities	2,577,697	1,342,529	1,085,490	122,222	5,127,938	1,135,109	907,132	3,841,665	316,362	240,994	358,465	6,799,727	5,587,747	2,456,186	7,121,821	1,694,157	16,859,911	1,933,997	30,721,573
OTHER INFORMATION:																			
Total cost incurred during the period in the acquisition of property, plant and equipment and non-current intangible assets	230,805	194,654	628,716	16,223	1,070,398	369,023	365,037	307,934	324,683	99,184	221,090	1,686,951	495,395	564,223	1,053,862	725,883	2,839,363	148,926	5,745,638
Change in Trade and other receivables/(Expenses) / income	46,557	66,496	2,323	(287)	115,089	9	(355)	(72)	14	260	1,059	915	611	955	72,462	61,629	135,657	1,995	253,656
amortisation and depreciation expenses	475,311	185,425	102,581	20,912	784,229	329,397	162,313	359,158	25,615	53,071	117,313	1,046,867	534,596	313,195	546,677	350,613	1,745,081	79,697	3,655,874
Expenses of the period other than amortisation and depreciation that did not result in cash outflows	13,802	8,189	(3,730)	–	18,261	5,415	–	429	–	–	363	6,207	14,744	8,033	72,905	2,845	98,527	95,299	218,294

Business segment reporting for 2017:

Re-stated (Note 2.d)	Liberalised					Renewables						Networks					Other business, Corporation and adjustments	Total	
	Spain and continental Europe	United Kingdom	Mexico	Brazil	Total	Spain	United Kingdom	United States	Mexico	Brazil	RoW	Total	Spain	United Kingdom	United States	Brazil			Total
Thousands of Euros																			
REVENUE																			
External revenues	12,125,066	4,797,481	2,334,028	671	19,257,246	192,518	59,966	971,154	73,422	58,722	125,380	1,481,162	1,885,658	1,050,463	4,083,179	3,371,006	10,390,306	134,548	31,263,262
Intersegment revenue	52,320	49,027	(19,061)	398,863	481,149	1,100,780	541,842	(48)	346	34,836	582	1,678,338	131,575	171,565	–	685	303,825	98,313	2,561,625
Eliminations					(170,197)							–					–	(2,391,428)	(2,561,625)
Total revenue					19,568,198							3,159,500					10,694,131	(2,158,567)	31,263,262
RESULTS																			
Segment operating profit	359,883	(124,197)	429,517	38,887	704,090	293,810	239,221	(297,566)	25,646	40,998	49,172	351,281	1,001,297	603,027	778,598	276,812	2,659,734	(1,002,474)	2,712,631
Result of equity-accounted investees - net of taxes	(4,331)	(51)	–	8,835	4,453	6,846	1,128	(43,877)	–	(6,384)	(38)	(42,325)	2,921	(89)	14,669	6,399	23,900	(14,761)	(28,733)
ASSETS																			
Segment assets	7,084,711	7,038,957	3,754,452	609,431	18,487,551	8,597,935	5,071,435	11,255,377	957,661	1,693,914	2,195,210	29,771,532	11,925,746	11,898,622	19,779,894	5,655,755	49,260,017	3,279,660	100,798,760
Equity-accounted investees	31,383	–	–	–	31,383	65,125	6,457	178,077	–	710,242	–	959,901	29,781	–	122,654	–	152,435	647,177	1,790,896
LIABILITIES																			
Segment liabilities	2,339,126	1,472,739	1,104,965	178,356	5,095,186	1,076,841	933,910	3,546,940	298,709	277,654	373,739	6,507,793	5,735,668	2,458,169	6,630,179	2,047,965	16,871,981	2,004,074	30,479,034
OTHER INFORMATION:																			
Total cost incurred during the period in the acquisition of property, plant and equipment and non-current intangible assets	222,803	222,599	707,916	12,433	1,165,751	214,771	432,683	973,640	227,576	132,347	624,851	2,605,868	489,240	692,245	944,008	324,810	2,450,303	59,260	6,281,182
Change in Trade and other receivables(Expenses)/ income	(30,722)	65,290	–	(11,530)	23,038	79,118	11,472	103	10	8,619	–	99,322	(2,376)	754	59,269	16,358	74,005	1,034	197,399
Amortisation and depreciation expenses	450,249	166,989	95,845	23,509	736,592	242,662	143,241	827,209	26,874	16,371	47,816	1,304,173	520,569	282,276	496,148	195,326	1,494,319	873,586	4,408,670
Expenses of the period other than amortisation and depreciation that did not result in cash outflows	45,012	3,468	2,239	–	50,719	4,029	(75)	9,179	–	–	98	13,231	97,248	24,328	72,385	21,680	215,641	154,270	433,861

Additionally the net revenue and non-current assets by geographical area is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Net Revenue		
Spain	14,282,389	13,733,470
United Kingdom	6,176,037	5,907,910
United States	5,324,939	5,016,448
Mexico	2,345,528	2,407,450
Brazil	5,717,489	3,430,399
ROW	1,229,491	767,585
Total	35,075,873	31,263,262

Thousands of Euros	31.12.2018	31.12.2017
Non-current assets (*)		
Spain	22,783,838	22,881,482
United Kingdom	21,972,709	22,433,802
United States	30,063,052	28,192,131
Mexico	4,818,762	3,770,088
Brazil	5,699,371	6,290,435
ROW	2,200,428	2,086,497
Total	87,538,160	85,654,435

(*) Non-current financial investments, deferred tax assets and trade receivables and other non-current are excluded.

In addition, the reconciliation between segment assets and liabilities and the total assets and liabilities in the consolidated statement of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Segment assets	103,805,649	100,798,760
Non- Current Financial investments	5,191,132	5,013,504
Current Financial investments	1,177,821	1,323,224
Cash and cash equivalents	2,801,157	3,197,340
Assets held for sale	62,164	355,731
Total assets	113,037,923	110,688,559

Thousands of Euros	31.12.2018	31.12.2017
Segment liabilities	30,721,573	30,479,034
Equity	43,976,554	42,733,186
Non-current securities portfolio having the substance of financial liability	140,582	14,762
Long-term financial debt	31,138,863	29,784,705
Current securities portfolio having the substance of financial liability	36,647	32,519
Current Financial debt	7,023,143	7,509,809
Liabilities linked to assets held for sale	561	134,544
Total liabilities and equity	113,037,923	110,688,559

8. INTANGIBLE ASSETS

The changes in 2018 and 2017 in intangible assets and the appropriate accumulated amortisations and procurement has been as follows:

Thousands of Euros	Balance at 01.01.2017	Translation difference	Modification of the consolidation perimeter (Note 6)	Additions/ (charge)/ reversals	Capitalised Personnel expenses (Note 37)	Transfers	Decreases, disposals or reductions	Assets held for sale (Note 41)	Write-off	Balance at 31.12.2017	First application of IFRS 15 (Note 2.a.)	Translation difference	Modification of the consolidation perimeter (Note 6)	Additions/ (charge)/ reversals	Capitalised Personnel expenses (Note 37)	Transfers	Decreases, disposals or reductions	Balance at 31.12.2018
Cost:																		
Goodwill	8,711,053	(573,238)	244,069	–	–	–	–	–	(449,480)	7,932,404	–	(77,605)	(16,956)	–	–	–	–	7,837,843
Concessions, Patents, licenses, trademarks and others	7,696,409	(796,107)	1,034,895	8,501	–	(336)	–	(12,695)	–	7,930,667	–	(31,055)	(318,228)	5,704	8,725	23,888	(3,858)	7,615,843
Intangibles assets under IFRIC 12 (Notes 3.b. and 11)	966,774	(404,484)	4,802,502	338,120	34,372	(189,211)	(41,717)	–	–	5,506,356	–	(688,654)	–	739,358	55,408	(271,146)	(64,639)	5,276,683
Computer software	1,960,017	(116,012)	–	157,639	7,927	40,599	(9,634)	(527)	–	2,040,009	–	25,506	(12,057)	144,163	8,644	(10,823)	(18,831)	2,176,611
Customer acquisition costs	–	–	–	–	–	–	–	–	–	–	298,028	(2,564)	–	161,784	–	–	–	457,248
Other intangible assets	4,504,425	(444,142)	32,755	5,939	–	(71,660)	(7,017)	(471,230)	–	3,549,070	–	97,144	–	24,805	1,122	(73,742)	(332,303)	3,266,096
Total cost	23,838,678	(2,333,983)	6,114,221	510,199	42,299	(220,608)	(58,368)	(484,452)	(449,480)	26,958,506	298,028	(677,228)	(347,241)	1,075,814	73,899	(331,823)	(419,631)	26,630,324
Accumulated depreciation and procurement:																		
Concessions, Patents, licenses, trademarks and others	779,847	(55,164)	–	104,311	–	(142)	–	(5,355)	–	823,497	–	(36,948)	(305,838)	141,299	–	2,215	–	624,225
Intangible assets under IFRIC 12 (Note 3.b. and 11)	310,498	(172,658)	2,221,975	134,587	–	–	(26,495)	–	–	2,467,907	–	(309,147)	–	260,855	–	5,519	(47,520)	2,377,614
Computer software	1,364,497	(72,083)	–	182,870	–	1,852	(9,586)	(486)	–	1,467,064	–	16,599	(11,374)	132,754	–	(10,823)	(17,695)	1,576,525
Customer acquisition costs	–	–	–	–	–	–	–	–	–	–	123,027	(1,073)	–	80,580	–	–	–	202,534
Other intangible assets	651,214	(46,021)	1,796	120,325	–	(3,175)	(252)	(49,726)	–	674,161	–	14,218	–	121,648	–	(1,061)	(299,962)	509,004
Total accumulated depreciation	3,106,056	(345,926)	2,223,771	542,093	–	(1,465)	(36,333)	(55,567)	–	5,432,629	123,027	(316,351)	(317,212)	737,136	–	(4,150)	(365,177)	5,289,902
Impairment allowance (Note 40)	798,459	(81,435)	–	25,756	–	(18,706)	–	(346,224)	–	377,850	–	15,012	–	(52,688)	–	–	–	340,174
Total accumulated depreciation and procurement	3,904,515	(427,361)	2,223,771	567,849	–	(20,171)	(36,333)	(401,791)	–	5,810,479	123,027	(301,339)	(317,212)	684,448	–	(4,150)	(365,177)	5,630,076
Total net cost	19,934,163	(1,906,622)	3,890,450	(57,650)	42,299	(200,437)	(22,035)	(82,661)	(449,480)	21,148,027	175,001	(375,889)	(30,029)	391,366	73,899	(327,673)	(54,454)	21,000,248

“Other intangible assets” includes, among other items, wind farm projects in the development phase which meet the identifiability requirement under IAS 38: “Intangible assets”, as they are separable and susceptible to individual sale and are carried at acquisition cost. The IBERDROLA Group transfers these assets to “Property, plant and equipment” in the consolidated statement of financial position when construction of each wind farm commences.

The amounts incurred in due to research and development activities (expenses and investment) in 2018 and 2017 totals Euros 266,547 and 246,392 respectively.

The fully amortised intangible assets in use at 31 December 2018 and 2017 amounted to Euros 1,122,173 and 1,093,271 thousand, respectively.

The IBERDROLA Group maintains at 31 December 2018 and 2017 commitments to acquire intangible assets for Euros 18,942 and 48.559 thousand, respectively.

In addition, at 31 December 2018 and 2017, there were no significant restrictions on the ownership of intangible assets, except for the regulated businesses that may require authorisation of the corresponding regulator for specific transactions.

The allocation of goodwill to the different cash-generating units at 31 December 2018 and 2017 is as follows:

Thousands of Euros	31.12.2018	31.12.2017 Re-stated (Note 2.d)
Electricity and gas generation and supply in the UK	4,256,753	4,330,358
Regulated activities in the UK	832,954	858,779
Renewables in the UK	495,720	493,279
Renewables in the USA	866,431	828,687
Regulated activities in the USA	1,044,989	999,482
Regulated activities in Brazil	153,038	198,115
Electricity generation and retail in Brazil	41,059	46,760
Renewable activities in Brazil	120,976	137,772
Other activities	25,923	39,172
Total	7,837,843	7,932,404

The allocation of indefinite life and in-progress intangible assets at 31 December 2018 and 2017 to the different cash generating units is as follows:

Thousands of Euros	2018			2017		
	Intangible assets with indefinite useful lives	Intangible assets in progress	Total	Intangible assets with indefinite useful lives	Intangible assets in progress	Total
Electricity distribution in Scotland	738,734	–	738,734	751,075	–	751,075
Electricity distribution in Wales and England	710,979	–	710,979	722,856	–	722,856
Electricity transmission in the UK	280,772	–	280,772	285,463	–	285,463
Renewable in the USA	–	126,756	126,756	–	150,563	150,563
Electricity and gas distribution in New York (NYSEG)	1,041,374	–	1,041,374	996,025	–	996,025
Electricity and gas distribution in New York (RG&E)	938,641	–	938,641	897,766	–	897,766
Electricity transmission and distribution in Maine (CMP)	258,609	4,908	263,517	247,347	9,758	257,105
Electricity transmission and distribution in Connecticut (UI)	1,084,487	–	1,084,487	1,037,259	–	1,037,259
Gas distribution in Connecticut (CNG)	273,647	–	273,647	261,730	–	261,730
Gas distribution in Connecticut (SCG)	537,200	–	537,200	513,807	–	513,807
Gas distribution in Massachusetts (BGC)	36,638	–	36,638	35,042	–	35,042
Others	–	387,560	387,560	–	374,647	374,647
Total	5,901,081	519,224	6,420,305	5,748,370	534,968	6,283,338

The undefined useful life assets mostly correspond to the acquisition cost of licences to operate in different businesses that make up the main activity of the activities performed by the IBERDROLA Group.

9. REAL ESTATE INVESTMENTS

The changes in 2018 and 2017 in the IBERDROLA Group's investment property were as follows:

Thousands of Euros	Balance at 01.01.2017	Additions/ (charge)/ reversals	Transfers	Decreases, disposals or reductions	Balance at 31.12.2017	Additions/ (charge)/ reversals	Transfers	Decreases, disposals or reductions	Balance at 31.12.2018
Real estate investments	545,115	4,169	61,434	(108,759)	501,959	11,878	(23)	(742)	513,072
Impairment allowance	(27,835)	–	1,030	–	(26,805)	960	–	–	(25,845)
Accumulated depreciation	(54,938)	(6,965)	–	10,778	(51,125)	(7,533)	(49)	72	(58,635)
Total net cost	462,342	(2,796)	62,464	(97,981)	424,029	5,305	(72)	(670)	428,592

The investment property owned by the IBERDROLA Group relates primarily to properties destined for leasing. The income accrued during fiscal years 2018 and 2017 for this operation are Euros 26,764 and 25,177 thousand, respectively, and were registered in sub-heading "Turnover" of the consolidated income statement. The operating expenses directly related to real estate investments during fiscal years 2018 and 2017 were not significant.

The fair value of real property investments in operation fully amortised intangible assets at 31 December 2018 and 2017 amounted to Euros 479,864 and Euros 477,299 thousand, respectively. This fair value (classified in Level 3) is determined via expert independent appraisals made annually in accordance with the Assessment Standards published by the Royal Institution of Chartered Surveyors (RICS) of Great Britain, in their January 2014 edition. The assessments on 31 December 2018 and 2017 have been made by Knight Frank España.

The assets have been valued individually and not as part of a property portfolio.

The methods applied for the calculation of fair value have been the discount of cash flows, the capitalisation of revenue and the comparison method, contrasted, as much as possible, with comparable transactions to reflect the reality of the market and the prices to which they are currently closing the asset operations of similar characteristics to the reference operations.

The discount of cash flows is in accordance with a prediction of the probable net income that real estate investment will generate for a period of time and considers its residual value at the end of the period. Cash flows are discounted at an internal rate of return that reflects the urban, construction and business risk of the asset.

The variables and key assumptions of the cash flow discount method are:

- Net income that the property will generate for a certain period of time, keeping in mind the initial contractual situation, development of renters and expected income, marketing costs, divestment expenses (variable percentage depending on the sale price 1%-3%), etc.
- Discount rate or objective internal return rate adjusted to reflect the risk that the investment entails depending on the localisation, occupation, renter quality, property age, etc.
- Disposal return, which consists of an estimate of the exit (sale) price of the property applying an estimated return for the close of the transaction at that date, considering the criteria of obsolescence, liquidity and market uncertainty.

For property for hire that does not include many variables as extensive and involves leased property for a period of time greater than 10 years and up and one renter, the capitalisation method for income is usually applied. This method consists of the perpetual capitalisation of the current contractual income via a capitalisation rate that inherently includes the risks and uncertainties that could arise in the market.

At 31 December 2018 and 2017, none of the investment properties had been fully depreciated and there were no restrictions on their realisation. Moreover, there were no contractual obligations to acquire, build, develop, repair or maintain investment property.

10. PROPERTY, PLANT AND EQUIPMENT

The changes in 2018 and 2017 in “Property, plant and equipment” and the appropriate accumulated amortisations and procurement has been as follows:

Thousands of Euros	Balance at 01.01.2017	Translation differences	Modification of the consolidation perimeter (Note 6)	Additions and charge (reversals)	Transfers	Decreases, disposals or reductions	Assets held for sale (Note 41)	Write-off	Balance at 31.12.2017	Translation differences	Modification of the consolidation perimeter (Note 6)	Additions/charge/(reversals)	Transfers	Decreases, disposals or reductions	Write-off	Balance at 31.12.2018
Cost:																
Land and constructions	2,299,587	(166,584)	21,668	50,966	55,432	(70,153)	(4,146)	–	2,186,770	42,770	(59,955)	61,919	121,624	(28,845)	(2,289)	2,321,994
Electricity plant in operation:																
Hydroelectric power plants	6,843,335	(66,744)	483,853	782	41,505	(1,546)	–	–	7,301,185	(45,882)	(314,643)	12,006	5,303	–	(1,478)	6,956,491
Thermal power plants	1,216,695	(80)	–	1,739	2,035	–	–	–	1,220,389	8	–	81	5,269	(73)	–	1,225,674
Combined cycle power plant	7,975,124	(533,449)	387,961	10,181	370,015	(70,487)	–	–	8,139,345	122,547	(1,218,052)	11,760	243,107	(75,290)	–	7,223,417
Nuclear power plants	7,508,330	–	–	64,495	106,402	(56,230)	–	–	7,622,997	(1)	–	15,977	106,638	(54,040)	–	7,691,571
Wind farms	23,003,959	(1,774,746)	173,632	200,975	1,600,322	(41,179)	–	–	23,162,963	379,751	111,256	40,334	1,408,562	(253,536)	(20,713)	24,828,617
Facilities:																
- Gas storage and other alternative plants	1,547,485	(108,079)	–	148	(56,357)	(6,678)	(1,275,314)	–	101,205	2,369	–	11	41,242	(4,072)	(1,223)	139,532
- Electricity Transmission	7,394,848	(700,661)	–	–	1,212,265	(14,540)	–	–	7,891,912	139,539	–	2,521	411,060	(5,304)	(21,672)	8,418,056
- Gas transmission	52,162	(3,974)	–	–	(38,652)	–	(6,507)	–	3,029	(39)	–	165	(790)	–	(2,365)	-
- Electricity distribution	30,186,048	(1,157,705)	–	85,628	1,295,496	(1,620,725)	–	–	28,788,742	183,229	16,121	88,936	1,181,079	(109,930)	(22,970)	30,125,207
- Gas distribution	2,885,851	(375,723)	–	–	302,575	(7,319)	(36,496)	–	2,768,888	131,024	–	–	138,576	(6,097)	(3,358)	3,029,033
Meters and metering devices	2,105,937	(118,329)	–	148,325	(24,739)	(60,493)	–	–	2,050,701	24,581	–	102,068	68,453	(278,054)	(1,243)	1,966,506
Dispatching centres and other facilities	1,858,624	(35,986)	–	48,939	259,591	(152,930)	–	–	1,978,238	5,404	(32,358)	15,795	136,830	(17,601)	(256)	2,086,052
Total Electricity plant in operation	92,578,398	(4,875,476)	1,045,446	561,212	5,070,458	(2,032,127)	(1,318,317)	–	91,029,594	942,530	(1,437,676)	289,654	3,745,329	(803,997)	(75,278)	93,690,156
Others in use	1,707,060	(104,005)	2,320	151,910	38,757	(79,215)	(4,823)	–	1,712,004	33,482	(4,905)	203,381	4,017	(48,107)	(679)	1,899,193
Electricity plant under construction	6,165,502	(424,346)	351,302	5,180,922	(4,736,672)	(19,436)	–	(37,499)	6,479,773	40,190	(23,006)	4,381,212	(3,778,551)	(4,233)	–	7,095,385
Prepayments and other PP&E under construction(*)	561,171	(42,442)	4,668	518,888	(591,653)	(93,515)	–	–	357,117	4,022	(4,185)	507,962	(76,927)	(229,842)	(2,803)	555,344
Total cost	103,311,718	(5,612,853)	1,425,404	6,463,898	(163,678)	(2,294,446)	(1,327,286)	(37,499)	101,765,258	1,062,994	(1,529,727)	5,444,128	15,492	(1,115,024)	(81,049)	105,562,072

(*) Prepayment amounts at 31 December 2018 and 2017 amount to Euros 152,724 and 46.708 thousand respectively.

Thousands of Euros	Balance at 01.01.2017	Translation differences	Modification of the consolidation perimeter	Additions/ (charge)/ reversals	Transfers	Decreases, disposals or reductions	Assets held for sale (Note 41)	Write-off	Balance at 31.12.2017	Translation differences	Modification of the consolidation perimeter (Note 6)	Additions and charges/ reversals	Transfers	Decreases, disposals or reductions	Write-off	Balance at 31.12.2018
Accumulated depreciation and provisions:																
Buildings	501,034	(34,968)	2,665	35,707	5,735	(50,419)	(972)	–	458,782	8,006	3,515	84,732	–	(5,185)	–	549,850
Electricity plant in operation:																
Hydroelectric power plants	3,781,892	(18,920)	112,248	104,263	(160)	(1,547)	–	–	3,977,776	(12,340)	(172,034)	108,089	–	–	–	3,901,491
Thermal power plants	1,028,596	(26)	–	33,550	–	–	–	–	1,062,120	8	–	48,862	–	(73)	–	1,110,917
Combined cycle power plant	3,033,371	(188,960)	140,080	243,875	(5,719)	(66,467)	–	–	3,156,180	39,589	(674,419)	223,172	–	(60,160)	–	2,684,362
Nuclear power plants	5,513,862	–	–	267,732	–	(55,612)	–	–	5,725,982	–	–	284,433	–	(52,857)	–	5,957,558
Wind farms	7,130,700	(469,740)	31,495	749,008	(94,428)	(9,971)	–	–	7,337,064	125,049	97,141	830,022	–	(101,314)	–	8,287,962
Facilities:																
- Gas storage and other alternative plants	361,098	(24,561)	–	26,834	(12,170)	(3,390)	(303,370)	–	44,441	426	–	3,743	–	(3,822)	–	44,788
- Electricity Transmission	1,612,248	(157,679)	–	145,509	122,359	(12,988)	–	–	1,709,449	37,877	–	141,697	–	(3,447)	–	1,885,576
- Gas transmission	13,131	(1,049)	–	195	(7,829)	–	(2,334)	–	2,114	(2,114)	–	–	–	–	–	–
- Electricity distribution	11,442,209	(407,799)	–	710,790	(143,299)	(1,611,442)	–	–	9,990,459	75,883	9,867	766,929	–	(96,488)	–	10,746,650
- Gas distribution	1,234,218	(157,392)	–	41,839	20,230	(5,544)	(10,178)	–	1,123,173	52,834	–	48,162	–	(3,977)	–	1,220,192
Meters and metering devices	999,514	(44,116)	–	121,502	(12,483)	(57,627)	–	–	1,006,790	7,553	–	112,020	–	(265,865)	–	860,498
Dispatching centres and other facilities	867,276	(16,333)	–	53,650	8,248	(152,344)	–	–	760,497	1,464	(32,856)	72,020	–	(13,253)	–	787,872
Total Electricity plant in operation	37,018,115	(1,486,575)	283,823	2,498,747	(125,251)	(1,976,932)	(315,882)	–	35,896,045	326,229	(772,301)	2,639,149	–	(601,256)	–	37,487,866
Others in use	1,071,005	(47,649)	1,848	102,536	977	(76,002)	(3,113)	–	1,049,602	12,304	(1,573)	118,549	(9,722)	(43,316)	–	1,125,844
Total accumulated depreciation	38,590,154	(1,569,192)	288,336	2,636,990	(118,539)	(2,103,353)	(319,967)	–	37,404,429	346,539	(770,359)	2,842,430	(9,722)	(649,757)	–	39,163,560
Impairment allowance (Note 40)	887,180	(47,679)	71	608,646	(179,575)	(244)	(989,949)	–	278,450	4,061	–	13,565	–	(6,884)	–	289,192
Total accumulated depreciation and provisions	39,477,334	(1,616,871)	288,407	3,245,636	(298,114)	(2,103,597)	(1,309,916)	–	37,682,879	350,600	(770,359)	2,855,995	(9,722)	(656,641)	–	39,452,752
Total net cost	63,834,384	(3,995,982)	1,136,997	3,218,262	134,436	(190,849)	(17,370)	(37,499)	64,082,379	712,394	(759,368)	2,588,133	25,214	(458,383)	(81,049)	66,109,320

The breakdown by business of the main investments made in property, plant and equipment in 2018 and 2017, additional to the ones included in the acquisition of NEONERGIA (Note 6) and not including the capitalization of personnel (Note 37) nor financial expenses (Note 42) is as follows:

Thousands of Euros	31.12.2018	31.12.2017 Re-stated (Note 2.d)
Liberalised business		
Spain and Continental Europe	127,226	216,364
United Kingdom	112,480	200,296
Mexico	620,012	710,948
Brazil	16,147	12,137
Renewable business		
Spain	366,609	210,861
United Kingdom	364,493	806,764
United States	304,186	970,463
Mexico	340,641	192,937
Brazil	95,633	130,471
RoW	220,858	229,079
Network business		
Spain	477,772	484,467
United Kingdom	558,695	678,662
United States	1,019,288	895,638
Brazil	17,708	912
Corporation and other	63,812	52,489
Total	4,705,560	5,792,488

"Amortisation and provisions" in the consolidated income statement for 2018 includes Euros 94,614 thousand for impairment and write-offs of property, plant and equipment of the IBERDROLA Group (Note 40). In 2017 this heading included a debit of Euros 646,145 thousand.

The fully amortised intangible assets in use at 31 December 2018 and 2017 amounted to Euros 2,211,844 and 2,277,060 thousand, respectively.

The IBERDROLA Group maintains at 31 December 2018 and 2017 commitments to acquire Property, Plant and Equipment for Euros 3,308,813 and 4,130,359 thousand respectively.

At 31 December 2018 and 2017, "Property, plant and equipment – Other elements in use" included Euros 221,257 y 203,835 thousand, respectively, for assets held under finance leases corresponding primarily to IBERDROLA Group's corporate offices in Madrid, among other financial assets. Details of minimum payments on the lease contracts at 31 December 2018 and 2017 are as follows:

Thousands of Euros	31.12.2018	31.12.2017
2018	–	13,569
2019	31,061	12,927
2020-2022	30,376	31,454
From 2023 onwards	117,367	116,904
Total	178,804	174,854
Financial Cost	36,501	28,890
Present value of the payments	142,303	145,964
Total	178,804	174,854

The present value of instalments is recognised in “Financial debt - Loans and borrowings” in current and non-current liabilities on the consolidated income statement at 31 December 2018 and 2017.

11. CONCESSION ARRANGEMENTS

Details of electricity service concession arrangements in Brazil within the scope of IFRIC 12: “Service Concession Arrangements” (Note 3.b):

Distribution

Company	Location	Concession date	Maturity date	No. of towns	Tariff cycle	Last review
Elektro Redes, S.A.	Estado do Sao Paulo	27/08/1998	26/08/2028	223	4 years	Aug-15
Elektro Redes, S.A.	Estado do Mato Grosso do Sul	27/08/1998	26/08/2028	5	4 years	Aug-15
Companhia de Eletricidade do Estado do Bahia, S.A.	Estado da Bahia	06/08/1997	07/08/2027	415	5 years	Apr-18
Companhia Energética de Pernambuco, S.A.	Estado de Pernambuco	30/03/2000	30/03/2030	184	4 years	Apr-17
Companhia Energética de Pernambuco, S.A.	Distrito de Fernando de Noronha	30/03/2000	30/03/2030	1	4 years	Apr-17
Companhia Energética de Pernambuco, S.A.	Estado da Paraíba	30/03/2000	30/03/2030	1	4 years	Apr-17
Companhia Energetica do Rio Grande do Norte, S.A.	Estado do Rio Grande	31/12/1997	30/12/2027	167	5 years	Apr-18

Transmission in operation

Company	Location	Concession date	Expiry date	Tariff cycle	Last review
Afluyente Transmissão de Energia Elétrica, S.A.	Estado da Bahia	06/08/1997	08/08/2027	5 years	2015
S.E. Narandiba, S.A. (SE Narandiba)	Estado da Bahia	28/01/2009	28/01/2039	5 years	2014
S.E. Narandiba, S.A. (SE Extremoz)	Estado do Rio Grande do Norte	10/05/2012	10/05/2042	5 years	2017
S.E. Narandiba, S.A. (SE Brumado)	Estado da Bahia	27/08/2012	27/08/2042	5 years	(1)
Potiguar Sul Transmissão de Energia, S.A.	Estado da Paraíba do Rio Grande do Norte	01/08/2013	01/08/2043	5 years	(2)

(1) First revision in 2018

(2) Revision in 2019

Transmission in construction

Company	Location	Concession date	Expiry date
EKTT 1-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estados do Tocantis, Bahia e Piauí	08/03/2018	08/03/2048
EKTT 2-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estados da Paraíba e Ceará	08/03/2018	08/03/2048
EKTT 12-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estados do Mato Grosso do Sul e São Paulo	31/07/2017	31/07/2047
EKTT 13-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estado de São Paulo	31/07/2017	31/07/2047
EKTT 14-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estado de Santa Catarina	31/07/2017	31/07/2047
EKTT 15-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estado do Ceará	31/07/2017	31/07/2047

The duration of each concession is 30 years, and they may be extended for up to 30 years at the request of the concession holder and at the discretion of the concession grantor, which is the Agência Nacional de Energia Elétrica (ANEEL). The concession holder may not transfer such assets or use them as collateral without the prior written consent of the regulator. At the end of a concession the property reverts automatically to the concession grantor and the amount of indemnification due to the concession holder is assessed and determined. Appendix II details in more depth the Brazilian regulation applicable to the concessions above.

Income from previous concession agreements include the provision of construction services (Note 35) and of operation and maintenance services in the facilities already built owned by the awarding public administration. The provision of these services constitutes two separate obligations subject to different margins.

Construction services have duration of 3 to 5 years, whereas operation and maintenance services are started on the date the facilities are delivered. As a general rule, this delivery date determines the start of the annual payments agreed on the concession agreements. The collection of said annual payments is extended during the concession period (normally 30 years). This circumstance determines a material financial element.

12. IMPAIRMENT OF NON-FINANCIAL ASSETS

Methodology of impairment tests

At least yearly, the IBERDROLA Group analyses its assets for indications of impairment. If such indications are found, an impairment test is conducted.

In addition, the IBERDROLA Group conducts a systematic analysis of the impairment of cash-generating units that include goodwill or intangible assets in progress or with indefinite useful life.

Additionally, it must be noted that in October 2018 the sale of practically all traditional generation assets in the United Kingdom to the company Drax Smart Generation, subsidiary of Drax Group, was agreed. The sale was completed in December 2018 (Note 41). Following this sale, the cash-generating unit for electricity and gas Generation and Supply in the United Kingdom is based in the supply activity.

The projections used in the impairment tests are in accordance with the best forecast information held by the IBERDROLA Group and include the investment plans for each country prevailing at that time.

a) Assumptions used in liberalised business:

- Production of the facilities: the hours of operation used are consistent with those in previous years, and in line with the expected evolution of the energy mix of the countries where the IBERDROLA Group operates.
- Selling prices of electricity and gas: the selling prices used are the ones agreed upon in the signed price purchase agreements. For unsold production, future prices in the market where the IBERDROLA Group operates are used.
- Gas purchase prices: the prices used are taken from long-term purchase agreements signed by the IBERDROLA Group, estimating the variables included in them according to external studies.
- Electricity and gas retail margin: growth forecasts were used for the number of customers and unit margins in accordance with the knowledge of the markets in which the IBERDROLA Group operates and the company's relative position in each of them.
- Investment: the best information available has been used on investment plants under way which are going to be put in use in the coming years.
- Operation and maintenance costs: maintenance agreements for existing facilities have been considered. Other operating costs were projected consistent with the expected growth of each cash-generating unit, assuming its headcount grows at the same pace.

b) Assumptions used in the Networks business:

- Regulated income: approved remuneration was used for the years in which it was available, while for subsequent periods, updating mechanisms of this remuneration, which were applied in line with the estimated costs of the corresponding cash-generating units, were used.
- Investment: the projections were in accordance with investment plans consistent with the demand growth in each and the undertakings in the concession agreements with the minimum required by the different regulators and the estimate of future remuneration used.
- Operation and maintenance costs: the best estimation available of trends in operating and maintenance costs was used, taking into account its consistency with the remuneration assumed to be received in each year.

c) Assumptions used in the renewables business:

- Facilities' production: the operating hours of each wind farm were consistent with their historical output. In this respect, the long-term predictability of the facilities' output was taken into account, which was also covered in practically all countries by regulatory mechanisms that enabled wind farms to produce whenever meteorological and network conditions so allowed.

- Selling prices of electricity: the selling prices used are the ones agreed upon in the signed sales agreements. For unsold production, future prices in the market where the IBERDROLA Group operates are used. In any case, existing support mechanisms were taken into account.
- As described in Note 5.b, an estimate has been made of the regulation that will apply to USA facilities applicable from 31 December 2019.
- Investment: the projections were in accordance with the best information available about the plants that were expected to enter operation in the coming years, taking into account the price set in the contracts to buy wind turbines from various suppliers, including SIEMENS GAMESA (Note 50), as well as the technical and financial capacity of the IBERDROLA Group to successfully fulfil said planned projects.
- Operation and maintenance costs: the prices set in land leases and maintenance agreements for the entire useful life of the facilities were used, where the high predictability of the costs of wind farms must be taken into account.

d) Projection period and nominal growth:

The projection period of future cash flows and the nominal growth rate (g) used to extrapolate these projections beyond the reporting period for the different groups of cash-generating units are as follows:

	2018		2017	
	No. of years	g	No. of years	g
Electricity and gas generation and supply in the UK	Useful life / 10	- 2.0%	Useful life / 10	- 1.5%
Electricity transmission and distribution in the UK	10	2.5%	10	2,5%
Renewables in the UK	Useful life	-	Useful life	-
Electricity transmission and distribution in the US	10	1.0%	10	1,0%
Renewable Renewables in the USA	Useful life	-	Useful life	-
Electricity generation and retail in Brazil	Useful life / 15	- 4.5%	n/a	n/a
Electricity transmission and distribution in Brazil	Concession life	-	Concession life	-
Renewable energies in Brazil	Useful life	-	n/a	n/a

Although IAS 36: "Impairment assets" recommends the use of projections not exceeding five years for impairment test purposes, IBERDROLA has decided to use the periods included in this table for the following reasons:

- The most appropriate method for assets in the conventional or renewables generation business is to use their remaining useful lives, especially when in many cases very long-term energy sale contracts have been signed and long-term estimated prices curves are frequently used in the operating activity of the IBERDROLA Group (contracts, hedges, etc.).
- Electricity transmission and distribution concessions include longer regulatory periods and the method that the regulator will use to calculate the new tariff at the beginning of the new regulatory period is known.
- The IBERDROLA Group considers its projections to be reliable and that past experience demonstrates its ability to predict cash flows in periods such as those under consideration.

The nominal growth rate considered in the electricity and gas transmission and distribution activities in the United Kingdom, United States and Brazil is consistent with the market and inflation growth forecasts available to the IBERDROLA Group for these markets.

e) Discount rate:

The methodology for calculating the discount rate used by IBERDROLA consists of adding the specific risks of the asset or risk premium of the asset or business in question to the time value of money or risk-free rate of each market.

The risk-free rate corresponds to 10-year Treasury bonds issued in the market, with sufficient depth and solvency. In countries with economies or currencies lacking sufficient depth and solvency, a country risk and currency risk are estimated so that the aggregate of all these components approximates to be the finance cost without the risk spread of the asset.

The asset's risk premium corresponds to the specific risks of the asset, the calculation of which takes into account the betas estimated on the basis of comparable companies performing the same main activity.

The discount rates before taxes used for the impairment test for the different groups of cash-generating units were as follows:

	Rates 2018	Rates 2017
Electricity and gas generation and supply in the UK	7.01%	6.25%
Electricity transmission and distribution in the UK	4.57%	4.75%
Renewable energies in the UK onshore/offshore	5.72%/6.29%	5.95%/6.85%
Electricity transmission and distribution in the US	5.49%	5.48%
Renewable energies in the US onshore/offshore	6.29%/7.49%	6.13%/7.58%
Electricity generation and retail in Brazil	13.90%	n/a
Electricity transmission and distribution in the Brazil	12.34%	12.56%
Renewable energies in Brazil	13.61%	n/a

Impairment and write-downs recognised in 2018 and 2017

During 2018 and 2017, the IBERDROLA Group has recognised the following impairment as a consequence of the impairment tests carried out (Note 40):

- As a consequence of the periodic impairment tests carried out in 2018 and 2017 on the renewables facilities under construction in the USA (Note 3.b), the IBERDROLA Group reversed part of the provision accounted for in relation its intangible assets in past years. In 2018 and 2017 this reversal amounted to Euros 52,688 thousand and to Euros 42,959 thousand, respectively.
- In 2017 in the renewables energies cash-generating unit in the US, the recoverable amount is Euros 449,480 thousand lower than the carrying amount due to the tax reform resulting in substantial changes in both the composition of carrying amounts and the tax rate. This amount has been written-off from goodwill (Note 8).

Sensitivity analysis

The IBERDROLA Group has performed several sensitivity analyses of the impairment test results carried out in a systematic manner including reasonable changes in a series of basic assumptions defined for each cash-generating unit (or groups of cash-generating units):

- Electricity and gas generation and supply in the UK and Brazil:
 - Decrease of 10% in energy produced.
 - Decrease of 10% in margin per kWh.
 - Decrease of 10% in electricity and gas customer growth.
 - Decrease of 10% in electricity and gas supply per kWh.
 - Increase of 10% in operating and maintenance costs.
 - Increase of 10% in investment costs.
- Electricity transmission and distribution in the United Kingdom, United States and Brazil:
 - Decrease of 10% in rate of return on which regulated remuneration is based.
 - Increase of 10% in operating and maintenance costs.
 - Decrease of 10% in investment (resulting in a subsequent decrease in remuneration).
- Renewables in the United Kingdom, United States and Brazil:
 - Decrease of 5% in energy produced.
 - Decrease of 10% in total price per kWh, solely applicable to production for which there are no long-term sales agreements.
 - Increase of 10% in operating and maintenance costs.
 - Increase of 10% in investment costs.

Moreover, the IBERDROLA Group has performed an additional sensitivity analysis, consisting in increasing the applicable discount rate to the United Kingdom and United States by 50 basis point and to Brazil by 100 basis points.

These sensitivity analyses, carried out separately for each basic assumption, would not reveal the existence of any depreciation, except in the following cases:

- Electricity generation and supply in the UK, whose value in use is close to each book value, so that practically any negative variation of the key hypothesis would mean that the value in use would be lower than its carrying amount.
- Renewable energies production in the US, whose value in use is Euros 138 million more than its carrying amount, in which a decrease of 0.6% in energy produced, a lower market price of 1.2% or an increase of 10 basis points in the discount rate would mean that the value in use would be lower than its carrying amount.

13. INVESTMENTS

13.a) Equity-accounted investees

Movement in the carrying amounts of equity-accounted investees, associates and joint ventures of the IBERDROLA Group (Appendix I) in 2018 and 2017 is as follows:

Thousands of Euros	Associated companies	Neonergia Subgroup	Flat Rock Subgroup	Other joint ventures	Total
Balance at 01.01.2017	642,485	1,114,073	144,788	338,309	2,239,655
Investment	6,387	10,422	2,215	58,307	77,331
Modification of the consolidation perimeter (Note 6)	–	770,306	–	–	770,306
Transfers	–	–	–	88,886	88,886
Profit for the year from continuing operations	6,346	(7,189)	(2,302)	14,188	11,043
Profit for the year from discontinued operations	328	–	–	–	328
Value adjustment (provision)/reversion	–	–	–	(39,776)	(39,776)
Other comprehensive income	10,295	(12,453)	–	664	(1,494)
Dividends	(210,465)	(38,026)	(3,107)	(27,062)	(278,660)
Translation differences	(14,323)	(133,664)	(16,656)	(30,040)	(194,683)
Disposals	(41,576)	(993,227)	–	(99,964)	(1,134,767)
Diluted effect merger SIEMENS-GAMESA (Note 41)	250,695	–	–	–	250,695
Others	2,032	–	–	–	2,032
Balance at 31.12.2017	652,204	710,242	124,938	303,512	1,790,896
Investment	3,879	48,997	982	37,447	91,305
Modification of the consolidation perimeter	4,821	–	–	(46,197)	(41,376)
Transfers	19,569	–	22,492	(19,569)	22,492
Profit for the year from continuing operations	11,370	11,301	(3,353)	5,658	24,976
Profit for the year from discontinued operations	697	–	–	–	697
Other comprehensive income	(2,743)	–	–	(9,150)	(11,893)
Dividends	(6,135)	(13,363)	(6,437)	(27,120)	(53,055)
Translation differences	(36,034)	(95,785)	6,214	14,819	(110,786)
Disposals	–	–	–	(4,460)	(4,460)
Others	1,128	161	(2)	(565)	722
Balance at 31.12.2018	648,756	661,553	144,834	254,375	1,709,518

The balance corresponding to the NEOENERGIA Subgroup at 31 December 2018 and 2017 mainly includes the shares in Companhia Hidreletrica Teles Pires, S.A (TELES PIRES), Norte Energia, S.A. (NORTE ENERGÍA) and Energetica Aguas da Pedra, S.A. (EAPSA) held by IBERDROLA Group through NEOENERGIA.

Companies' balance of the participated entities at 31 December 2018 includes an amount of Euros 571,414 thousand relating to the IBERDROLA Group's ownership interest in SIEMENS GAMESA, the share price of which at year-end amounted to Euros 584,958 thousand.

Main Transactions

The main transactions performed by the IBERDROLA Group in connection with these equity investments accounted for using the equity method are described in the following paragraphs.

Year 2018

- In December 2018 IBERDROLA Group sold its 80% interest in its subsidiary Coyote Ridge Wind, LLC, keeping the remaining 20%, over which exercises significant influence and which is now held as equity-accounted investee (Notes 6 and 41).
- In June 2018, the IBERDROLA Group sold its 20% stake in the company Tirme, S.A., for an amount of Euros 35,100 thousand, which implied a gross capital gain of Euros 30,928 thousand which have been recorded under "Income from companies accounted for using the equity method - net of taxes".
- IBERDROLA Group, through the company Vineyard Wind, LLC, takes part in the development of a large scale offshore wind farm off the coast of Massachusetts, United States, construction of which is set to commence in 2019. In 2018, IBERDROLA Group invested Euros 37,067 thousand, taking the group's future investment commitments to approximately Euros 100 million (Note 50).

Year 2017

- In relation to the merger agreement for the wind businesses of Gamesa Corporación Tecnológica, S.A. (GAMESA) and of Siemens AG (SIEMENS) initiated in 2016 by virtue of which Siemens Wind HoldCo would be absorbed (as absorbed company) by GAMESA (as absorbing company):
 - On 13 March 2017 the European competition authorities authorised the merger without commitments, and all the conditions precedent to which the merger was subject were met.
 - On 29 March 2017 the board of directors of GAMESA acknowledged compliance with all the conditions for executing the merger deed, which was filed with the Vizcaya Mercantile Registry on 3 April.

As a result of the above, GAMESA issued shares representing approximately 59% of the capital given to SIEMENS, causing a dilution in the percentage interest held by the IBERDROLA Group, which dropped from 19.69% to 8.07% (Note 41).

Despite holding an interest of less than 20%, the IBERDROLA Group considers it has significant influence over Siemens Gamesa Renewable Energy, S.A. (hereinafter, SIEMENS GAMESA), amongst other aspects, due to the status of IBERDROLA as a main shareholder as well as to the presence of one of its representatives on its board of directors and the fact that significant transactions have been carried out with this company.

- On 27 April 2017, the IBERDROLA Group sold its interest in Amara, S.A.U. (Note 41).
- As indicated in Notes 2.c. and 7, on 8 June 2017 the shareholders of NEOENERGIA and IBERDROLA ENERGÍA reached an agreement on the takeover of the Brazilian subsidiary. After the operation took effect, on 24 August 2017, IBERDROLA ENERGÍA's investment rose to 52.45% (compared to 39% before the transaction), in exchange for the businesses of ELEKTRO. The takeover by NEOENERGIA has been recognised in accordance with the requirements of business combinations achieved in stages.

Summary of financial information

A summary of the financial information at 31 December 2018 (at 100% and before intercompany eliminations) for the most significant equity-accounted subgroups is as follows:

	NORTE ENERGIA		TELES PIRES		EAPSA		Flat Rock Subgroup	
Thousands of Euros	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017
Segment					Liberalised-Brazil		Renewables – USA	
Percentage holding	5.25%		26.75%		26.75%		100%	
Current assets	195,966	175,235	37,327	85,647	16,290	21,034	10,126	3,330
Non-current assets	9,611,303	10,443,300	1,150,246	1,332,982	318,000	375,217	318,384	258,311
Total assets	9,807,269	10,618,535	1,187,573	1,418,629	334,290	396,251	328,510	261,641
Current Liabilities	832,300	949,420	83,786	100,438	19,786	23,256	8,041	715
Non-Current Liabilities	6,003,096	6,803,595	768,145	917,628	98,018	121,243	30,799	13,064
Total assets	6,835,396	7,753,015	851,931	1,018,066	117,804	144,499	38,840	13,779
Income from ordinary activities	1,020,144	721,344	192,146	242,853	62,214	69,178	17,994	14,728
Amortisation and depreciation	(165,519)	(92,205)	(41,260)	(50,740)	(6,638)	(6,230)	(17,758)	(14,391)
Income from interests	16,272	26,905	–	9,143	1,157	2,269	79	32
Expenses from interests	(274,788)	(209,149)	(73,569)	(102,748)	(6,496)	(8,794)	(329)	(347)
Tax (expense)/income	(109,587)	(86,548)	2,666	22,135	(2,669)	(3,928)	–	386
Profit for the year from continuing operations	209,159	(77,168)	(93,418)	(64,322)	19,572	23,171	(6,963)	(12,049)
Total comprehensive profit	209,159	(77,168)	(93,418)	(64,322)	19,572	23,171	(6,963)	(12,049)
Other information								
Cash and cash equivalents	20,601	2,998	6,226	47,437	5,933	8,184	7,613	2,057
Current financial liabilities (*)	576,430	479,081	53,779	56,799	15,653	16,708	–	47
Non-Current financial liabilities (*)	5,934,007	6,564,756	708,671	856,687	57,848	74,074	–	–

(*) Excluding trade and other payables

13.b) Other investments

The detail of “Other non-current financial assets” and “Other current financial assets” in the IBERDROLA Group’s consolidated statement of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Non-current (Note 4)		
Receivables in Brazil (Notes 3.b and 11)	2,196,551	2,084,988
Long-term deposits and guarantees	281,942	282,156
Fixed-income securities	4,061	4,116
Concessional guarantee of the sufficiency tariff in Brazil (Note 11)	1,922	55,642
Long-term deposits	52,429	28,757
Credits to third parties	70,999	87,576
Assets for pension plans (Note 25)	7,007	3,326
Other investments in equity-accounted investees	9,195	4,824
Others	80,413	79,995
Bad debt provisions	(19,132)	(18,815)
Total	2,685,387	2,612,565
Current (Note 4)		
Receivables in Brazil (Notes 3.b and 11)	11,606	17,167
Short-term deposits and guarantees	716	2,065
Concessional guarantee of the sufficiency tariff in Brazil (Note 11)	227,698	129,244
Accounts receivable for financing imbalance in revenues in 2018	25,727	–
Accounts receivable for financing imbalance in revenues in 2017	–	57,297
Other investments in equity-accounted investees	7,542	5,970
Short-term deposits	241,305	158,126
Others	66,603	236,808
Bad debt provisions	(9,629)	(7,794)
Total	571,568	598,883

Receivables in Brazil

“Receivables in Brazil” reflects the amount receivable by the Brazilian companies upon collection of their service concession arrangements (Notes 3.b and 11). Law N°12.783/13 provides that such amount will be determined by the reference to the reposition value (Valor Novo de Reposição, VNR) of the concession assets which have not been amortised at the end of the concession period using the residual value of the Regulatory Asset Base (Base de Remuneração Regulatória BRR) at the end of the contractual term of the concession.

The method specified by the regulator allows reasonable estimates of receivables resulting from the concession as long as the awarding public administration protects the value of the Regulatory Asset Base after each ordinary tariff review. Ordinary reviews are conducted every four or five years, based on the concession. This means that after the regulator has conducted a tariff review the value of the Regulatory Asset Base prior to that date it is adjusted for Brazilian Market Prices General Index (or Índice General de Precios de Mercado Brasileiro - IGPM). The next tariff review will determine the value of the regulatory asset base with regard to additions in the interval between two tariff reviews.

To estimate the amount of the financial asset, observable values are used. Specifically, the net replacement value, as calculated by the energy regulator in the course of the latest tariff review. The amount is updated in the intervals between tariff reviews by additions to the underlying fixed assets and translation differences or, as the case may be, any changes in the method of calculation of the net realizable value and the IGPM.

Long-term deposits and guarantees

The "Long term deposits and guarantees" heading essentially corresponds to the portion of guarantees and deposits received from customers at the time of recruitment as security of electricity supply (which are recorded in "Non-Current Liabilities - Other non-current payables" in the consolidated statement of financial position - Note 30) and have been deposited with the competent Public Administrations in accordance with the current legislation in Spain.

Collection right due to imbalanced financing

Act 24/2013 of the Electricity Sector establishes that, in the case that in a period an imbalance occurs due to an income deficit in the settlements of the electricity sector, its quantity may not exceed 2% of the estimated incomes for the system for this period. Furthermore, the accumulated debt due to imbalances in preceding periods may not exceed 5% of the income estimated for the system. If these limits are exceeded, the entrance tolls will be reviewed at least in a total equivalent to the excess of these limits. This law establishes, furthermore, that the part of the imbalance due to an income deficit that, without exceeding these limits, is not compensated via the increase of tolls and charges, will be financed by those subject to the settlement system proportionally to the remuneration that corresponds to them for the activity they carry out.

In 2018 and 2017, the IBERDROLA Group estimated that the definitive settlement of the Spanish electricity system for 2018 and 2017, respectively, would have a surplus, even though, the provisional settlements made until 31 December 2018 and 2017 had a revenue deficit. IBERDROLA Group's financed deficit as of 31 December 2018 and 2017 amounted to Euros 222,841 and 215,889 respectively.

In 2018 and 2017 the amounts of Euros 197,114 and 158,592 thousand respectively correspond to financed deficit and have been subject to a non-recourse factoring contract with credit assignment. Therefore said amounts have been derecognised in the consolidated financial statements at 31 December 2018 and 2017.

IBERDROLA Group's financed deficit as of 31 December 2017 has been collected in 2018.

14. TRADE AND OTHER ASSETS-NON-CURRENT

Details of "Non-current trade and other receivables" in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Receivables from Brazilian customers	80,691	107,840
Contract assets (Note 2.a.)	303,407	435,136
Public Administrations receivables	658,258	–
Others	442,271	299,975
Bad debt provisions	(4,375)	(4,261)
Total (Note 4)	1,480,252	838,690

Balances with third parties other than public administrations correspond to assets arising in the normal course of business of the IBERDROLA Group and, therefore, are recognised at amortised cost. This broadly coincides with its fair value.

15. MEASUREMENT AND COMPENSATION OF FINANCIAL INSTRUMENTS

Most of the financial assets and liabilities registered in the consolidated statements of financial position correspond to the financial instruments classified under the category of loans and receivables, charges and payables.

Fair value in the heading "Financial debt - loans and other receivables" in current and non-current liabilities in the consolidated annual accounts of IBERDROLA Group as of 31 December 2018 and 2017 amounts to Euros 38,422,381 and 38,208,032 thousand. Carrying amount is Euros 37,326,472 and 36,690,498, respectively. Said value is classified in Level 2. The fair value of the derivative financial instruments does not differ significantly from book value thereof.

The sensitivity of the fair value of the IBERDROLA Group's borrowings, after the effect of hedge accounting, to changes in the euro-dollar euro-sterling pound and euro-Brazilian Reals exchange rates is as follows:

Thousands of Euros	2018		2017	
Exchange rate variation	Depreciation 5%	Appreciation 5%	Depreciation 5%	Appreciation 5%
Debt's fair value variation:				
US dollar	(326,675)	361,062	(276,383)	305,476
Sterling Pound	(151,563)	167,517	(126,534)	139,854
Brazilian reals	(224,082)	247,670	(221,734)	245,074

The estimated fair value of borrowings bearing fixed interest rates, after the effect of hedge accounting at 31 December 2018 and 2017, calculated by discounting future cash flows at market interest rates, amounted to Euros 22,752,999 thousand and Euros 18,675,372 thousand, respectively. The interest rate curve used to make this calculation takes into account the risks associated with the electricity industry and the credit rating of the IBERDROLA Group. The sensitivity of that fair value to interest rate fluctuations is as follows:

Thousands of Euros	31.12.2018		31.12.2017	
Variation of interest rate	+0.25%	+(0.25)%	+0.25%	+(0.25)%
Variation in debt value	(272,305)	300,099	(246,825)	253,059

The IBERDROLA Group measures certain available-for-sale assets and derivative financial instruments at fair value, provided they can be measured reliably, classifying them into three levels:

- Level 1: assets and liabilities quoted in liquid markets.
- Level 2: assets and liabilities whose fair value is determined using valuation techniques with observable market data.
- Level 3: assets and liabilities whose fair value is determined using valuation techniques without observable market data.

The breakdown of financial instruments measured at fair value by levels is as follows:

Thousands of Euros	Value at 31.12.2018	Level 1	Level 2	Level 3
Derivative financial instruments (financial assets)	1,333,649	4,721	1,221,240	107,688
Derivative financial instruments (financial liabilities)	(835,534)	(208)	(699,489)	(135,837)
Total (Note 28)	498,115	4,513	521,751	(28,149)

Thousands of Euros	Value at 31.12.2017	Level 1	Level 2	Level 3
Derivative financial instruments (financial assets)	1,267,298	10,952	1,159,198	97,148
Derivative financial instruments (financial liabilities)	(604,016)	(87,528)	(501,210)	(15,278)
Total (Note 28)	663,282	(76,576)	657,988	81,870

The reconciliation between initial and final balances for financial instruments classified as Level 3 of the fair-value hierarchy is as follows:

Derivative Financial instruments		
Thousands of Euros	2018	2017
Initial balance	81,870	30,534
Income and expense recognised in consolidated income statement	6,655	15,544
Income and expense recognised in equity	(17,298)	(4,930)
Purchases	(9,402)	(1,736)
Sales and settlements	(7,422)	(5,990)
Translation differences	(597)	(6,247)
Transfers	(81,955)	54,695
Final balance	(28,149)	81,870

The fair value of Level 3-classified financial instruments has been determined by the discounted cash flow method. Projections of these cash flows are in accordance with assumptions not observable in the market, and mainly correspond to purchase and sale price estimates that the Group normally uses, in accordance with its experience in the markets.

None of the possible foreseeable scenarios of the indicated assumptions would result in a material change in the fair value of the financial instruments classified at this level.

In addition, the IBERDROLA Group's financial assets and liabilities are compensated and presented net on the consolidated statement of financial position when a legally enforceable right exists to offset the amounts recognised and the Group intends to settle the assets and liabilities net or simultaneously. The breakdown of netted financial assets and liabilities at 31 December 2018 and 2017 is as follows:



31.12.2018						
Uncompensated amounts under compensation agreements						
Thousands of Euros	Gross amount	Compensated amount	Net amount	Financial instruments	Financial guarantee	Net amount
ASSET DERIVATIVES						
Current						
Raw materials	544,729	(356,914)	187,815	(59,254)	(6,745)	121,816
Others	5,705	(636)	5,069	(1)	–	5,068
Non-current						
Raw materials	143,668	(16,126)	127,542	(11,123)	(29,770)	86,649
Others	58,284	–	58,284	–	(53,490)	4,794
Total	752,386	(373,676)	378,710	(70,378)	(90,005)	218,327
OTHER FINANCIAL ASSETS						
Receivables	510,806	(380,637)	130,169	(38,454)	(7,841)	83,874
LIABILITIES DERIVATIVES						
Current						
Raw materials	495,500	(356,913)	138,587	(59,254)	(9,852)	69,481
Others	2,122	(637)	1,485	(1)	(1)	1,483
Non-current						
Raw materials	68,401	(16,126)	52,275	(11,123)	(14,864)	26,288
Others	2	–	2	–	–	2
Total	566,025	(373,676)	192,349	(70,378)	(24,717)	97,254
OTHER FINANCIAL LIABILITIES						
Payables	694,988	(380,637)	314,351	(38,454)	(33,179)	242,718

31.12.2017						
Uncompensated amounts under compensation agreements						
Thousands of Euros	Gross amount	Compensated amount	Net amount	Financial instruments	Financial guarantee	Net amount
ASSET DERIVATIVES						
Current						
Raw materials	433,974	(297,850)	136,124	(46,882)	(10,735)	78,507
Others	9,605	(2,001)	7,604	–	(990)	6,614
Non-current						
Raw materials	119,594	(4,024)	115,570	(11,887)	(32,726)	70,957
Others	49,836	(17)	49,819	–	(48,675)	1,144
Total	613,009	(303,892)	309,117	(58,769)	(93,126)	157,222
OTHER FINANCIAL ASSETS:						
Receivables	459,917	(385,027)	74,890	(35,157)	(5,009)	34,724
LIABILITIES DERIVATIVES						
Current						
Raw materials	384,035	(297,848)	86,187	(46,882)	(4,896)	34,409
Others	6,483	(2,001)	4,482	–	(1)	4,481
Non-current						
Raw materials	20,985	(4,026)	16,959	(11,887)	(2,469)	2,603
Others	17	(17)	–	–	–	–
Total	411,520	(303,892)	107,628	(58,769)	(7,366)	41,493
OTHER FINANCIAL LIABILITIES						
Payables	634,887	(385,027)	249,860	(35,157)	(8,301)	206,402

16. NUCLEAR FUEL

Details of and movement in “Nuclear Fuel” of the consolidated statement of financial position at 31 December 2018 and 2017, are as follows:

Thousands of Euros	Fuel loaded into the reactor core	Nuclear fuel in progress	Total
Balance at 01.01.2017	250,448	72,182	322,630
Additions	–	135,311	135,311
Capitalised borrowing costs (Notes 3.g and 42)	–	2,193	2,193
Transfers	141,188	(141,188)	–
Fuel consumed (Note 3.g)	(128,251)	–	(128,251)
Balance at 31.12.2017	263,385	68,498	331,883
Additions	–	63,198	63,198
Capitalised borrowing costs (Notes 3.g and 42)	–	633	633
Transfers	82,082	(82,082)	–
Fuel consumed (Note 3.g)	(123,040)	–	(123,040)
Balance at 31.12.2018	222,427	50,247	272,674

The IBERDROLA Group’s nuclear fuel purchase commitments at 31 December 2018 and 2017 amount to Euros 485,015 thousand and Euros 433,577 thousand, respectively.

17. INVENTORIES

At 31 December 2018 details of “Inventories” (Note 3.h) in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Energy materials	215,277	212,475
Emission allowances and renewables obligation certificates	351,575	338,534
Real estate inventories	1,177,230	1,224,092
Land and plots	962,665	985,623
Developments under construction	200,763	229,361
Completed developments	13,802	9,108
Other inventories	581,230	226,644
Real estate inventories impairment allowance	(151,481)	(131,624)
Total	2,173,831	1,870,121

Variations in the impairment allowance in 2018 and 2017 are as follows:

Thousands of Euros	2018	2017
Opening balance	131,624	125,205
Charges	2,284	20,832
Reversals	(2,622)	(13,404)
Applications and others	20,195	(1,009)
Closing balance	151,481	131,624

“Revenue” in the 2018 and 2017 consolidated income statements includes Euros 81,274 thousand and Euros 169,045 thousand, respectively, in respect of sales of real estate inventories.

At 31 December 2018, the IBERDROLA Group has “take or pay” contracts with several natural and liquefied natural gas suppliers for the supply of 28 bcm of gas during the period from 2019 to 2039, earmarked for supply and for consumption at the Group's electricity production facilities. The prices under these contracts are determined on the basis of formulas commonly used in the market, which index the price of gas to the performance of other energy variables. Moreover, at 31 December 2018, the IBERDROLA Group has purchase commitments of 10 bcm of natural gas in the National Balancing Point (NBP) (11 bcm at 31 December 2017).

Information on the commitments under said contracts at 31 December 2018 is as follows:

Thousands of Euros	31.12.2018
2019	2,457,288
2020	585,429
2021	467,174
2022	441,506
2023	463,858
From 2024 onwards	5,500,374
Total	9,915,629

18. TRADE AND OTHER CURRENT ASSETS

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Trade receivables (Note 5.a)	5,949,227	5,521,173
Receivables	543,840	735,201
Contract assets (Note 2.a.)	221,477	232,530
Receivables from equity-accounted investees	6,587	9,610
Bad debt provisions	(622,749)	(642,142)
Total (Note 4)	6,098,382	5,856,372

Generally, the amounts included under this caption on the consolidated statement of financial position do not accrue any interest.

Movement in the impairment allowance in 2018 and 2017 is as follows:

Thousands of Euros	2018	2017
Initial balance	642,142	412,953
First application of IFRS 9 (Note 2.a.)	31,021	–
Charges	344,868	219,397
Applications	(274,314)	(212,575)
Translation differences	(29,730)	(53,594)
Transfers	852	1,674
Surplus	(92,067)	(5,202)
Modification of the consolidation perimeter (Note 6)	(23)	279,489
Final balance	622,749	642,142

Practically all of this provision corresponds to gas and electricity consumers.

19. CASH AND CASH EQUIVALENTS

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Cash	143,868	188,165
Short-term deposits	2,657,289	3,009,175
Total	2,801,157	3,197,340

Short-term deposits mature within a period of less than three months and bear market interest rates. There are no restrictions on significant cash withdrawals.

20. EQUITY

Subscribed capital

Movement in 2018 and 2017 in the different items of share capital of IBERDROLA is as follows:

	Date recorded Companies Registry	% Capital	Number of shares	Nominal	Euros
Balance at 01.01.2017		–	6,362,079,000	0.75	4,771,559,250
Free capital increase	25 January 2017	1,539	97,911,000	0.75	73,433,250
Capital reduction	25 May 2017	3,405	(219,990,000)	0.75	(164,992,500)
Free capital increase	21 July 2017	1,242	77,515,000	0.75	58,136,250
Balance at 31.12.2017		–	6,317,515,000	0.75	4,738,136,250
Free capital increase	29 January 2018	1,913	120,859,000	0.75	90,644,250
Capital reduction	22 June 2018	3,081	(198,374,000)	0.75	(148,780,500)
Free capital increase	25 July 2018	2,526	157,629,000	0.75	118,221,750
Balance at 31.12.2018			6,397,629,000	0.75	4,798,221,750

The free capital increases made in 2018 and 2017 correspond to the issues approved by the shareholders at their General Meeting through which the IBERDROLA scrip dividend system is implemented.

Information on the holders of free- allocation rights who accepted IBERDROLA's irrevocable commitment to purchase rights is as follows:

	Free of charges allocation rights		Rights waived ⁽¹⁾
	Number	Thousands of Euros	Number
Free capital increase			
25 January 2017	1,956,083,947	264,071	38
21 July 2017	2,596,794,942	381,729	37
29 January 2018	699,283,602	97,899	30

(1) IBERDROLA has waived its right to certain free allocation rights so that new shares issued are a full figure.

Additionally, the holders of 58,717,340 shares opted for receiving the interim dividend paid (Euros 0.14 gross per share) amounting to a gross total of Euros 8,220 thousand in interim dividend distributed. As a result, these shareholders have expressly forgone 58,717,340 free allotment rights and therefore 1,276,464 new shares.

Additionally, on 21 June 2018 and 24 May 2017, capital reductions were carried out through the redemption of treasury shares already held, as approved by the shareholders at their General Meeting held on 13 April 2018 and 31 March 2017, respectively, through the amortisation of treasury shares.

There was no movement in IBERDROLA's share capital other than those resulting from the transactions described above, and IBERDROLA has no share capital obligations other than those provided for in the Spanish Companies Act.

IBERDROLA's shares are listed for trading on the Spanish electronic trading system ("Mercado Continuo Español"), and form part of the IBEX-35 and the European Eurostoxx-50 indexes.

Significant shareholders

Since IBERDROLA's shares are represented by book entries, the exact interest held by its shareholders is unknown. The table below summarises significant direct and indirect interests in the share capital of IBERDROLA at 31 December 2018 and 2017, as well as any financial instruments disclosed by the shareholders in compliance with the Royal Decree 1362/2007 of 19 October 2007. This information is in accordance with filings made by these shareholders in the official registers of the National Securities Market Commission (Comisión Nacional del Mercado de Valores - CNMV) or to the Company itself and its respective annual accounts or press releases, and is presented in the 2018 IBERDROLA Group's Annual Corporate Governance Report.

Among direct or indirect shareholders with a significant interest, IBERDROLA treats any shareholder who exerts a significant influence as a "significant shareholder" when they i) sit on the board of directors or a similar governing body or ii) they have the possibility of exercising the proportional representation system. Therefore, the Company considers Qatar Investment Authority as a significant shareholder, which is the only shareholder who qualifies as such at 31 December 2018 and 2017.

Holder	% of voting rights 2018			Financial instruments 2018	Directors in IBERDROLA 2018
	Direct	Indirect	Total		
Qatar Investment Authority ⁽¹⁾	–	8.646	8.646	–	–

Holder	% of voting rights 2017			Financial instruments 2017	Directors in IBERDROLA 2017
	Direct	Indirect	Total		
Qatar Investment Authority ⁽¹⁾	–	8.570	8.570	–	–

(1) Parent company of Qatar Holding Luxembourg II, S.A.R.L., direct holder of the investment.

In addition, details of other companies having direct and indirect voting rights greater than 3% of the share capital at 31 December 2018 and 2017 are as follows:



Holder	% of voting rights 2018			% of voting rights 2017		
	Direct	Indirect	Total	Direct	Indirect	Total
Norges Bank	3.332	–	3.332	3.210	–	3.210
Blackrock, Inc	–	5.131	5.131	–	3.030	3.030
Capital Research and Management Company (CRMC)	–	–	–	–	3.100	3.100

Financial management

The IBERDROLA Group's main financial management objectives are to ensure a solid financial profile, robust solvency ratios, optimisation of the liquidity position and management of financial risks, all the while maintaining a sustainable remuneration policy for its shareholders.

At 31 December 2018 Moody's, Standard & Poor's y Fitch's ratings were Baa1, BBB+ and BBB+, respectively.

Leverage ratios at 31 December 2018 and 2017 were as follows:

Thousands of Euros	31.12.2018	31.12.2017
Financial debt - Loans and borrowings (Note 27)	37,326,472	36,690,498
Securities portfolio having the substance of a financial liability (Note 22)	177,229	47,281
Liability derivatives	486,453	377,398
Gross debt	37,990,154	37,115,177
Asset derivative	911,966	969,398
Other current loans	77,840	63,970
Cash and cash equivalents (Note 19)	2,801,157	3,197,340
Cash assets	3,790,963	4,230,708
Net debt	34,199,191	32,884,469
Equity		
Parent company	36,582,199	35,509,260
Non-controlling shareholders	5,668,803	5,671,380
Perpetual subordinated bonds	1,725,552	1,552,546
	43,976,554	42,733,186
Leverage	43.75%	43.49%

Derivative financial instruments detailed in the table above include those relating to financing operations whose breakdown is as follows (Note 28):

2018						
Thousands of Euros	Derivative assets			Derivative liabilities		
	Short term	Long term	Total	Short term	Long term	Total
Interest rate hedges	29,462	110,135	139,597	3,905	(109,077)	(105,172)
Interest rate hedges	346,919	404,239	751,158	(242,663)	(121,484)	(364,147)
Total hedging derivatives	376,381	514,374	890,755	(238,758)	(230,561)	(469,319)
Interest rate derivatives	4,980	–	4,980	(100)	(34)	(134)
Interest rate derivatives	–	183	183	(377)	(575)	(952)
Treasury shares derivatives	–	16,048	16,048	–	(16,048)	(16,048)
Total non-hedging derivatives	4,980	16,231	21,211	(477)	(16,657)	(17,134)
Total	381,361	530,605	911,966	(239,235)	(247,218)	(486,453)

2017						
Thousands of Euros	Derivative assets			Derivative liabilities		
	Short term	Long term	Total	Short term	Long term	Total
Interest rate hedges	42,810	104,531	147,341	31,367	(69,300)	(37,933)
Interest rate hedges	502,059	301,682	803,741	(168,028)	(141,488)	(309,516)
Total hedging derivatives	544,869	406,213	951,082	(136,661)	(210,788)	(347,449)
Interest rate derivatives	3,017	–	3,017	(12,255)	–	(12,255)
Interest rate derivatives	–	2,621	2,621	(596)	(4,420)	(5,016)
Treasury shares derivatives	–	12,678	12,678	–	(12,678)	(12,678)
Total non-hedging derivatives	3,017	15,299	18,316	(12,851)	(17,098)	(29,949)
Total	547,886	421,512	969,398	(149,512)	(227,886)	(377,398)

Powers delegated by the shareholders at their General Meeting

The shareholders at their General Meeting held on 8 April 2016 resolved, under items seven and eight on the agenda, to delegate powers to the board of directors, with express powers of delegation, for a period of five years, to:

- increase share capital in the terms and up to the limits stipulated in Article 297.1 b) of the Spanish Companies Act ("Ley de Sociedades de Capital"), with authorisation to exclude preferential subscription rights, and
- issue bonds or debentures swappable for and/or convertible into shares in the Company or other companies, and warrants on new or existing shares in the Company or other companies, up to a maximum amount of Euros 5,000 million. This authorisation includes the delegation of powers to, where applicable: (i) determine the basis and procedures for conversion, swap or exercise; (ii) increase share capital by the amount required to cover applications for conversion; and (iii) exclude shareholders' preferential subscription rights on the issue.

Both authorisations have a joint limit to a maximum nominal amount of 20% of the share capital.

Legal reserve

Under the Spanish Companies Act, 10% of net profit for each year must be transferred to the legal reserve until the balance of this reserve reaches at least 20% of the share capital.

The legal reserve can only be used to increase share capital provided that the balance left on the reserve is at least equal to 10% of the share capital after the increase. Except for this purpose, until the reserve exceeds 20% of share capital it may only be used to offset losses if no other reserves are available.

Revaluation reserves

The balance of "Revaluation reserves" arose as a result of the revaluation of property, plant and equipment made by IBERDROLA pursuant to Royal Decree-law 7/1996. This balance can be used, free of tax, to offset losses both prior years' accumulated losses and current year losses or losses which might arise in the future, and to increase share capital. From 1 January 2007, the balance of this reserve can be taken to unrestricted reserves, provided that the monetary surplus has been realised. The surplus will be deemed to have been realised on the portion on which depreciation has been taken for accounting purposes or if the revalued assets have been transferred or derecognised. If the balance of this account is used in any way other than as specified in Royal Decree-law 7/1996, it would be taxable.

Share premium

The Spanish Companies Act expressly permits the use of the share premium account balance to increase capital and does not establish any specific restrictions as to its use.

Other restricted reserves

"Other restricted reserves" in "Equity" on the consolidated statement of financial position includes other restricted reserves set up mainly by IBERDROLA in accordance with article 335.c) of the Spanish Companies Act, arising from the capital reductions carried out in prior years through the redemption of treasury shares. Restricted reserves corresponding to Group companies other than the parent, IBERDROLA, are included under "Retained earnings" of the same heading.

Non-controlling interests

Movement in this heading in 2018 and 2017 is as follows:

Thousands of Euros	AVANGRID subgroup	NEONERGIA subgroup	Other	Total
Balance at 01.01.2017	3,277,109	24,787	144,002	3,445,898
Modification of the consolidation perimeter (Note 6)	–	2,320,651	–	2,320,651
Share capital increase	–	318,086	241	318,327
Profit/(Loss) for the year of non-controlling interests	294,822	30,412	8,496	333,730
Other comprehensive income	(2,784)	8,595	135	5,946
Dividends	(89,880)	(2,453)	(8,999)	(101,332)
Translation differences	(412,362)	(142,085)	(1,530)	(555,977)
Transactions with non-controlling interests	–	–	(67,503)	(67,503)
Others	(5,943)	(19,990)	(2,427)	(28,360)
Balance at 31.12.2017	3,060,962	2,538,003	72,415	5,671,380
Share capital increase	9,727	128,954	10,571	149,252
Profit for the year transactions with non-controlling interests	99,796	165,979	19,972	285,747
Other comprehensive profit	(12,627)	4,440	255	(7,932)
Dividends	(82,295)	(106,713)	(8,947)	(197,955)
Translation differences	131,673	(325,715)	622	(193,420)
Other	(19,787)	(3,241)	(15,241)	(38,269)
Balance at 31.12.2018	3,187,449	2,401,707	79,647	5,668,803

In March 2018 the subsidiary company Neenergia, S.A., resolved to increase share capital in BRL 999,999,963, taking into consideration the percentage of ownership of its shareholders, resulting in a payment of Euros 115,795 thousand in "Equity in non-controlling interests" in the consolidated financial statement.

On 27 December 2017, NEOENERGIA approved a capital increase of BRL 2,585 thousand (Euros 659,175 thousand). The IBERDROLA Group subscribed to this capital increase in proportion to its shareholding by means of a cash contribution of Euros 60,062 thousand and the writing-off of receivables from NEOENERGIA totalling Euros 285,643 thousand.

The summarised financial information related to subgroups in which IBERDROLA Group does not have a 100% interest refers to amounts consolidated before intercompany eliminations:

	AVANGRID Subgroup		NEOENERGIA Subgroup	
Thousands of Euros	31.12.2018	31.12.2017	31.12.2018	31.12.2017
Current assets	1,271,334	1,452,916	2,595,495	2,772,747
Non-current assets	32,254,086	30,197,275	9,256,051	9,769,105
Total assets	33,525,420	31,650,191	11,851,546	12,541,852
Current Liabilities	2,754,223	2,647,748	1,794,650	2,929,339
Non-Current Liabilities	13,706,546	12,620,537	5,129,099	4,484,977
Total assets	16,460,769	15,268,285	6,923,749	7,414,316
Gross operating profit (EBITDA)	1,925,397	1,834,662	1,143,272	577,588
Valuation adjustments to trade	(906,613)	(59,248)	(63,731)	(13,447)
Amortisations, depreciation and provisions	(72,393)	(1,909,196)	(425,225)	(235,569)
Operating profit (EBITDA)	7,519	(29,207)	11,301	(9,160)
Financial result	(201,618)	(172,378)	(268,214)	(171,945)
Non-current asset profit/(loss)	(34,794)	1,006	893	44,098
Income tax	(186,914)	1,923,433	(60,640)	(43,157)
Non-controlling interests	(2,010)	(1,034)	(165,978)	(30,412)
Net profit for the year	528,574	1,588,038	171,678	117,996

Perpetual subordinated bonds

On 27 February 2013, the IBERDROLA Group's perpetual subordinated bonds issue was completed for an amount of Euros 525 million. The issue price was set at 99.472% of the face value, with a fixed annual coupon of 5.75% as from the issue date to 27 February 2018. On 27 February 2018 the IBERDROLA Group exercised its early redemption option on a series of subordinated bonds that it had issued for Euros 525 million. Redemption was at par, as laid down in the terms and conditions attaching to the bonds.

On 22 November 2017, the IBERDROLA Group's perpetual subordinated bonds issue was completed and disbursed, in the amount of Euros 1,000 million. The issue price was set at 100% of the face value, with a fixed annual coupon of 1.875% as from the issue date to 22 May 2023. From the first repricing date on, the coupon will be equal to the applicable five-year swap rate plus a 1.592% annual spread during the following five years, a 1.8492% annual spread during each of the five-year repricing periods beginning on 22 May 2028, 2033 and 2038, and a 2.5992% annual spread during the following five-year repricing periods.

Although these bonds do not have a contractual maturity date, the IBERDROLA Group has the option of redeeming them on 22 May 2023, and from that date on, every five years.

On 19 March 2018, the IBERDROLA Group's perpetual subordinated bonds issue was completed and disbursed, in the amount of Euros 700 million. The issue price was set at 100% of the face value, with a fixed annual coupon of 2.625% as from the issue date to 26 March 2024. From the first repricing date on, the coupon will be equal to the applicable five-year swap rate plus a 2.061% annual spread during the following five years, a 2.311% annual spread during each of the five-year repricing periods beginning on 26 March 2029, 2034 and 2039, and a 3.061% annual spread during the following five-year repricing periods.

Although these bonds do not have a contractual maturity date, the IBERDROLA Group has the option of redeeming them in advance during the three previous months until (and included) on March 26, 2024, and from that date on, every five years.

The interest accruing on these bonds will not be callable but rather cumulative. However, the IBERDROLA Group will be obligated to settle the interest accrued in the event it distributes dividends.

After analysing the issue conditions, the IBERDROLA Group recognised the cash received with a credit to "Perpetual subordinated bonds" of the equity on the consolidated statement of financial position, as it considers that it does not meet the criteria for classification as a financial liability, given that the IBERDROLA Group does not have a commitment to deliver cash, as the circumstances that would require it to do so - namely distribution of dividends and exercise of its right to redeem the bonds - are fully under its control.

The amount of interests accrued on 31 December 2018 and 2017 whose payment would have taken place if IBERDROLA's profit distribution amounted to Euros 37,569 and 32,242 thousand respectively.

Valuation adjustments

The change in this reserve arising from valuation adjustments to available-for-sale assets and derivatives designated as cash flow hedges at 31 December 2018 and 2017 is as follows:

Thousands of Euros	01.01.2017	Change in fair value and other	Allocation to the values of hedged assets	Amounts allocated to income	31.12.2017	First application of IFRS 9 (Note 2.a.)	Change in fair value and other	Allocation to the values of hedged assets	Amounts allocated to income	31.12.2018
Valuation adjustments for equity-accounted investees (net of tax):	2,959	10,442	-	16	13,417	-	(11,045)	-	14	2,386
Available-for-sale assets (Note 2.a.)	38	577			615	(615)				
	38	577	-	-	615	(615)	-	-	-	-
Cash flow hedges (Note 2.a.):										
Interest rate swaps	(461,611)	51,156	-	51,561	(358,894)	-	(64,580)	-	63,389	(360,085)
Collars	(4,250)	(130)	-	128	(4,252)	-	(1,499)	-	-	(5,751)
Derivatives on commodities	117,606	88,042	-	31,070	236,718	-	199,105	-	(207,039)	228,784
Exchange insurances	133,550	(46,442)	(24,965)	(13,950)	48,193	-	39,424	(1,138)	5,125	91,604
	(214,705)	92,626	(24,965)	68,809	(78,235)	-	172,450	(1,138)	(138,525)	(45,448)
Hedge costs	-	-	-	-	-	2,069	(86,950)	-	87,991	3,110
Tax effect on available-for-sale assets and cash flow hedges	62,314	(22,220)	4,787	(22,932)	21,949	(346)	(17,756)	170	3,739	7,756
Total	(149,394)	81,425	(20,178)	45,893	(42,254)	1,108	56,699	(968)	(46,781)	(32,196)

Treasury shares

The IBERDROLA Group buys and sells treasury shares in accordance with the prevailing law and the resolutions of the General Shareholders' Meeting. Such transactions include sale and purchase of company shares and of derivative instruments having company shares as the underlying asset.

At 31 December 2018 y 2017 the balances of the various instruments are as follows:

	31.12.2018		31.12.2017	
	No. of shares	Thousands of Euros	No. of shares	Thousands of Euros
Treasury shares of IBERDROLA	135,985,344	873,065	75,710,149	507,175
Treasury shares of SCOTTISH POWER	1,050,639	8,076	1,156,863	8,417
Swaps over treasury shares	11,810,088	77,599	6,000,000	41,646
Accumulators (exercised shares)	209,361	1,378	1,835,379	11,561
Accumulators (potential shares)	7,613,376	50,230	4,592,392	28,998
Total	156,668,808	1,010,348	89,294,783	597,797

(a) Treasury shares

Movement in 2018 and 2017 in the treasury shares of IBERDROLA and SCOTTISH POWER (Note 3.m) is as follows:

	IBERDROLA		SCOTTISH POWER	
	No. of shares	Thousands of Euros	No. of shares	Thousands of Euros
Balance at 01.01.2017	151,224,777	868,936	1,374,405	9,580
Additions	154,508,438	1,002,731	318,172	2,159
Share capital decrease	(219,990,000)	(1,280,176)	–	–
IBERDROLA scrip dividend ⁽¹⁾	1,896,638	–	95,524	–
IBERDROLA scrip dividend ⁽²⁾	–	(9,379)	–	–
Disposals ⁽³⁾	(11,929,704)	(74,937)	(631,238)	(3,322)
Balance at 31.12.2017	75,710,149	507,175	1,156,863	8,417
Additions	266,442,793	1,672,087	362,108	2,393
Share capital decrease	(198,374,000)	(1,245,420)	–	–
IBERDROLA scrip dividend ⁽¹⁾	5,117	–	144,747	–
IBERDROLA scrip dividend ⁽²⁾	–	(11,044)	–	–
Disposals ⁽³⁾	(7,798,715)	(49,733)	(613,079)	(2,734)
Balance at 31.12.2018	135,985,344	873,065	1,050,639	8,076

(1) Shares received

(2) Free allocation rights disposed

(3) Includes awards to employees

SCOTTISH POWER's Treasury Shares correspond to the matching shares held by the trust in the share plan called Share Incentive Plan.

During 2018 and 2017, treasury shares held by the IBERDROLA Group were below the legal limit.

(b) Derivatives settled by physical delivery

The IBERDROLA Group recognises these transactions directly in equity under "Treasury shares" and records the obligation to buy back the shares under "Loans and borrowings and other financial liabilities – loans and others" on the liabilities side of the consolidated statement of financial position.



- Total return swaps

The IBERDROLA Group has arranged four swaps on treasury shares with the following features: during the life of the contract it will pay the financial entity 3-month Euribor plus a spread on the notional and will receive the dividends corresponding to the shares paid out to the financial entity. On the expiration date IBERDROLA will buy the shares at the strike price set out in the contract.

The characteristics of these contracts at 31 December 2018 and 2017 are as follows:

	No. of shares as of 31.12.2018	Strike price	Maturity date	Interest rate	2018 thousands of Euros
Total Return Swap	5,810,088	6.188	24/07/2019	Euribor 3 months + 0.38%	35,953
Total Return Swap	6,000,000	6.941	25/07/2019	Euribor 3 months + 0.30%	41,646
Total	11,810,088				77,599

	No. of shares as of 31.12.2017	Strike price	Maturity date	Interest rate	2017 thousands of Euros
Total Return Swap	6,000,000	6.941	24/07/2018	Euribor 3 months + 0.45%	41,646
Total	6,000,000				41,646

- Treasury share accumulators

The IBERDROLA Group holds several purchase accumulators on treasury shares. These accumulators are obligations to buy in the future, with a notional amount of zero on the start date. The number of shares to be accumulated depends on the market price quoted on a range of observation dates throughout the life of the options – in this case, on a daily basis. A strike price is set, and a knockout level above which the structured product is “knocked out” and shares are no longer accumulated.

The accumulation mechanism is as follows:

- when the spot price is below the strike price, two units of the underlying security are accumulated;
- when the spot price is between the strike price and the knockout level, only one unit of the underlying security is accumulated; and
- when the spot price is above the knockout level, no shares are accumulated.

The characteristics of these contracts at 31 December 2018 and 2017 are as follows:

2018	No. of shares	Average Price of the period	Maturity date	Thousands of Euros
Exercised shares	209,361	6.5819	14/02/2019	1,378
Potential maximum ⁽¹⁾	7,613,376	6.5976	14/02/2019	50,230

2017	No. of shares	Average Price of the period	Maturity date	Thousands of Euros
Exercised shares	1,835,379	6.2990	18/07/2018	11,561
Potential maximum ⁽¹⁾	4,592,392	6.3144	10/01/2018 -	28,998

(1) Maximum number of additional shares that could be accumulated according to the described mechanism until the maturity of the structures (assuming that the cash price during the remaining life of the structure is always below the strike price).

Distribution of dividends with charge to 2018 results

IBERDROLA's board of directors has agreed to propose at the General Shareholders' Meeting, the distribution, chargeable to the results of 2018 and the retained earnings from previous years, a gross dividend whose gross amount will be the same as the following amounts:

- (a) the Euros 131,426 thousand were paid as the interim dividend for 2018 on 5 February 2019 to the 870,368,973 IBERDROLA shares that opted for receiving their remuneration in cash within the scope of the second settlement of the IBERDROLA scrip dividend for 2018 in the amount of 0.151 Euros per share, and
- (b) the amount to be determined by multiplying:
 - i) The gross amount per share, as additional dividend payment for 2018, will be distributed by the Company as part of the first settlement of the IBERDROLA scrip dividend optional dividend for 2019; by
 - ii) The total number of shares the holders may have opted for receiving as complementary dividend as part of the first settlement of the IBERDROLA scrip dividend optional dividend.

On the date of authorisation of these annual accounts, it is not possible to determine the amount of the complimentary dividend or, consequently, the amount of the dividend cannot be determined.

The payment of the complimentary dividend shall be made together with the execution of the increase in share capital that will be proposed at the General Shareholders' Meeting, to offer the shareholders the possibility of receiving their remuneration in cash (through the payment of the complimentary dividend) or in the free shares of the new issue of the Company (through the aforementioned increase in share capital).

The payment of the complimentary dividend is configured as one of the alternatives that the shareholder may choose when receiving their remuneration within the scope of the first execution of the IBERDROLA scrip dividend corresponding to 2019. As a consequence of the aforementioned, it will be understood that these shareholders who choose to receive their remuneration in cash by means of the complimentary dividend with respect to all or part of their shares, expressly, automatically and irrevocably waive the free allocation rights corresponding to these shares and therefore the possibility of putting them on the market or to receive new free shares corresponding to those free-allocation rights.

21. LONG-TERM SHARE-BASED COMPENSATION PLANS

21.1 Shared-based compensation plans

2014-2016 Strategic Bonus Programme

On 25 April 2017 the board of directors, on the recommendation of the Appointments and Remuneration Committee, decided to pay the 2014-2016 Strategic Bonus on determining that 93.20% of the objectives had been met. By virtue thereof, having confirmed the bases underlying the delivery of the shares in the first settlement, in the second half of 2017 the first annual payments were made in the form of 2,497,353 shares. These shares included those delivered to executive directors (Note 47) and to senior management (Note 49).

Moreover, as a result of UIL's integration, the 2014-2016 Strategic Bonus for AVANGRID's company directors will be liquidated in cash for the accrued amount for 2015 and 2014, and was replaced in 2016 by a new one, which will be referenced to AVANGRID's shares. The second and last settlement as scheduled was made in the first quarter of 2018

Furthermore and arising from the corporate restructuring operation in Brazil, the second phase of the liquidation of the 2014-2016 Strategic Bond corresponding to the 14 beneficiaries of the ELEKTRO Group was settled in cash in the first half of 2018. The amount corresponding to the cash settlement of the second phase rose to Euros 1,037 million.

Strategic bonus 2017-2019

The General Shareholders Meeting of 31 March 2017 approved under agenda item seven on the establishment of a Strategic Bonus for the executive directors, senior executives and other executive personnel of IBERDROLA and its subsidiaries (up to a maximum of 300 beneficiaries), tied to the IBERDROLA Group's performance in relation to certain metrics throughout the assessment period, from 2017 to 2019:

The payment period for the scheme will run from 2020 to 2022. Payments will be made in the form of shares on a deferred basis in those three years.

The maximum number of shares to be delivered to the beneficiaries of the *2017-2019 Strategic Bonus* will be 14,000,000 shares, equal to 0.22% of the share capital at the time this resolution is adopted. A maximum of 2,500,000 shares will be delivered to the executive directors in compliance with the terms and conditions of the scheme. As of 31 December 2018, 11,685,416 shares were issued as follows:

	No. Of shares
Balance 01.01.2017	–
Additions	12,535,000
Balance 31.12.2017	12,535,000
Additions	400,000
Cancelled	(1,249,584)
Balance 31.12.2018	11,685,416

Also stemming from the corporate restructuring operation in Brazil, at its 19 December 2017 meeting, the IBERDROLA S.A. Board of Directors approved authorisation of the offer of the option to receive a cash sum as a partial early settlement of the programme to the 17 beneficiaries of the ELEKTRO Group. In the first half of 2018, the 17 beneficiaries of the ELEKTRO Group received a proportional part corresponding to the time between the date on which the remuneration began and 31 December 2017, the date of the partial early termination, after assessment by the Board of Directors of the level compliance with the targets that link accrual to the date of partial early termination. The amount corresponding to the partial early settlement rose to Euros 1,527 thousand.

2016-2019 long-term incentives AVANGRID shares bonus

The General Shareholders Meeting of 16 June 2016 approved under agenda item seven on the establishment of a Strategic Bonus for the executive directors, senior executives and other executive personnel of IBERDROLA and its subsidiaries (80 beneficiaries), tied to the IBERDROLA Group's performance in relation to certain metrics throughout the assessment period, from 2016 to 2019.

The maximum number of gross shares to be delivered to the group of the Bonus beneficiaries will be 2,500,000 shares, of which 1,199,596 shares were delivered at 31 December 2018.

The period 2020-2022 will be the settlement period, to be materialised in the deferred issue of shares during those three years.

Restrictive AVANGRID shares scheme

Under the scope of the Avangrid Omnibus Plan, a general plan establishing the governance framework for executive remuneration in cash and shares, 68,000 restricted shares were assigned to a number of executives in 2018. The granting of these shares is dependent on the eligible executives remaining in the company for two years after their assignment.

In relation to the bonuses described above, whose settlement will be in shares, the detail of the transactions under "Other reserves" on the consolidated financial statement is as follows:

Thousands of Euros	Strategic bonus 14-16	Strategic bonus 17-19	AVANGRID's 16-19 Strategic Bonus Programme (*)	Restrictive shares programme (*)	Total
Balance at 01.01.2017	44,083	-	2,152	-	46,235
Charges	23,162	11,884	4,569	-	39,615
Payment in shares	(27,125)	-	-	-	(27,125)
Payments in cash derecognition	(4,479)	-	-	-	(4,479)
Balance at 31.12.2017	35,641	11,884	6,721	-	54,246
Charges	9,095	26,718	(3,191)	765	33,387
Payment in shares	(21,699)	-	-	-	(21,699)
Payments in cash derecognition	(3,709)	-	-	-	(3,709)
Transfers	(1,247)	(1,581)	2	-	(2,826)
Balance at 31.12.2018	18,081	37,021	3,532	765	59,399

(*) Presented by 100%. The minority own 18,5%

SCOTTISH POWER share-based incentive plan

Lastly, SCOTTISH POWER has share-based plans for its employees. There are two types of plans:

- Sharesave Schemes: savings plans in which employees decide the amount they want to contribute to the plan (between GBP 5 and GBP 250 on a monthly basis) and this is deducted monthly from their salary. At the end of a three or five year saving period, as applicable to each plan, employees may use the money saved to buy IBERDROLA shares at a discounted option price set at the beginning of the plan or to receive the amount saved in cash.

The fair value of the employee's share purchase options is determined at the start of the plan, and is registered in the consolidated income statement over the plan's consolidation period (three or five years) with a credit to equity. The "Personnel expenses" heading in the 2017 and 2018 consolidated income statements includes Euros 700 and 904 thousand respectively for this concept, which have been taken to "Accumulated profit and remaining", in the consolidated financial statement of changes in equity.

Additionally, in 2018 and 2017 payments for options were made in the amounts of Euros 3,118 and Euros 175 thousand, respectively.

The number of transactions of stock options are as follows:

	Number of accounts	Number of shares
Balance at 01.01.2017	2,616	5,531,681
Exercised	(90)	(125,025)
Derecognised	(117)	(279,308)
Balance at 31.12.2017	2,409	5,127,348
Exercised	(1,090)	(1,414,705)
Derecognised	(59)	(138,761)
Balance at 31.12.2018	1,260	3,573,882

- Share Incentive Plan: this plan has an option for purchasing shares with tax incentives plus a contribution from the company. The employees decide on the amount they wish to contribute, which is deducted from their monthly salary (the maximum contribution allowed by the law in the United Kingdom is GBP 125 on a monthly basis). The shares purchased with this contribution are called partnership shares. Additionally, SCOTTISH POWER complements the employee's contribution to a maximum of GBP 50 monthly. The shares purchased with the company's contribution are called matching shares.

The contributions, both from the company and the employees, are contributed to a trust which buys the shares, and they are held in this trust until withdrawn by the employees. All shares are purchased in the market at the monthly market price.

The partnership shares are owned by the employees who purchased them with their own money, however, the shares acquired with the contribution from the company (matching shares) are not consolidated until three years after the date of purchase. The matching shares acquired by the trust at 31 December 2018 and 2017 amount to 1,149,547 and 1,326,848 shares, respectively.

The contributions of the Company are made in cash on a monthly basis and are charged to the income statement during the three years the employee must remain in the company in order to be entitled to these shares.

"Personnel expenses" in the 2018 and 2017 consolidated income statements amounted to Euros 2,223 thousand and Euros 2,257 thousand, respectively for this concept, which have been recognised under "Other reserves" on the consolidated finance income statement.

Furthermore, 2018 and 2017 saw transfers to participants for exercised options totalling Euros 2,734 million and Euros 3,322 million, respectively.

21.2 Cash-based compensation plans

The following outlines long-term compensation plans with cash settlements.

2014-2016 Strategic bonus - IBERDROLA Distribución Eléctrica

The board of directors of IBERDROLA Distribución Eléctrica, on the recommendation of the Appointments and Remuneration Committee, decided to pay the 2014-2016 Strategic Bonus on determining that 93.20% of the objectives had been met. In the first half of 2018 the second of the three annual payments was made.

The second of the three settlements in cash resulted in the Euros 1,262 thousand being paid.

2017-2019 Strategic bonus - IBERDROLA Distribución Eléctrica

At its 13 December 2017 meeting, the IBERDROLA Distribución Eléctrica S.A. (Sociedad Unipersonal) board of directors approved a strategic bond payable to the Company's executive officers and directors undertaking regulated activities in Spain who are deemed to be "Persons Responsible for the Management of Regulated Companies", as stipulated in the "Code for the Separation of Activities of Companies in the IBERDROLA Group with Regulated Activities in Spain", or who, due to their position within the company or their responsibilities, are deemed to have decisively contributed to the creation of value (to a maximum of 12 beneficiaries).

This strategic bond is linked to the performance of IBERDROLA Distribución Eléctrica S.A. (Sociedad Unipersonal) with regard to a series of parameters over the period of evaluation from 2017 to 2019. The payment period for the scheme will run from 2020 to 2022. Payments will be made in the form of shares on a deferred basis in those three years.

Long-term NEOENERGIA 2018-2019 incentive

At its 27 September 2017 meeting, NEOENERGIA's Board of Directors approved a long-term incentive programme aimed at executives and employees who, through their position or level of responsibility in the NEOENERGIA Group, are felt to have contributed decisively to the creation of value (to a maximum of 100 beneficiaries), an initiative costing 50 million Brazilian reals.

This long-term incentive is linked to the NEOENERGIA Group's performance with regard to a series of parameters over the period of evaluation from 2018 to 2019.

The payment period for the scheme will run from 2020 to 2022. Payments will be made in the form of shares on a deferred basis in those three years.

"Personnel expenses" on the consolidated income statement from 2018 and 2017 includes a charge of Euros 4,072 and 1,636 thousand respectively corresponding to the amount accrued for this incentive plan has been recorded with charge and debit to the sub-headings "Other Provisions" of the consolidated statement of financial position.

The movement of the bonds described above which are settled in cash is as follows:

Thousands of Euros	Strategic bonus 14-16	Strategic bonus 17-19	Bonus paid in cash Brazil	Bonus paid in cash USA	Total
Balance at 01.01.2017	2,126	-	-	9,159	11,285
Charges	2,096	698	-	1,278	4,072
Payments	(1,578)	-	-	(4,859)	(6,437)
Payments for deregistration	-	-	-	-	-
Translation differences	-	-	-	(967)	(967)
Balance at 31.12.2017	2,644	698	-	4,611	7,953
Charges	441	1,525	-	(330)	1,636
Payments	(1,262)	-	-	(4,204)	(5,466)
Disposal payments	(621)	-	-	-	(621)
Transfers	-	-	2,827	-	2,827
Translation differences	-	-	-	(77)	(77)
Balance at 31.12.2018	1,202	2,223	2,827	-	6,252

(*) Filed for 100%

22. SECURITIES PORTFOLIO HAVING THE SUBSTANCE OF A FINANCIAL LIABILITY

In the United States, the IBERDROLA Group has signed several contracts that have brought in third parties as non-controlling interests in some of its wind farms in exchange for cash and other financial assets primarily.

The main characteristics of these contracts are as follows:

- Regardless of the interest acquired by the non-controlling interests, the IBERDROLA Group retains the control and management of the wind farms; accordingly they are fully consolidated in these consolidated annual accounts.
- The non-controlling interests have the right to a substantial portion of the profits and tax credits generated by these wind farms up to the return level established at the beginning of the contract.
- The non-controlling interests remain in the equity of the wind farms until they achieve the stipulated returns.
- Once these returns have been obtained, the non-controlling interests must renounce their stake in the wind farms, thus losing their right to the profits and tax credits generated.
- Whether or not the non-controlling interests of the IBERDROLA Group obtain the agreed upon returns depends on the economic performance of the wind farms. Although the IBERDROLA Group is obliged to operate and maintain these facilities in an efficient manner and to take out the appropriate insurance policies, it is not obliged to deliver cash to the non-controlling interests over and above the aforementioned profits and tax credits.

Following an analysis of the economic substance of these agreements, the IBERDROLA Group classifies the consideration received at the outset of the transaction under "Non-current securities portfolio having the substance of a financial liability" and "Current securities portfolio having the substance of a financial liability" in the consolidated statement of financial position. Subsequently, this consideration is measured at amortised cost.

The amount at 31 December 2018 and 2017 accrues an average interest rate in US dollars of 7.05% and 8.63%, respectively.

The change in this heading of the consolidated statements of financial position for 2018 and 2017 is as follows:

Thousands of Euros	2018	2017
Initial balance	47,281	137,054
finance cost accrued in the year	12,026	6,230
Payments	(65,658)	(76,427)
Translation differences	6,876	(13,294)
Derecognitions	–	(6,282)
Additions	176,704	–
Final balance	177,229	47,281

In May 2018 the Group executed a new contract through its US subsidiary El Cabo Wind LLC.

23. CAPITAL GRANTS

The change in this heading of the consolidated statements of financial position for 2018 and 2017 is as follows (Note 3.n):

Thousands of Euros	Capital grants	Investment Tax Credits	Total
Balance at 01.01.2017	297,695	1,404,236	1,701,931
Additions	10,385	29,568	39,953
Derecognitions	(92)	(1,423)	(1,515)
Translation differences	(9,392)	(174,808)	(184,200)
Allocation to the income statement (Note 3.n)	(16,200)	(58,635)	(74,835)
Modification of the consolidation perimeter (Note 6)	(223)	–	(223)
Balance at 31.12.2017	282,173	1,198,938	1,481,111
Additions	6,184	7,856	14,040
Derecognitions	(147)	–	(147)
Transfers	2,252	–	2,252
Translation differences	2,864	52,683	55,547
Allocation to the income statement (Note 3.n)	(17,121)	(57,516)	(74,637)
Modification of the consolidation perimeter (Note 6)	(238)	–	(238)
Balance at 31.12.2018	275,967	1,201,961	1,477,928

24. FACILITIES TRANSFERRED OR FINANCED BY THIRD PARTIES

The change in this heading of the consolidated statements of financial position for 2018 and 2017 is as follows (Note 3.o):

Thousands of Euros	Transfer of assets from third parties	Assets financed from third parties	Total
Balance at 01.01.2017	2,629,249	2,094,339	4,723,588
Additions	92,921	228,651	321,572
Derecognitions	(2)	(8,213)	(8,215)
Translation differences	(4,381)	(79,672)	(84,053)
Allocation to the income statement (Note 3.n)	(116,001)	(73,743)	(189,744)
Balance at 31.12.2017	2,601,786	2,161,362	4,763,148
Additions	88,873	170,419	259,292
Derecognitions	(9)	(769)	(778)
Transfers	(1,018)	(1,234)	(2,252)
Translation differences	(266)	1,172	906
Allocation to the income statement (Note 3.n)	(118,321)	(78,599)	(196,920)
Balance at 31.12.2018	2,571,045	2,252,351	4,823,396

25. PROVISION FOR PENSIONS AND SIMILAR OBLIGATIONS

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Defined benefit plans (Spain)	372,553	402,883
Long-service bonuses and other long-term benefits (Spain)	40,796	42,539
Defined benefit plans (United Kingdom)	569,204	637,521
Defined benefit plans (United States)	1,006,606	918,186
Defined benefit plans (Brazil)	210,432	248,537
Defined benefit plans and other long term benefits (Spain and other countries)	55,542	58,376
Restructuring plans	187,773	266,027
Total	2,442,906	2,574,069

Each year IBERDROLA estimates, in accordance with an independent actuarial report, the payments for pensions and similar benefits that it will have to meet in the coming year. These are recognised as current liabilities in the balance sheet.

25.a) Defined benefit plans and other non-current employee benefits

Spain

IBERDROLA Group's main commitments to providing defined benefits for its employees, in addition to those provided by Social Security, are as follows:

- Employees subject to IBERDROLA Group's collective labour agreement, who retired before 9 October 1996, are covered by a defined benefit retirement pension scheme, the actuarial value of which was fully externalised at 31 December 2018 and 2017.

IBERDROLA Group has no liability of any kind for this group and has no claim on any potential excess generated in the assets of this plan over the defined benefits.

- Also, in relation to serving employees and employees who have retired after 1996 and are subjected to IBERDROLA Group's Collective Labour Agreement and members/beneficiaries of the IBERDROLA Pension Plan, risk benefits (e.g. widowhood, permanent disability or orphanage) which guarantee a defined benefit at the time the event giving rise to such benefits occurs, are instrumented through a pluriannual insurance policy. The guaranteed benefit consists of the difference between the present actuarial value of the above mentioned defined benefit at the time of the event and the member's vested rights at the time of the event, if the latter were lower. The premiums on the insurance policy for 2018 and 2017 are recognised under "Personnel expenses" in the income statement and came to Euros 10,621 thousand and Euros 10.065 thousand, respectively.
- In addition, IBERDROLA maintains a provision against certain commitments to its employees other than those indicated above, which are covered by internal funds linked to social security benefits, consisting mainly of free electricity supply, with an annual consumption limit, for retired employees and other long term benefits, primarily consisting of long-service bonus for active employees at 10, 20 and 30 years of service.

United Kingdom (SCOTTISH POWER)

SCOTTISH POWER employees residing in the United Kingdom, hired before 1 April 2006, are covered by several defined benefit retirement plans: ScottishPower Pension Scheme (SPPS) and Manweb Group of Electricity Supply Pension Scheme (Manweb).

One-off capital sums have been offered to pensioners and deferred beneficiaries, reducing the defined benefit burden.

USA (AVANGRID)

The former employees of SCOTTISH POWER that now form part of the workforce of the IBERDROLA Group in the United States, most of them belonging to the workforce of the Avangrid Renewables Holding Inc. (hereinafter, ARHI), are members of various post-employment plans (Supplemental Executive Retirement Plan, IBERDROLA Renewables Retiree Benefits Plan and IBERDROLA Renewables Retirement Plan).

With effect from 30 April 2011, a change affecting all plan participants occurred in the IBERDROLA Renewables Retiree Benefits Plan, whereby the benefit receivable at retirement age was set at the amount accrued until 30 April 2011 and the plan became a defined-contribution scheme from that date onwards.

On the other hand, the employees of the AVANGRID NETWORKS Group are affiliated to various defined benefit retirement pension plans (Qualified Pension Plans, Non Qualified Pension Plans), disability benefit plans (Long Term Disability Plans) and health insurance plans (Postretirement Welfare Plans).

UIL Group's employees were covered by several defined benefit retirement plans (Qualified Pension Plans, Non Qualified Pension Plans) and health plans (Postretirement Welfare Plans).

Defined benefit pension schemes are closed to new entrants and wherever possible, only past service is recognised for those remaining.

One-off capital sums have been offered to pensioners and deferred beneficiaries, reducing the defined benefit burden.

Brazil

Such as is indicated in Notes 2.c. 6, on 24 August 2017 NEOENERGIA was acquired through the incorporation of ELEKTRO. ELEKTRO, CELPE, COELBA and COSERN employees are covered by several defined benefit retirement plans. COELBA employees are covered by a post-employment health plan too.

Defined benefit pension schemes are closed to new entrants.

Other commitments with employees

In addition, some IBERDROLA Group companies have provisions to meet certain commitments with their employees, other than those described above, which are met by in-house pension funds.

The most significant information related to plans is as follows:

Thousands of Euros	United States										Brazil				Other		Total	
	Spain		United Kingdom		ARHI		UIL		AVANGRID NETWORKS		ELEKTRO (1)		NEOENERGIA (2)					
	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017
Present value of the obligation	(413,349)	(445,422)	(5,463,614)	(6,189,753)	(61,192)	(63,425)	(1,004,348)	(1,015,714)	(2,307,689)	(2,389,049)	(299,674)	(303,237)	(481,917)	(542,248)	(55,542)	(58,376)	(10,087,325)	(11,007,224)
Fair value of plan assets	–	–	4,894,410	5,552,232	30,514	34,622	609,765	661,511	1,726,344	1,853,869	330,695	343,432	331,671	348,118	–	–	7,923,399	8,793,784
Net asset / (Net provision)	(413,349)	(445,422)	(569,204)	(637,521)	(30,678)	(28,803)	(394,583)	(354,203)	(581,345)	(535,180)	31,021	40,195	(150,246)	(194,130)	(55,542)	(58,376)	(2,163,926)	(2,213,440)
Amounts recognised in the consolidated statement of financial position:																		
Provision for pensions and similar obligations	(413,349)	(445,422)	(569,204)	(637,521)	(30,678)	(28,803)	(394,583)	(354,203)	(581,345)	(535,180)	–	–	(210,432)	(248,537)	(55,542)	(58,376)	(2,255,133)	(2,308,042)
Assets for pensions and similar obligations (Note 13.b)	–	–	–	–	–	–	–	–	–	–	–	–	7,007	3,326	–	–	7,007	3,326
Net asset / (Net provision)	(413,349)	(445,422)	(569,204)	(637,521)	(30,678)	(28,803)	(394,583)	(354,203)	(581,345)	(535,180)	–	–	(203,425)	(245,211)	(55,542)	(58,376)	(2,248,126)	(2,304,716)

(1) These amounts have not been recognised in the consolidated statement of financial position at 31 December 2018 and 2017, respectively, since the requirements set forth in the current legislation for their accounting treatment are not met.

(2) At 31 December 2018 and 2017 a surplus of Euros 53,179 and 51,081 thousand is not recognised in application of the legislation IFRIC14: "IAS 19 - The limit on a defined benefit asset, minimum funding requirements and their interaction".

The changes in provisions for the commitments detailed in the previous section in 2018 and 2017 is as follows:

Thousands of Euros	Spain		United Kingdom	United States		Brazil ⁽¹⁾			Other	Total
	Electricity tariff	long-service bonus		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA		
Balance at 01.01.2017	510,299	43,062	6,261,592	72,785	1,126,064	2,629,032	336,323	–	67,409	11,046,566
Modification of the consolidation perimeter (Note 6)	–	–	–	–	–	–	–	584,319	–	584,319
Normal cost (Note 37)	8,117	3,557	66,610	571	15,967	33,062	2,098	500	2,665	133,147
Cost for past services (Note 37)	–	–	35,474	–	254	112	–	–	79	35,919
Other costs recognised under “Personnel expenses” (Note 37)	–	–	–	–	–	–	–	–	(33)	(33)
Finance cost (Note 43).	7,619	339	171,036	2,431	42,817	96,178	34,086	19,747	2,046	376,299
Actuarial gains and losses										
To profit (Note 37)	2,878	551	–	–	–	–	–	–	–	3,429
To reserves	(113,255)	–	351,828	2,626	27,943	134,144	(5,791)	(23,912)	(2,080)	371,503
Members contributions	–	–	8,558	–	–	–	1,056	282	–	9,896
Payments	(12,775)	(4,970)	(458,571)	(3,062)	(54,219)	(168,499)	(18,969)	(15,187)	(7,171)	(743,423)
Translation differences	–	–	(246,774)	(9,273)	(143,112)	(334,980)	(45,566)	(23,501)	(4,539)	(807,745)
Liabilities held for sale (Note 41)	–	–	–	(2,653)	–	–	–	–	–	(2,653)
Balance at 31.12.2017	402,883	42,539	6,189,753	63,425	1,015,714	2,389,049	303,237	542,248	58,376	11,007,224
Modification of the consolidation perimeter (Note 6)	–	–	(64,774)	–	–	–	–	–	–	(64,774)
Normal cost (Note 37)	5,741	3,627	69,226	581	13,909	30,204	1,434	626	6,247	131,595
Cost for past services (Note 37)	–	–	(7,662)	(153)	190	(2,656)	–	(2,531)	(6,047)	(18,859)
Finance cost (Note 43).	6,518	330	154,304	2,433	37,648	84,065	27,128	47,702	2,033	362,161
Actuarial gains and losses										
To profit (Note 37)	537	366	–	–	–	–	–	–	–	903
To reserves	(26,706)	–	(289,375)	(5,197)	(45,482)	(126,314)	21,197	8,045	450	(463,382)
Members contributions	–	–	7,574	–	–	–	925	534	–	9,033
Payments	(16,420)	(6,066)	(505,101)	(5,268)	(61,657)	(168,407)	(15,966)	(50,718)	(5,553)	(835,156)
Translation differences	–	–	(90,331)	5,371	44,026	101,748	(38,281)	(63,989)	36	(41,420)
Balance at 31.12.2018	372,553	40,796	5,463,614	61,192	1,004,348	2,307,689	299,674	481,917	55,542	10,087,325

(1) As the surplus was not recognised, the actuarial differences recognised in reserves were adjusted upwards in 2018 by Euros 4,120 thousand and in 2017 Euros 5,258 thousand in the application of the current legislation IFRIC 14: “IAS 19 - The limit on a defined benefit asset, minimum funding requirements and their interaction”. Moreover, in the years 2018 and 2017, and for the same concept, the finance costs recognised were adjusted upwards by Euros 8,334 and 6,526 thousand, respectively.

The average length at the end of the year of the liability for the employee benefits described previously is:

Years	Spain		United Kingdom	United States			Brazil		Other
	Electricity tariff	long-service bonus		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA	
Average length	18	8	19	12	12	10	13	11	–

Changes in fair value of the assets linked to 2018 and 2017 are as follows:

Thousands of Euros	United Kingdom	United States			Brazil		Total
		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA	
Fair Value at 01.01.2017	5,741,838	37,722	695,330	1,991,669	376,175	–	8,842,734
Modification of the consolidation perimeter (Note 6)	–	–	–	–	–	370,102	370,102
Revaluation (Note 43)	160,311	1,221	26,101	73,009	38,353	13,839	312,834
Actuarial gains and losses to reserves	97,442	3,566	67,827	179,109	(2,734)	(8,293)	336,917
Company contributions	230,710	–	9,304	19,406	902	7,886	268,208
Members contributions	8,558	–	–	–	1,056	282	9,896
Payments	(461,680)	(3,062)	(46,827)	(153,102)	(18,969)	(15,187)	(698,827)
Translation differences	(224,947)	(4,825)	(90,224)	(256,222)	(51,351)	(20,511)	(648,080)
Fair Value at 31.12.2017	5,552,232	34,622	661,511	1,853,869	343,432	348,118	8,793,784
Modification of the consolidation perimeter (Note 6)	(59,348)	–	–	–	–	–	(59,348)
Revaluation (Note 43)	140,690	1,254	24,325	65,498	30,922	30,698	293,387
Actuarial gains and losses to reserves	(343,877)	(3,070)	(61,367)	(146,210)	13,659	24,529	(516,336)
Company contributions	183,149	1,609	19,860	45,018	738	21,972	272,346
Members contributions	7,574	–	–	–	925	534	9,033
Payments	(505,101)	(5,268)	(61,657)	(168,406)	(15,966)	(50,718)	(807,116)
Translation differences	(80,909)	1,367	27,093	76,575	(43,015)	(43,462)	(62,351)
Fair Value at 31.12.2018	4,894,410	30,514	609,765	1,726,344	330,695	331,671	7,923,399

The main assumptions applied in the actuarial reports that determined the provisions needed to meet the abovementioned commitments at 31 December 2018 and 2017 are as follows:

2018	Discount rate	Wage increase	Price kWh (euros)	Inflation	Survivorship table	Health insurance cost Pre-Medicare/Medicare
Spain						
Electricity tariff (1)	1.60%	–	2019 0,12722; 2020 0,13072; 2021 0,12215; 2022 0,12185; [...]	–	PERMF 2000P	–
Long-service bonus (1)	0.93%	1.00%	–	–	PERMF 2000P	–
United Kingdom						
	2.80%	3.76%	–	3.26%	Pre-retirement/Post-retirement Men: 85% AMC00 / 90% S2PMA CMI2017 M (1.25% improvement rate) Women: 85% AFC00 / 100% S2PFA CMI2017 F (1.25% improvement rate)	-
United States						
ARHI	4.09%	N.A.	–	2.00%	RP-2006 fully generational table using scale MP-2018	Function year RX: 7%(pre-65)/7.75% (post-65) (2019); 6.75%/7.50%(2020) ; [...] : 4,50%/4,50% (2029 onwards)
UIL	4.09%	3.50% - 3.80%	–	2.00%	RP-2006 fully generational table using scale MP-2018	Function year RX: 7%(pre-65)/7.75% (post-65) (2019); 6.75%/7.50%(2020) ; [...] : 4,50%/4,50% (2029 onwards)
AVANGRID NETWORKS	3.93%	In accordance with the age and Union/ Non Union	–	2.00%	RP-2006 fully generational table using scale MP-2018	Function year RX: 7%(pre-65)/7.75% (post-65) (2019); 6.75%/7.50%(2020) ; [...] : 4,50%/4,50% (2029 onwards)
Brazil						
ELEKTRO	9.46%	6.33%	–	4.25%	AT - 2000 male - 10%	–
NEOENERGIA			–			–
Celpe BD	9.36%	5.29%	–	4.25%	AT-2000 male	–
Celpe Mixto	8.94%	5.29%	–	4.25%	AT-2000	–
Coelba BD	9.25%	5.29%	–	4.25%	BR-EMS-sb 2015 Masculina -15%	–
Coelba mixto	9.10%	5.29%	–	4.25%	AT-2000 Basic	–
Coelba Plan As. Médica	9.46%	n.a.	–	n.a.	AT-2000 Basic	–
Cosern BD	9.20%	5.29%	–	4.25%	AT - 2000 (40% masculina; 60% femenina) - 10%	–
Cosern Mixto	9.10%	5.29%	–	4.25%	AT-2000 - 10%	–

2017	Discount rate	Wage increase	CPI increase	Inflation	Survivorship table	Health insurance cost Pre-Medicare/medicare
Spain						
Electricity tariff ⁽¹⁾	1.64%	–	2018 0,120; 2019 0,119; 2020 0,113; 2021 0,112; 2022 0,112; [...]	–	PERMF 2000P	–
Long-service bonus ⁽¹⁾	0.80%	1.00%	-	–	PERMF 2000P	–
United Kingdom	2.60%	3.70%	–	3.20%	Pre-retirement/Post-retirement Men: 85% AMC00/Post-retirement:90% S2PMA CMI2016 (1,50% improvement rate) Women_ 85%/Post-retirement:100% S2PFA CMI2016 (1,50% improvement rate)	–
United States						
ARHI	3.8%	n.a.	–	2.00%	RP-2006 fully generational table using MP-2017	Function year RX: 7,50%/8,50% (2018); 7,25%/8,25%(2019) ; [...] : 4,50%/4,50% (2030 onwards)
UIL	3.8%	3.50%-3.80%	–	2.00%	RP-2006 fully generational table using MP-2017	Function year RX: 7,50%/8,50% (2018); 7,25%/8,25%(2019) ; [...] : 4,50%/4,50% (2030 onwards)
AVANGRID NETWORKS	3.63%	In accordance with the age and Union/ Non Union	–	2.00%	RP-2006 fully generational table using MP-2017	Function year RX: 7,50%/8,50% (2018); 7,25%/8,25%(2019) ; [...] : 4,50%/4,50% (2030 onwards)
Brazil						
ELEKTRO	10.1%	n.a.	–		AT – 2000 (1996 US Annuity 2000)	
NEONERGIA	Health plans 10.20%	n.a.	–	–	AT 2000 Basic	
	Saving accruals	5.55%	–	4.50%	Coelba: SUSEP:BR EMSsb v.2015 (male) - 15%; Celpe:AT2000 Male; Cosern:AT2000 (40% male+60%female)-10%	–
	Risk accruals	5.55%	–	4.50%	Coelba: AT 2000 Basic; Celpe:AT2000 Male; Cosern: AT2000 -10%	–
	–	–	–	–	–	–

(1) In both cases, the retirement age has been established pursuant to the Law 27/2011, of 1 August, on the upgrade, adjustment and modernisation of the Social Security system, providing for a gradual increase in the retirement age in accordance with the law.

The most relevant figures for these commitments over the last years are the following:

Thousands of Euros	2018	2017	2016	2015	2014
Spain					
Present value of the obligation	(413,349)	(445,422)	(553,361)	(501,032)	(639,903)
Net asset / (Net provision)	(413,349)	(445,422)	(553,361)	(501,032)	(639,903)
Experience adjustments	4,914	7,799	4,664	25,355	5,442
United Kingdom					
Present value of the obligation	(5,463,614)	(6,189,753)	(6,261,592)	(6,272,818)	(5,884,621)
Fair value of plan assets	4,894,410	5,552,232	5,741,838	5,915,545	5,491,355
Net asset / (Net provision)	(569,204)	(637,521)	(519,754)	(357,273)	(393,266)
Experience adjustments	81,052	46,097	(17,836)	27,541	59,629
Experience adjustments arising on plan assets	(343,877)	97,442	552,312	(77,098)	329,368
ARHI					
Present value of the obligation	(61,192)	(63,425)	(72,785)	(73,133)	(73,564)
Fair value of plan assets	30,514	34,622	37,722	38,284	38,519
Net asset / (Net provision)	(30,678)	(28,803)	(35,063)	(34,849)	(35,045)
Experience adjustments	(507)	(975)	1,626	7,834	(1,955)
Experience adjustments arising on plan assets	(3,070)	3,810	864	(2,695)	1,805
UIL					
Present value of the obligation	(1,004,348)	(1,015,714)	(1,126,064)	(1,055,586)	–
Fair value of plan assets	609,765	661,511	695,330	647,357	–
Net asset / (Net provision)	(394,583)	(354,202)	(430,734)	(408,229)	–
Experience adjustments	2,995	27,026	(30,075)	182	–
Experience adjustments arising on plan assets	(61,367)	67,787	20,218	(10,620)	–
AVANGRID NETWORKS					
Present value of the obligation	(2,307,689)	(2,389,049)	(2,629,032)	(2,595,775)	(2,460,863)
Fair value of plan assets	1,726,344	1,853,869	1,991,669	1,893,611	1,824,332
Net asset / (Net provision)	(581,345)	(535,180)	(637,363)	(702,164)	(636,531)
Experience adjustments	20,183	(25,591)	37,797	(11,669)	(17,729)
Experience adjustments arising on plan assets	(146,210)	179,082	38,298	(95,019)	40,051
ELEKTRO					
Present value of the obligation	(299,674)	(303,237)	(336,323)	(206,387)	(273,740)
Fair value of plan assets	330,695	343,432	376,175	270,711	336,762
Net asset / (Net provision)	31,021	40,195	39,852	64,324	63,022
Experience adjustments	(1,667)	17,615	(15,966)	(5,980)	(3,507)
Experience adjustments arising on plan assets	13,659	(2,734)	16,502	(10,632)	47
NEOENERGIA					
Present value of the obligation	(481,917)	(542,248)	–	–	–
Fair value of plan assets	331,671	348,118	–	–	–
Net asset / (Net provision)	(150,246)	(194,130)	–	–	–
Experience adjustments	13,637	(7,298)	–	–	–
Experience adjustments arising on plan assets	(24,529)	(8,293)	–	–	–

The sensitivity at 31 December 2018 of the present value of the obligation of these commitments to changes in the discount rate is as follows:

Increase/decrease	Spain		United Kingdom	United States			Brazil	
	Electricity tariff	long-service bonus		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA
Discount rate (basic points)								
10	(5,818)	(341)	(95,833)	(582)	(12,760)	(24,160)	(3,481)	(4,446)
(10)	5,969	345	102,806	592	13,026	24,607	3,870	4,851
Inflation (basic points)								
10	–	–	96,255	–	–	–		
(10)	–	–	(93,702)	–	–	–		
Wage increase (basic points)								
10	–	367	–	–	2,037	2,300	–	
(10)	–	(356)	–	–	(2,018)	(2,277)	–	
Survivorship table (years)								
1	–	–	216,491	–	–	–	–	
Health insurance cost (basic points)								
25	–	–	–	132	1,094	1,022	–	–
(25)	–	–	–	(118)	(1,046)	(980)	–	–
Price increase kWh (basic points)								
10	3,7259	–	–	–	–	–	–	–
10	(3,725)	–	–	–	–	–	–	–

Category of assets

The main categories of plan assets, as a percentage of total plan assets at year end, are shown in the table below:

2018	Equity securities	Fixed income securities	Cash and cash equivalents	Other
United Kingdom	17%	40%	5%	38%
AVANGRID NETWORKS				
Retirement plan	33%	42%	1%	24%
Retiree Benefits Plan	48%	48%	4%	-0%
UIL				
Qualified Pension Plans	51%	43%	-0%	6%
Postretirement Welfare Plans	61%	24%	14%	1%
AVANGRID NETWORKS				
Qualified Pension Plans	36%	41%	3%	20%
Postretirement Welfare Plans	49%	44%	3%	4%
ELEKTRO	12%	84%	-0%	4%
NEOENERGÍA	2%	95%	0%	3%

2017	Equity securities	Fixed income securities	Cash and cash equivalents	Other
United Kingdom	18%	41%	6%	35%
ARHI				
Retirement plan	35%	46%	0%	19%
Retiree Benefits Plan	49%	47%	4%	0%
UIL				
Qualified Pension Plans	53%	42%	0%	5%
Postretirement Welfare Plans	69%	23%	5%	3%
AVANGRID NETWORKS				
Qualified Pension Plans	41%	32%	2%	25%
Postretirement Welfare Plans	49%	38%	2%	11%
ELEKTRO	6%	84%	0%	10%
NEOENERGÍA	3%	82%	10%	6%

The assets associated with these plans include neither financial instruments issued by the IBERDROLA Group nor tangible nor intangible assets.

Moreover, the breakdown of assets of the plans measured at fair value by level is as follows:

Thousands of Euros	Value at 31.12.2018	Level 1	Level 2	Level 3
United Kingdom	4,894,410	711,123	3,027,800	1,155,487
AVANGRID NETWORKS	2,366,623	245,852	1,554,323	566,448
ELEKTRO	330,695	195,700	108,487	26,508
NEONERGIA	331,671	3	311,015	20,653
Total	7,923,399	1,152,678	5,001,625	1,769,096

Thousands of Euros	Value at 31.12.2018	Level 1	Level 2	Level 3
United Kingdom	5,552,232	55,522	4,774,918	721,792
AVANGRID	2,550,002	255,001	1,861,501	433,500
ELEKTRO	343,432	247,271	78,989	17,172
NEOENERGÍA	348,118	3,481	302,863	41,774
Total	8,793,784	561,275	7,018,271	1,214,238

The strategic distribution of pension plan investments is supported by recurring Asset Liability Management studies specific to each of the plans, which guarantees matching up the funding policy with the expected time to achieve full financing of the commitment in accordance with the flows arising therefrom, providing such studies with the sensitivity to different expected rates of return of the assets and discount of the obligations. On the other hand, it is guaranteed that the financing of the plans is adequate to the recovery time of the regulated cash flows. There are also prudential investment rules regarding pensions within the scope of the Group.

In relation to asset management at a global level, the Group has progressively migrated to passive management, pension plan death and disability benefits have been covered with insurance policies and the management entities and investment assets have been qualified by an independent third party, with the consequent reduction in investments with less liquidity. In addition, in the United Kingdom the longevity risk has been covered via swaps and work is underway to partially cover inflation risk.

25.b) Defined contribution plans

The active employees of IBERDROLA and employees who have retired after 9 October 1996, are members of the IBERDROLA pension plan with joint promoters, are covered by an occupational, defined-contribution retirement pension system independent of the Social Security system.

In accordance with this system and IBERDROLA's effective Collective Labour Agreement, the periodic contribution to be made is calculated as a percentage of the annual pensionable salary of each employee, except for employees joining the Company after 9 October 1996, who from 1 January 2018 are subject to a contributory system where the Company pays 60% and the employee 40% (from 1 June 2017, the Company paid 56.45% and the employee 43.55%, whereas before this date, the Company paid 55% and the employee 45%). For the ones hired after 20 July 2015 the company pays 1/3 and the employee 2/3, until the date in which the employee takes part in the Base Salary Rating (SBC). At this moment the same criteria will be applied to those employees as the ones who were hired since 9 October 1996. The respective subsidiaries finance these contributions for all their active employees under 65.

IBERDROLA Group's contributions in 2018 and 2017 were Euros 19,006 thousand and Euros 26,205 thousand, respectively, and are recognised under "personnel expenses" heading in the consolidated income statement.

The contribution made on behalf employees out of the scope of the collective bargaining agreement in 2018 and 2017 is recognised under "Personnel expenses" in the consolidated income statements.

Thousands of Euros	2018	2017
SCOTTISH POWER	12,825	10,464
AVANGRID	31,258	31,598
NEOENERGIA	5,883	2,912
Other	646	-
Total	50,612	44,974

25.c) Restructuring plans

Given the interest shown by some of the employees in requesting early retirement, IBERDROLA Group offered these employees mutually agreed termination of the employment relationship Spain. IBERDROLA Group has carried out a process of individual termination contracts. At 31 December 2018 and 2017, the existing provisions in this regard correspond to the following restructuring plans:

Thousands of Euros	31.12.2018		31.12.2017	
	Provisions	No. of contracts	Provisions	No. of contracts
2012 restructuring plan	981	19	3,396	66
2014 restructuring plan	35,738	237	54,986	309
2015 restructuring plan	10,649	69	15,717	82
2016 restructuring plan	8,238	61	12,531	63
2017 restructuring plan	112,824	409	140,934	413
Total	168,430	796	227,564	933

Additionally, the following provisions are maintained at 31 December 2018 and 2017 to back commitments for this concept outside Spain and for the subsidiary IBERDROLA Ingeniería y Construcción, S.A.U. (IIC):

Thousands of Euros	31.12.2018	31.12.2017
SCOTTISH POWER	5,265	5,057
IIC	14,078	18,106
NEOENERGIA	—	15,300
Total	19,343	38,463

The discount to present value of the provisions is charged to “Finance cost” heading in the income statement.

The movement in provisions for the commitments detailed in the previous section in 2018 and 2017 is as follows:

Thousands of Euros	2018	2017
Initial balance	266,027	146,677
Charge	8,200	172,154
Financial Cost	505	29
Actuarial gain and losses and other	(5,799)	(1,931)
Payments and translation differences(*)	(81,160)	(50,902)
Final balance	187,773	266,027

(*) Payments made during 2018 and 2017 amount to Euros 79,771 thousand and Euros 49,302 thousand, respectively.

The main assumptions applied in the actuarial reports that determined the provisions needed to meet the above mentioned commitments relating to the restructuring plans at 31 December 2018 and 2017 are as follows:

	2018			2017		
	Discount rate	Inflation	Survivorship table	Discount rate	Inflation	Survivorship table
Other restructuring plans	0.33% / 0.42%	1.00% / 0.70%	PERMF 2000	0.32% / 0.38% / 0.45%	1% / 0.70%	PERMF 2000

26. OTHER PROVISIONS

The movement and breakdown of “Other provisions” in the liabilities in the balance sheet in 2018 and 2017 is as follows:

Thousands of Euros	Provisions for litigation, indemnity payments and similar costs	Provision for CO2 emissions (Note 3.r)	Provision for facility closure costs (Notes 3.s and 5.a)	Other provisions	Total
Balance at 01.01.2017	600,733	54,121	1,530,061	473,242	2,658,157
Charge or reversals for the year with a debit/credit to “Property, Plant and Equipment” (Note 3.d)	–	–	215,234	–	215,234
Charge for discount to present value (Note 43)	31,879	–	28,096	1,817	61,792
Charge for the year to the income statement	206,650	508,885	–	58,760	774,295
Reversal due to excess	(89,489)	–	–	(4,792)	(94,281)
Modification of the consolidation perimeter (Note 6)	302,193	–	9,942	2,610	314,745
Translation differences	(42,261)	(4,944)	(59,398)	(59,606)	(166,209)
Transfers	10,228	296,624	(3,881)	(99)	302,872
Payments made and other	(61,886)	–	(4,356)	(21,991)	(88,233)
Emission allowances and Green certificates	–	(438,780)	–	–	(438,780)
Balance at 31.12.2017	958,047	415,906	1,715,698	449,941	3,539,592
Charge or reversals for the year with a debit/credit to “Property, Plant and Equipment” (Note 3.d)	14,359	–	72,334	–	86,693
Charge for discount to present value (Note 43)	39,695	–	28,381	(19)	68,057
Charge for the year to the income statement	121,852	593,574	416	12,487	743,329
Reversal due to excess	(81,654)	(2)	(15,400)	(11,151)	(108,207)
Modification of the consolidation perimeter (Note 6)	(532)	(30,489)	(5,565)	–	(36,586)
Translation differences	(33,452)	(5,922)	13,027	15,969	(10,378)
Transfers	17,118	–	(5,027)	(21,745)	(9,654)
Payments made and other	(93,492)	–	(6,090)	(30,069)	(129,651)
Emission allowances and Green certificates	–	(543,530)	–	–	(543,530)
Balance at 31.12.2018	941,941	429,537	1,797,774	415,413	3,584,665

The IBERDROLA Group has provisions for responsibilities arising from litigation in progress and from indemnity payments, obligations, collateral and other similar guarantees, and those aimed at covering environmental risks. These last ones have been determined on the basis of a case-by-case analysis of the polluted assets status and the cost that will have to be incurred in cleaning them.

The IBERDROLA Group also maintains provisions to meet a series of costs needed for dismantling work at its nuclear and thermal power plants, its wind farms, and at other facilities.

The cost arising from dismantling obligations is recalculated on a regular basis to incorporate to the estimate of future costs our experience of the reasonableness of provisions of dismantling events, or to include new statutory or regulatory requirements.

The detail of provision for plants closure costs is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Thermal power plants	60,848	80,123
Nuclear power plants	612,174	590,023
Wind-powered farms and other alternative stations	945,344	853,387
Combined cycle power plant	146,194	154,954
Other facilities	33,214	37,211
Total	1,797,774	1,715,698

The amount related to nuclear plants covers the costs in which the plant operator will incur from the end of its useful life until ENRESA (Note 3.y) takes control of them.

The discount rates (minimum and maximum range) before taxes of the main countries in which the IBERDROLA Group used in the present value of the operating provisions are:

Country	Currency	Discount rate 2018		Discount rate 2017	
		5 years	30 years	5 years	30 years
Spain	Euro	0.33%	2.61%	0.37%	2.84%
United Kingdom	Sterling Pound	0.90%	1.82%	0.72%	1.76%
United States	US dollar	2.51%	3.01%	2.21%	2.74%

The estimated dates on which the IBERDROLA Group considers that it will have to meet the payments relating to the provisions included in this caption of the consolidated statement of financial position at 31 December 2018 are as follows:

Thousands of Euros	
2019	557,110
2020	169,218
2021	102,612
2022 onwards	2,755,725
Total	3,584,665

27. LOANS AND BORROWINGS AND OTHER FINANCIAL LIABILITIES – LOANS AND OTHERS

The detail of the loans and borrowings pending of amortization, once currency swaps have been taken into account, at 31 December 2018 and 2017 stand at:

Thousands of Euros	Borrowings at 31 December 2018 and maturing in							
	Balance at 31.12.2018 (*)	Short term	Long term					Total long term
		2019	2020	2021	2022	2023	2024 onwards	
Euros								
Financial leases	60,760	2,111	2,106	2,107	2,108	2,109	50,219	58,649
Debentures and bonds	16,277,975	3,450,192	1,839,117	1,107,522	1,994,717	1,128,814	6,757,613	12,827,783
Other financing transactions	5,960,870	1,177,961	852,133	1,703,437	973,630	374,642	879,067	4,782,909
Unpaid accrued interest	232,599	232,546	–	–	–	–	53	53
	22,532,204	4,862,810	2,693,356	2,813,066	2,970,455	1,505,565	7,686,952	17,669,394
Foreign currency								
US dollars	6,794,968	868,763	501,323	286,952	317,097	611,221	4,209,612	5,926,205
Sterling Pound	3,139,385	96,589	44,813	376,158	43,474	485,860	2,092,491	3,042,796
Brazilian reals	4,640,747	575,203	1,009,109	738,281	800,592	729,450	788,112	4,065,544
Others	43,932	4,239	3,316	3,553	3,809	4,083	24,932	39,693
Unpaid accrued interest	175,236	167,158	1,928	1,787	1,712	1,594	1,057	8,078
	14,794,268	1,711,952	1,560,489	1,406,731	1,166,684	1,832,208	7,116,204	13,082,316
Total	37,326,472	6,574,762	4,253,845	4,219,797	4,137,139	3,337,773	14,803,156	30,751,710

	Borrowings at 31 December 2017 and maturing in							
		Short term	Long term					
Thousands of Euros	Balance at 31.12.2017 (*)	2018	2019	2020	2021	2022	2023 and following	Total long term
Euros								
Financial leases	62,613	2,044	2,043	2,044	2,045	2,045	52,392	60,569
Debentures and bonds	17,713,790	3,433,833	1,214,088	1,779,269	1,214,524	2,011,035	8,061,041	14,279,957
Other financing transactions	5,486,334	528,585	932,592	2,290,352	474,598	623,023	637,184	4,957,749
Unpaid accrued interest	264,594	264,594	–	–	–	–	–	–
	23,527,331	4,229,056	2,148,723	4,071,665	1,691,167	2,636,103	8,750,617	19,298,275
Foreign currency								
US dollars	5,744,380	1,078,307	398,758	578,907	175,897	306,610	3,205,901	4,666,073
Sterling Pound	2,613,166	239,555	46,093	46,095	382,168	44,598	1,854,657	2,373,611
Brazilian reals	4,617,129	1,529,724	639,776	925,103	493,172	432,906	596,448	3,087,405
Others	43,926	3,551	2,953	3,163	3,389	3,633	27,237	40,375
Unpaid accrued interest	144,566	144,566	–	–	–	–	–	–
	13,163,167	2,995,703	1,087,580	1,553,268	1,054,626	787,747	5,684,243	10,167,464
Total	36,690,498	7,224,759	3,236,303	5,624,933	2,745,793	3,423,850	14,434,860	29,465,739

(*) At 31 December 2018, financial debt includes Euros 527,380 thousand from draw downs on credit lines and credit facilities, and Euros 2,460,110 thousand from issues of domestic promissory notes (USCP) and the Euro Commercial Paper (ECP).

At 31 December 2017, financial debt includes Euros 883,417 thousand from drawdowns on credit lines and credit facilities, and Euros 2,206,949 thousand from issues of domestic promissory notes and the Euro Commercial Paper (ECP).

The IBERDROLA Group's financial policy recommends maintaining a constant volume of debt issued under the *Euro Commercial Paper* (ECP) programme, the average balance of which amounted to Euros 1,771,712 thousand and Euros 1,527,762 thousand, respectively, in 2018 and 2017.

The borrowings previously mentioned refer to the amounts drawn down and outstanding at 31 December 2018 and 2017.

Significant transactions carried out by IBERDROLA during 2018 are as follows:

2018						
Lessor	Operation	Millions	Currency	Interest rate	Extension	Maturity
Main new financing transactions						
IBERDROLA, S.A. ⁽²⁾	Sustainable Syndicated loan	2,979	EUR	-	option 1+1	Feb-23
	Sustainable Syndicated loan	2,321	EUR	-	option 1+1	Feb-23
IBERDROLA Financiación, S.A.U.	Bilateral loan	100	EUR		-	Nov-25
	Bilateral loan	200	EUR		-	Dec-25
	IEB loan	500	EUR		-	Upon drawing
IBERDROLA Finanzas, S.A.U.	Increase private issue	200	EUR	1.621%	-	Nov-29
	Private issue	200	EUR	Euribor3m +0.35%	-	Feb-20
	Private issue	800	NOK ⁽¹⁾	3.010%	-	May-28
	Private issue	30	EUR	1.128%	-	June-25
	Green bonds	750	EUR	1.250%	-	Oct-26
	Green bonds	50	USD ⁽¹⁾	3.724%	-	Dec-25
	Private issue	75	EUR	1.621%	-	Nov-29
Avangrid Inc ⁽³⁾	Sustainable Syndicated loan	2,500	USD	-	option 1+1	Jun-23
Berkshire Gas ⁽⁵⁾	Private issue	20	USD	4.07%	-	Jan-29
Connecticut Natural Gas ⁽⁵⁾	Private issue	50	USD	4.52%	-	Jan-49
Southern Connecticut Gas ⁽⁵⁾	"Mortgage" private emission	75	USD	4.42%	-	Jan-49
Central Maine Power	"Mortgage" private emission	60	USD	3.95%	-	Dec-28
	"Mortgage" private emission	80	USD ⁽⁵⁾	3.87%	-	June-26
	"Mortgage" private emission	80	USD ⁽⁵⁾	4.05%	-	Jan-30
	"Mortgage" private emission	80	USD ⁽⁵⁾	4.20%	-	June-34
New York State Electric & Gas Corp.	Tax exempt bonds	174	USD	3.00%	-	Jun-23/Oct-29
Rochester Gas & Electric Corp.	Tax exempt bonds	152	USD	3.00%	-	June-25
United Illuminating	Tax exempt bonds	64.5	USD	2.80%	-	Oct-23
	Private issue	100	USD	4.07%	-	Oct-28
	Private issue	50	USD ⁽⁵⁾	4.52%	-	Jan-49
	Private issue	50	USD	3.96%	-	Dec-25
	Private issue	50	USD	3.96%	-	Dec-25
CELPE	Loan 4131	46	USD ⁽¹⁾	Libor3m +1.50%	-	Jan-21
	Debentures	500	BRL	119.6% CDI	-	Feb-23
	Loan 4131	80	Euros ⁽¹⁾	1.679%	-	Jul-22
	Infrastructure debentures	600	BRL	IPCA+6.0352%	-	Jul-25



2018						
Lessor	Operation	Millions	Currency	Interest rate	Extension	Maturity
	IEB loan	643	BRL	TLP+1.86%	-	Dec-28
	IEB loan	574	BRL	IPCA+3.30%	-	Nov-30
COELBA	Debentures	900	BRL	117% CDI ⁽⁴⁾	-	Oct-22/Apr-23
	Infrastructure debentures	300	BRL	IPCA+6.22%	-	Apr-23
	Infrastructure debentures	900	BRL	IPCA+6.2214%	-	Jul-25
	IEB loan	1,043	BRL	TLP+1.69%	-	Dec-25
	IEB loan	800	BRL	IPCA+3.30%	-	Nov-30
	Infrastructure debentures	130	BRL	IPCA+5.970%	-	Jul-23
COSERN	4131 Loan	95	USD ⁽¹⁾	3.689%	-	Nov-23
ELEKTRO	Debentures	1,000	BRL	113.0% CDI ⁽⁴⁾	-	May-21/May-23
	Infrastructure debentures	300	BRL	IPCA+5.9%	-	May-25
	4131 Loan	100	USD ⁽¹⁾	3.6937%	-	May-22
	IEB loan	785	BRL	TLP+1.76%	-	Dec-26
IBERDROLA México S.A. de CV	Bilateral green loan	400	USD	-	option 1+1	May-23
Termopernambuco, S.A.	Infrastructure debentures	300	BRL	117,4% CDI	-	Aug-23
	4131 loan	57	USD (1)	4.145%	-	Oct-22
Pier (5)	Project finance	177	USD	-	-	Aug-33
Ceu Azul	BNDES loan	600	BRL	TJLP+1.78%	-	Jun-35
Sobral III	IEB loan	50	BRL	IPCA+2.57%	-	Dic-38
Main extension transactions for already existing financing						
IBERDROLA S.A.	Syndicated loan	500	EUR	-	+1 year	Jun-23
	Bilateral loan	350	EUR	-	+1 year	Jul-22
IBERDROLA Financiación, S.A.U.	Bilateral green loan	500	EUR	-	+6 months	Aug-19
	Syndicated loan	900	EUR	-	+1 year	Mar-21
	Syndicated loan	75	EUR	-	+1 year	Mar-21
	Bilateral loan	600	EUR	-	+1 year	Jul-21

⁽¹⁾ Currency swap contracts to the company's operating currency

⁽²⁾ Reconfiguration of Euros 4.4 billion, already existing, and new Euros 900 million, totalling Euros 5.3 billion, with the option of extension for 1+1 years.

⁽³⁾ Reconfiguration of \$1.5 billion, already existing, and new \$1 Billion, totalling \$2.5 billion, with the option of extension for 1+1 years.

⁽⁴⁾ Average cost of different obligations stated in reference to the CDI as of the date of the issue.

⁽⁵⁾ Financing signed in 2018 pending of being drawn in 2019.

The most significant financial transactions performed by the IBERDROLA Group during the year 2017 have been the following:

2017

Lessor	Operation	Millions of Euros	Currency	Coupon	Extension	Maturity
Main new financing transactions						
IBERDROLA S.A.	Bilateral loan	350	EUR	-	Option +1 year	Jul-21
	Bilateral loan	600	EUR	-	Option +1 year	Jul-20
IBERDROLA Financiación, S.A.U.	Bilateral loan	300	EUR	-	-	Jul-22
	Bilateral loan	100	EUR	-	-	Jul-19
	BEI loan	500	EUR	-	-	Dec-24
	Bilateral green loan	500	EUR	-	option 6 + 6 year	Aug-18
	Private issue (1)	1,000	NOK	2.70%	-	May-27
IBERDROLA Finanzas, S.A.U.	Extension	150	EUR	Euribor 3m+0.67%	-	Feb-24
	Extension	50	EUR	1.67%	-	Feb-29
	Green bonds	1,000	EUR	1.00%	-	Mar-25
	Green bonds	750	EUR	1.25%	-	Sept-27
	Private issue	300	EUR	1.62%	-	Nov-29
	Private issue	60	EUR	1.78%	-	Oct-30
	Private issue	50	EUR	1.67%	-	Feb-29
	Green Private issue	100	EUR	Euribor 3m+0.67%	-	Feb-24
	Green bonds	600	USD	3.15%	-	Dec-24
AVANGRID Inc	Green bonds	600	USD	3.15%	-	Dec-24
Rochester Gas and Electric Corp.	Bond market US	300	USD	3.10%	-	June-27
COELBA / CELPE	Loan 4131 (1)	235	USD	-	-	Aug-20
COELBA	Loan 4131 (1)	115	USD	-	-	Aug-20
CELPE	Loan 4131 (1)	90	USD	-	-	Aug-20
COSERN	Infrastructure debentures	370	BRL	IPCA+4.7%	-	Sep-22/Sep-24
ELEKTRO	Promissory notes	350	BRL	105% CDI	-	Aug-18
	Loan 4131 (1)	50	USD	-	-	May-20
ELEKTRO	Loan 4131 (1)	110	USD	-	-	May-20
Itapebí Geração de Energia, S.A.	Debentures 476	100	BRL	119.2% CDI	-	Dec-20
Lagoa I, S.A.	BEI loan	330	BRL	-	-	Mar-34
Termopernambuco.S.A.	Debentures 476	200	BRL	118.4% CDI	-	Dec-21
Main transactions for extending existing financing						
IBERDROLA S.A.	Syndicated loan	2,331	EUR	-	+1 year	Feb-22
	Syndicated loan	1,856	EUR	-	+1 year	Feb-22
	Syndicated loan	500	EUR	-	+1 year	Jun-22
IBERDROLA Financiación, S.A.U.	Syndicated loan	900	EUR	-	+1 year	Mar-20
	Bilateral loan	75	EUR	-	+1 year	Mar-20
	Bilateral green loan	500	EUR	-	+6 months	Feb-19

(1) Currency swaps to company currency.

(2) Reconfiguration, does not involve entry of funds.

Certain Group investment projects, mainly related to renewable energies, have been financed specifically through loans that include covenants such as the compliance with certain financial ratios or the obligation to pledge in benefit of creditors the shares of the project-companies (Note 46). The fair value of real property investments in operation fully amortised intangible assets at 31 December 2018 and 2017 amounted to Euros 483 and 436 millions, respectively. Moreover, the establishment of a reserved deposit for the fulfilment of the obligations under the loan agreements is required, being the default ratios and/or the security deposit not reaching the agreed amount, the reason to preclude the dividends in the year in which they had not been fulfilled.

In relation to credit ratings covenants, IBERDROLA has arranged funding with the European Investment Bank, amounting to Euros 1,265 million and Euros 1,323 million at 31 December 2018 and 2017, respectively, which may have to be renegotiated or shored up with additional guarantees in the event of a significant rating downgrade.

Also, as of December 31, 2018 and 2017, the IBERDROLA Group maintains drawn loans and borrowings of 2,002 and 1,320 million euros, respectively, the cost of which has been modified as that of its credit rating; However, in both cases, the cost increase would not be significant.

In addition, at 31 December 2018 there are bonds issued, borrowings and other agreements between bank entities and IBERDROLA Group whose maturity dates could be impacted or may require additional guarantees to those already existing should there be a control change to be implemented in the manner and times set. The most significant changes are those described in the following paragraphs:

- Bond issues in the amount of Euros 13,314,229 thousand in the European market and USD 1.150.000 thousand (equivalent to Euros 1,010,811 thousand) in the US market.
- EIB loans totalling Euros 2,479,111 thousand.
- Borrowings amounting to Euros 617,308 thousand and USD 400,000 thousand (equivalent to Euros 351,587 thousand).
- Last, BRL 8,595,053 (equivalent to Euros 1,920,867 thousand) for issues and 11,994,129 thousand Brazilian reals (equivalent to Euros 2,680,510 thousand) from borrowings to the Brazilian subsidiary NEOENERGY and its subsidiaries.

At 31 December 2018 and 2017, IBERDROLA was fully up to date on all its financial debt payments. None of the amounts in the table above matured prior to 31 December 2017 and there had been no circumstances affecting the change of control or adverse changes in the credit quality, and consequently it had not been necessary to meet the early maturity of the debt or modify the cost related to the loans of which it is the holder.

The average cost of debt of the IBERDROLA Group in 2018 and 2017 was 2.97% and 2.91%, respectively.

28. DERIVATIVE FINANCIAL INSTRUMENTS

The breakdown of items contributing to derivatives at 31 December 2018 and 2017, is as follows:

Thousands of Euros	2018				2017			
	Assets		Liabilities		Assets		Liabilities	
	Short term	Long term	Short term	Long term	Short term	Long term	Short term	Long term
INTEREST RATE HEDGES	29,462	110,135	3,905	(109,077)	42,810	104,531	31,367	(69,300)
Cash flow hedges	(86)	689	(25,958)	(108,381)	7,264	1,436	(11,169)	(62,034)
Interest rate swaps	(86)	689	(25,958)	(108,381)	7,264	1,436	(11,169)	(62,034)
fair value hedges	29,548	109,446	29,863	(696)	35,546	103,095	42,536	(7,266)
Interest rate swaps	29,002	103,959	30,211	–	34,354	96,959	42,536	–
Currency forwards	9	–	(1,041)	–	–	–	–	–
Others	537	5,487	693	(696)	1,192	6,136	–	(7,266)
EXCHANGE RATE HEDGES	346,919	404,239	(242,663)	(121,484)	502,059	301,682	(168,028)	(141,488)
Cash flow hedges	93,454	139,873	(81,072)	(49,215)	180,447	56,721	(84,465)	(28,504)
Interest rate swaps	(3,487)	117,178	(13,100)	(45,398)	(4,051)	43,627	(58,008)	(23,053)
Currency forwards	96,704	22,352	(67,972)	(3,812)	184,498	13,094	(26,457)	(5,451)
Collar	237	343	–	(5)	–	–	–	–
fair value hedges	162,739	263,062	(18,185)	(73,464)	178,666	244,961	25,435	(112,984)
Interest rate swaps	162,739	263,062	(18,185)	(73,464)	178,651	244,439	25,435	(112,984)
Others	–	–	–	–	15	522	–	–
Fair net investment abroad	90,726	1,304	(143,406)	1,195	142,946	–	(108,998)	–
Interest rate swaps	(1,295)	1,304	(1,399)	1,195	(3,346)	–	(28,156)	–
Currency forwards	92,021	–	(142,007)	–	146,292	–	(80,842)	–
RAW MATERIALS HEDGES	173,244	123,957	(166,029)	(132,670)	120,806	35,111	(65,261)	(11,654)
Cash flow hedges	173,244	123,957	(166,029)	(132,670)	120,806	35,111	(65,261)	(11,654)
Futures	173,244	120,685	(166,029)	(132,670)	120,806	35,111	(65,261)	(11,654)
Others	–	3,272	–	–	–	–	–	–
NO HEDGE DERIVATIVES	414,178	105,191	(401,144)	(40,048)	356,773	107,418	(382,979)	(100,565)
Treasury shares derivatives	–	16,048	–	(16,048)	–	12,678	(2)	(12,678)
Derivatives over treasury shares	–	16,048	–	(16,048)	–	12,678	(2)	(12,678)
Interest rate derivatives	4,980	–	(100)	(34)	3,017	–	(12,255)	–
Exchange insurances	4,980	–	(100)	(34)	3,017	–	(12,255)	–
Derivatives on commodities	409,198	88,960	(400,667)	(23,391)	353,756	92,119	(370,126)	(83,467)
Futures	409,188	88,960	(400,657)	(23,391)	353,751	90,050	(370,114)	(83,467)
Others	10	–	(10)	–	5	2,069	(12)	–
Interest rate derivatives	–	183	(377)	(575)	–	2,621	(596)	(4,420)
Interest rate swaps	–	183	1,275	–	–	1,831	1,525	–
Others	–	–	(1,652)	(575)	–	790	(2,121)	(4,420)
NETTED OPERATIONS (Note 15)	(357,550)	(16,126)	357,550	16,126	(299,851)	(4,041)	299,851	4,041
Total	606,253	727,396	(448,381)	(387,153)	722,597	544,701	(285,050)	(318,966)

The maturity schedule of the notional underlyings of derivative instruments contracted by IBERDROLA Group and outstanding at 31 December 2018, is as follows:

Thousands of Euros	2019	2020	2021	2022	2023 and following	Total
INTEREST RATE HEDGES	1,723,735	1,850,088	713,324	859,901	5,218,341	10,365,389
Cash flow hedges	1,447,040	265,956	84,773	6,077	4,619,509	6,423,355
Interest rate swaps	1,447,040	265,956	84,773	6,077	4,619,509	6,423,355
fair value hedges	276,695	1,584,132	628,551	853,824	598,832	3,942,034
Interest rate swaps	195,881	1,584,132	618,051	845,824	569,332	3,813,220
Currency forwards	24,764	–	–	–	–	24,764
Others	56,050	–	10,500	8,000	29,500	104,050
EXCHANGE RATE HEDGES	10,786,854	1,587,345	1,188,394	623,215	1,897,598	16,083,406
Cash flow hedges	4,826,506	837,163	213,660	588,988	1,485,889	7,952,206
Interest rate swaps	216,453	587,683	166,635	541,688	1,457,765	2,970,224
Currency forwards	4,608,313	246,994	47,025	47,300	28,124	4,977,756
Collar	1,740	2,486	–	–	–	4,226
fair value hedges	1,413,036	750,182	974,734	34,227	244,950	3,417,129
Interest rate swaps	1,413,036	750,182	974,734	34,227	244,950	3,417,129
Fair net investment abroad	4,547,312	–	–	–	166,759	4,714,071
Interest rate swaps	–	–	–	–	166,759	166,759
Currency forwards	4,547,312	–	–	–	–	4,547,312
RAW MATERIALS HEDGES	9,039,189	1,202,004	395,293	180,564	305,025	11,122,075
Cash flow hedges	9,039,189	1,202,004	395,293	180,564	305,025	11,122,075
Futures	9,039,189	1,185,186	395,293	180,564	305,025	11,105,257
Others	–	16,818	–	–	–	16,818
NO HEDGE DERIVATIVES	3,804,159	625,247	210,111	1,043,336	28,016	5,710,869
Treasury shares derivatives	35	–	–	1,000,000	–	1,000,035
Treasury shares derivatives	35	–	–	1,000,000	–	1,000,035
Interest rate derivatives	166,957	27,280	–	–	–	194,237
Currency forwards	166,957	27,280	–	–	–	194,237
Derivatives on commodities	3,587,167	597,967	135,111	43,336	28,016	4,391,597
Futures	3,553,532	597,967	135,111	43,336	28,016	4,357,962
Others	33,635	–	–	–	–	33,635
Interest rate derivatives	50,000	–	75,000	–	–	125,000
Interest rate swaps	50,000	–	–	–	–	50,000
Others	–	–	75,000	–	–	75,000
Total	25,353,937	5,264,684	2,507,122	2,707,016	7,448,980	43,281,739

The information presented in the table above includes notional amounts of derivative financial instruments arranged in absolute terms (without offsetting assets and liabilities or purchase and sale positions) and, therefore, do not constitute the risk assumed by IBERDROLA Group since this amount only records the basis on which the calculations to settle the derivative are made.

“Finance cost” in the 2018 and 2017 consolidated income statements includes Euros 161,174 thousand and Euros 127,358 thousand, respectively, in connection with derivatives linked to financial indices that fail to meet the conditions to qualify as hedging instruments or, having met the conditions, but as explained in Notes 3.I and 43 are partially ineffective. The “Finance income” heading in the consolidated income statements for the same years also includes Euros 114,736 thousand and Euros 122,244 thousand, respectively, for the abovementioned items (Note 42).

The nominal value of the liabilities for which foreign exchange hedges (Note 4) have been arranged is as follows:



2018							
Hedge rate	Thousand US dollars	Thousand Japanese Yens	Thousand Norwegian Kroner	Thousand Mexican Pesos	Thousand Swiss Francs	Thousand Sterling Pound	Thousands of Euros
Cash flow	1,227,533	–	2,250,000	–	–	–	79,250
Fair value	2,995,082	13,000,000	–	–	–	700,000	173

2017							
Hedge rate	Thousand US dollars	Thousand Japanese Yens	Thousand Norwegian Kroner	Thousand Mexican Pesos	Thousand Swiss Francs	Thousand Sterling Pound	Thousands of Euros
Cash flow	500,000	–	1,450,000	1,500,000	–	–	–
Fair value	3,851,604	28,000,000	–	–	–	700,000	76,306

The nominal value of the most significant financial liabilities for which interest rate hedges (Note 4) have been arranged is as follows:

2018				
Hedge rate	Thousands of Euros	Thousand US dollars	Thousand Sterling Pound	Thousand Brazilian reals
Cash flow	2,610,258	–	225,000	–
Fair value	3,808,844	–	–	784,959

2017				
Hedge rate	Thousands of Euros	Thousand US dollars	Thousand Sterling Pound	Thousand Brazilian reals
Cash flow	338,611	–	225,000	–
Fair value	4,891,844	–	–	348,574

Additionally, as of 31 December 2018, the IBERDROLA Group has used derivatives to cover the interest rate risk of future financing for a nominal amount of Euros 4,642 million, helping to offset the interest rate risk (Euros 3,620 million as of 31 December 2017).

29. STATEMENT OF CASH FLOWS

The 2018 and 2017 transactions of the financial liabilities classified as financing activities in the Cash flow statement excluded from the equity sub-headings, is the following:

Thousands of Euros	Balance at 01.01.2018	First application of IFRS 9 (Note 2.a.)	Cash flow			Other non-cash changes				Modification of the consolidation perimeter (Note 6)	New leases, transfers and other	Balance at 31.12.2018
			Issues and disposals (1)	Redemption s/charge instalments paid	Interest paid	Accrual of interest	Foreign currency exchange (2)	Change in fair value and others	Accrual expenses subject to amortisation			
Financial leases	127,430	–	–	(4,924)	(5,536)	2,310	2,946	–	–	–	20,082	142,308
Debentures and bonds	26,252,859	(150,674)	4,998,038	(3,979,452)	–	–	101,856	(19,380)	95,353	–	11,011	27,309,611
Other financing transactions	9,818,844	(5,760)	8,078,830	(8,593,582)	–	–	7,329	(27,015)	1,189	–	57,676	9,337,511
Unpaid accrued interest	409,160	–	–	–	(1,188,823)	1,189,802	(2,343)	–	–	–	39	407,835
Derivatives on the company's own shares with a physical settlement (Note 20)	82,205	–	–	(732,293)	–	–	–	–	–	–	779,295	129,207
Total Loans and borrowings and other financial liabilities - Loans and others (Note 27)	36,690,498	(156,434)	13,076,868	(13,310,251)	(1,194,359)	1,192,112	109,788	(46,395)	96,542	–	868,103	37,326,472
Derivative financial instruments associated with financing	(557,688)	–	71,531	150,295	121,547	(111,255)	(294,749)	182,975	–	–	403	(436,941)
Total	36,132,810	(156,434)	13,148,399	(13,159,956)	(1,072,812)	1,080,857	(184,961)	136,580	96,542	–	868,506	36,889,531

Thousands of Euros	Balance at 01.01.2017	First application of IFRS 9 (Note 2.a.)	Cash flow			Other non-cash changes				Modification of the consolidation perimeter (Note 7)	Liabilities held for sale (Note 34)	Transfers and other	Balance at 31.12.2017
			Issues and disposals ⁽¹⁾	Redemptions/charge instalments paid	Interest paid	Accrual of interest	Foreign currency exchange ⁽²⁾	Change in fair value and others	Accrual of expenses subject to amortisations				
Financial leases	167,467	–	–	(26,853)	(4,100)	2,506	(11,590)	–	–	–	–	–	127,430
Debentures and bonds	24,216,780	–	5,656,673	(3,336,573)	–	–	(1,149,075)	(95,415)	53,762	1,070,943	(30,617)	(133,619)	26,252,869
Other financing transactions	6,213,210	–	7,930,778	(7,064,800)	–	–	(389,275)	30,534	10,690	2,788,035	–	299,672	9,818,844
Unpaid accrued	418,374	–	–	–	(1,093,571)	1,072,649	6,682	–	–	–	–	5,026	409,160
Derivatives on the company's	204,851	–	688,499	(539,400)	–	–	–	–	–	–	–	(271,745)	82,205
Total Loans and borrowings	31,220,682	–	14,275,950	(10,967,626)	(1,097,671)	1,075,155	(1,543,258)	(64,881)	64,452	3,858,978	(30,617)	(100,666)	36,690,498
Derivative financial instruments	(706,674)	–	49,722	85,059	120,364	(144,320)	224,434	(37,912)	–	37,224	–	(185,585)	(557,688)
Total	30,514,008	–	14,325,672	(10,882,567)	(977,307)	930,835	(1,318,824)	(102,793)	64,452	3,896,202	(30,617)	(286,251)	36,132,810

(1) Net emissions of expenses.

(2) Includes differences in exchange rates.

30. OTHER CURRENT AND NON-CURRENT LIABILITIES

Details of “Other non-current liabilities” in the consolidated financial statement are as follows:

Thousands of Euros	31.12.2018	31.12.2017
Long term deposits and guarantees (Note 13.b.)	166,772	157,912
Concessional guarantee of the sufficiency tariff in Brazil (Note 11)	41,394	–
Other investments in equity-accounted investees	–	356
Contract liabilities (Note 2.a.)	373,258	408,193
Others	292,582	574,177
Total	874,006	1,140,638

The detail of “Other current liabilities” in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Short-term deposits and guarantees (Note 13.b.)	147,927	167,507
Other investments in equity-accounted investees	93,681	111,994
Short-term intangible trade	573,820	869,597
Staff pending remuneration	232,291	231,044
Others	610,690	485,805
Total	1,658,409	1,865,947

31. DEFERRED TAXES AND CORPORATE INCOME TAX

Due to the multinational nature of the IBERDROLA Group, it is subject to the regulations in force in other tax jurisdictions.

Taxation in Spain

IBERDROLA S.A. is the parent company of two consolidated tax groups in Spain: the 2/86 group, in the so-called common tax system territory, and the 02415BSC group, in the Biscay tax system territory. IBERDROLA S.A. is currently fiscally incorporated into the former.

The 2/86 group is made up of 74 companies, while the 02415BSC group comprises 21.

The other entities that are fiscal residents in Spain and which are not incorporated into these two groups pay corporate income tax on an individual basis.

Companies taxed under the common tax system are subject to a 25% rate in 2018, while in the fiscally autonomous foral regions of Biscay, Gipuzkoa, Álava and Navarra it is 26%.

Taxation in other countries

Other Group companies whose fiscal residence is outside Spain are taxed based on their resident jurisdiction. In the United States, company taxation is based on a consolidated fiscal system, with the existence of a federal tax group, with a tax group also operating in other countries. In the United Kingdom, the group relief mechanism is used. In other tax jurisdictions, Group companies are taxed on an individual basis.

The nominal tax rates applicable in the main jurisdictions in which the IBERDROLA Group operates are as follows (OECD figures, including central and federal governments):

Country	2018	2017
Australia	30	30
Brazil	34	34
Bulgaria	10	10
Canada	26.8	26.7
Cyprus	12.5	12.5
France	34.4	34.4
Germany	29.8	29.8
Greece	29	29
Hungary	9	9
Ireland	12.5	12.5
Italy	27.8	27.8
Luxembourg	26	27.1
Mexico	30	30
Netherlands	25	25
Portugal	31.5	29.5
Qatar	10	10
Romania	16	16
South Africa	28	28
Spain	25-26	25-28
United Kingdom	19	19
United States	25.8	38.9

Income tax expenses proceeds

The accrued corporate income tax expense for 2018 and 2017 is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Profit for the year from continuing activities before tax	4,348,034	2,025,850
Profit for the year from discontinued operations before tax	(64,660)	(321,490)
Consolidated profit of the year before tax	4,283,374	1,704,360
Non-deductible expenses and non-computable income:	–	–
- from individual companies	(40,425)	(145,236)
- from consolidation adjustments	(140,079)	417,238
Profit of companies accounted for using the equity method	(55,904)	28,405
Adjusted accounting profit	4,046,966	2,004,767
Gross tax calculated at the tax rate in force in each country (a)	987,888	645,715
Tax credits deductions due to reinvestment of extraordinary profits and other tax credits	(84,118)	(48,888)
Adjustment of prior years' income tax expense (b)	(22,865)	(47,757)
Net movement in provisions for litigation, compensation payments, similar costs and other provisions (c)	12,400	71,065
Adjustment of deferred tax assets and liabilities (d)	38,022	(2,065,500)
Taxes related to non-distributed earnings	15,519	(12,206)
Others	(841)	(8,034)
Income/Expense Tax from continuing operations	959,499	(1,397,126)
Income /Expense Tax from discontinuing operations	(13,494)	(68,479)
Income Tax	946,005	(1,465,605)



The breakdown between current and deferred Income tax is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Current taxes	663,373	799,441
Deferred taxes	282,632	(2,265,046)
Expense/(income) from continuing and discontinued activities	946,005	(1,465,605)

Deferred taxes

The detail of “Deferred tax assets” and “Deferred tax liabilities” in the consolidated statement of financial position is as follows:

Thousands of Euros	Balance at 01.01.2017	Modification of the consolidation perimeter (Note 6)	Translation differences	Credit (charge) to the income statement	Credit (charge) to Unrealised gains/(losses) reserve	Credit (charge) to "Other reserves"	Balance at 31.12.2017	Modification of the consolidation perimeter	IFRS 9 and IFRS 15 first application (Note 2.a)	Translation differences	Credit (charge) to the income statement	Credit (charge) to Unrealised gains/(losses) reserve	Credit (charge) to "Other reserves"	Other	Balance at 31.12.2018
Deferred tax assets:															
Measurement of financial instruments Derivatives	546,647	384	(43,754)	31,866	(231,531)	–	303,612	(1,356)	121	1,308	(49)	(30,468)	–	–	273,168
Balance sheet revaluation 16/2012	1,560,204	–	–	(120,181)	–	–	1,440,023	–	–	–	(106,560)	–	–	–	1,333,463
Pensions and similar commitments	747,380	102,884	(178,588)	(35,283)	–	(121,449)	514,944	–	–	(2,453)	68,974	–	8,605	–	590,070
Allocation of non-deductible negative goodwill arising on consolidation	66,881	–	–	(1,856)	–	–	65,025	–	–	–	(1,143)	–	–	–	63,882
Provision for facility closure costs	56,857	–	(1,767)	19,347	–	–	74,437	–	–	1,269	7,926	–	–	–	83,632
Tax credits for losses and deductions	2,499,398	–	(242,949)	(587,448)	–	–	1,669,001	926	–	41,971	181,752	–	–	58,449	1,952,099
Other deferred tax assets	1,480,787	73,217	13,970	(252,643)	–	–	1,315,331	(756)	82,267	15,625	(120,977)	–	–	(101,805)	1,189,685
Total	6,958,154	176,485	(453,088)	(946,198)	(231,631)	(121,449)	5,382,273	(1,186)	82,388	57,720	29,923	(30,468)	8,605	(43,356)	5,485,999

Thousands of Euros	Balance at 01.01.2017	Modification of the consolidation perimeter (Note 6)	Translation differences	Credit (charge) to the income statement	Credit (charge) to Unrealised gains/(losses) reserve	Balance at 31.12.2017	IFRS 9 and IFRS 15 first application (Note 2.a)	Modification of the consolidation perimeter	Translation differences	Credit (charge) to the income statement	Credit (charge) to Unrealised gains/(losses) reserve	Balance at 31.12.2018
Deferred tax liabilities												
Available for sale assets	–	–	–	–	306	306	–	–	–	(154)	–	152
Measurement of financial instruments Derivatives	555,549	–	(20,165)	(2,821)	(188,315)	344,248	–	(1,357)	1,449	(38,424)	(19,207)	286,709
Accelerated amortisation	6,728,748	–	(744,049)	(1,595,784)	–	4,388,915	10,468	(49,772)	139,698	29,608	–	4,518,917
Overprice in business combinations	4,829,544	432,330	(437,438)	(1,558,693)	–	3,265,743	–	(163)	21,119	3,708	–	3,290,407
Other deferred tax liabilities	626,820	20,586	(34,253)	(53,946)	–	559,207	52,623	(956)	17,691	317,817	–	946,382
Total	12,740,661	452,916	(1,235,905)	(3,211,244)	(188,009)	8,558,419	63,091	(52,248)	179,957	312,555	(19,207)	9,042,567

Administrative action

The inspections undertaken at the close of 2018 varied depending on the tax legislation in place in each country, although it is not expected that any of these will highlight significant impact that has not already been considered in financial statements.

In the case of Spain, there was no general inspection ongoing at the close of the year, although throughout the year a number of partial checks were carried out, with the reports duly signed off as accepted or contested. The accepted reports represent insubstantial payment sums for the Group, while the contested reports are zero rated.

In those other countries in which the Group has a significant presence, the main ongoing inspections are as follows:

- In America, the most important ongoing inspection relates to income tax in the New York State. Additionally, given its status as a major contributor at both a federal and state level, the AVANGRID Group has around 34 inspections ongoing, examining other tax figures.
- In the UK, Scottish Power the HRMC tax authority has classified the company as a low-risk contributor. The only relevant question for discussion relates to the deductibility of certain payments under the guidance of OFGEM, the electricity and gas market regulator.
- Finally, Brazil can be characterised as a jurisdiction that frequently resorts to litigation, with countless inspections ongoing. This is due to the country's fiscal and administrative structures and the habitual actions of its tax authorities. Nevertheless, NEOENERGIA's directors do not expect any significant impact. Generally speaking, these procedures are resolved in favour of the tax administration in a very limited number of cases.

Tax litigation

The IBERDROLA Group includes among its principles the strengthening of the relationship with the tax authorities, based on the respect for the law, loyalty, trust, professionalism, cooperation, reciprocity and good faith, regardless of the legitimate discrepancies that may arise in relation to the interpretation of fiscal law. Therefore, whenever such discrepancies occur, the Group works with the authorities in a spirit of cooperation, in line with its principles of transparency and mutual trust.

As in previous years, all the Group's work this year is analysed by its internal and external advisors, determining whether its activities comply with the law and are based on reasonable interpretations of tax regulations. The existence of contingent liabilities is also analysed – here the Group's general criterion consists of setting aside provisions for tax litigation when there is high risk that the outcome is unfavourable to the Group's interests, while this set-aside does not occur where the risk level is lower or remote.

The IBERDROLA Group's directors and, where appropriate, their tax consultants consider that the current inspection process will not give rise to additional liabilities of significance for the IBERDROLA Group at 31 December 2017.

Tax litigation in Spain

In the case of Spain, the Group is currently awaiting ruling by the Central Economic Administrative Court on the appeals arising from the contested reports from 2008 to 2011.

The main adjustments that feature in the settlement agreements stemming from these contested reports refer to the assessment of the goodwill, susceptible to tax depreciation through the SCOTTISH POWER take-over, the elimination of SCOTTISH POWER's tax exemption for dividends based on the inspection's understanding that it is incompatible with an adjustment of the value of the portfolio due to net investment hedges, differences in fiscal consolidation criteria and a possible concurrence of a debtor change and certain bond issues, pursuant to Article 15.1 of the General Taxation Act.

Tax litigation in other countries

In general, there is no significant tax litigation in the other jurisdictions under which the group operates, except in the case of Brazil, where there are numerous administrative and judicial litigation and other processes, in which the Group expects to obtain a favourable final ruling.

32. TAX RECEIVABLES AND PAYABLES

The breakdown of the headings "Income tax receivables/payables" and "Public entities, other/payables" on the asset and liability sides, respectively, in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Public Administrations receivables		
Public Treasury, Corporate income tax receivables	252,907	546,304
Public Treasury, VAT refundable	229,975	193,359
Tax withholdings and prepayments	158,319	76,136
Public Treasury, other Receivables	115,150	49,087
Total	756,351	864,886
Public Administrations Payables		
Public Treasury, Corporate income tax Payables	349,314	259,633
Public Treasury, VAT payable	105,942	182,294
Public Treasury, withholdings payable	69,980	60,698
Public Treasury, other payables	837,010	717,298
Social Security Agencies, payables	26,517	28,636
Total	1,388,763	1,248,559

33. TRADE PAYABLES

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Suppliers	3,313,610	3,244,267
Service payables	1,945,804	1,874,977
Contract liabilities (Note 2.a)	169,519	188,307
Total	5,428,933	5,307,551

The majority of these accounts payable do not accrue interest.

34. INFORMATION ON AVERAGE PAYMENT PERIOD TO SUPPLIERS. THIRD ADDITIONAL PROVISION. "REPORTING REQUIREMENT" OF LAW 15/2010, OF 5 JULY

The breakdown of the required information at 31 December 2018 and 2017 is the following:

	Number of days	
	2018	2017
Average payment period to suppliers.	15	16
Paid transactions ratio	14	16
Outstanding payment transactions ratio	26	29

Thousands of Euros	2018	2017
Total payments made	13,413,355	13,754,653
Total payments due	301,766	269,561

The information in the table above has been prepared in accordance with Law 15/2010 of 5 July, amending Law 3/2004 of 29 December, establishing measures to combat late payments in commercial operations and in accordance with the Resolution of 29 January 2016, from the Instituto de Contabilidad y Auditoría de Cuentas, on the information to be included in the notes to the annual accounts in relation to deferred payments to suppliers in commercial transactions operations. The specifications with which such information has been prepared are the following:

- Ratio of paid operations: amount in days of the ratio between the sum of the amount of each of the operations paid and the number of paydays and the total amount of payments made during the year.
- Ratio of outstanding payment operations: amount in days of the ratio between the sum of the amount of the outstanding payment transaction and the number of unpaid days, and the total amount of outstanding payments.
- Suppliers: trade payables generated from debts of goods or services with suppliers included in the current liabilities heading of the balance sheet.
- Property, plant and equipment and other financial lease suppliers are not considered in the information scope.
- Taxes, levies, indemnifications and some other headings are not considered in the information scope since they are not commercial transactions.
- The table shows information corresponding to Spanish companies included in the consolidated group once the credits and debits between the subsidiary companies are eliminated.

35. REVENUE

The breakdown of this heading in the consolidated statements of financial position is as follows:

Year 2018	Liberalised							Renewables							Networks							Other business, Corporati on and adjustme nts	Total
Thousands of Euros	Spain and continent al Europe	United Kingdom	Mexico	Brazil	Eliminati ons	Total	Spain	United Kingdom	United States	Mexico	Brazil	RoW	Total	Spain	United Kingdom	United States	Brazil	Total					
Supplies in regulated markets																							
Electricity	1,460,126	–	1,491,876	–	–	2,952,002	691,452	–	–	–	–	–	691,452	2,021,992	1,258,451	3,022,356	5,150,745	11,453,544	(164,393)	14,932,605			
Gas	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1,234,545	–	1,234,545	–	1,234,545			
Supplies and other income in non- regulated markets																							
Electricity	9,417,384	3,491,537	752,128	792,889	(19,881)	14,434,057	1,004,662	366,590	926,285	90,326	243,801	289,685	2,921,349	–	–	15,978	–	15,978	(2,347,283)	15,024,101			
Gas	1,650,534	1,510,850	–	–	(131,950)	3,029,434	–	–	–	–	–	–	–	–	–	–	–	–	30,723	3,060,157			
Others	450,180	19,114	–	–	–	469,294	–	330,883	129,341	415	–	–	460,639	36,320	17,097	1,898	–	55,315	(369,208)	616,040			
Income from construction agreements	–	–	–	–	–	–	–	–	–	–	–	–	–	66,732	–	–	34,634	101,366	–	101,366			
Income for lease agreements	–	–	–	–	–	–	–	–	–	–	–	–	–	490	–	–	–	490	26,764	27,254			
Derivatives on commodities	106,546	1,174	2,245	–	(2,575)	107,390	–	–	(28,701)	254	–	–	(28,447)	–	–	–	–	–	862	79,805			
Total	13,084,770	5,022,675	2,246,249	792,889	(154,406)	20,992,177	1,696,114	697,473	1,026,925	90,995	243,801	289,685	4,044,993	2,125,534	1,275,548	4,274,777	5,185,379	12,861,238	(2,822,535)	35,075,873			

Year 2017	Liberalised						Renewables							Networks						Other business, Corporation and adjustments	Total
Thousands of Euros	Spain and continental Europe	United Kingdom	Mexico	Brazil	Eliminations	Total	Spain	United Kingdom	United States	Mexico	Brazil	RoW	Total	Spain	United Kingdom	United States	Brazil	Total			
Supplies in regulated markets	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Electricity	1,590,553	–	1,384,937	–	–	2,975,490	655,769	–	–	–	–	–	655,769	1,894,253	1,201,373	2,883,994	3,371,691	9,351,311	(477,899)	12,504,671	
Gas	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1,184,831	–	1,184,831	–	1,184,831	
Supplies and other income in non- regulated markets	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Electricity	8,791,296	3,571,298	930,080	399,615	(72,604)	13,619,685	637,529	316,340	862,802	73,590	90,895	125,962	2,107,118	–	–	13,829	–	13,829	(1,467,809)	14,272,823	
Gas	1,260,597	1,257,415	–	–	(85,528)	2,432,484	–	–	–	–	–	–	–	–	–	–	–	–	18,275	2,450,759	
Others	436,679	14,360	–	–	(255)	450,784	–	285,468	113,737	–	–	–	399,205	38,725	20,655	525	–	59,905	(254,466)	655,428	
Income from construction agreements	–	–	–	–	–	–	–	–	–	–	–	–	–	83,713	–	–	–	83,713	–	83,713	
Income from lease agreements	–	–	–	–	–	–	–	–	–	–	–	–	–	542	–	–	–	542	25,178	25,720	
Derivatives on commodities	98,261	3,435	(50)	(81)	(11,810)	89,755	–	–	(5,433)	178	2,663	–	(2,592)	–	–	–	–	–	(1,846)	85,317	
Total	12,177,386	4,846,508	2,314,967	399,534	(170,197)	19,568,198	1,293,298	601,808	971,106	73,768	93,558	125,962	3,159,500	2,017,233	1,222,028	4,083,179	3,371,691	10,694,131	(2,158,567)	31,263,262	

36. PROVISIONS

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017 Restated (Note 2.d)
Liberalised business	16,824,304	15,811,674
Spain and Continental Europe	10,670,202	9,884,521
United Kingdom	4,159,851	4,103,766
Mexico	1,489,687	1,668,931
Brazil	658,960	324,363
Eliminations	(154,396)	(169,907)
Renewables business	434,058	368,014
Spain	116,342	119,119
United Kingdom	53,753	54,858
United States	191,828	188,263
Mexico	3,108	2,576
Brazil	65,606	1,818
RoW	3,421	1,380
Networks business	5,219,469	3,907,433
Spain	15,991	14,354
United Kingdom	53,101	48,385
United States	1,494,913	1,329,213
Brazil	3,655,464	2,515,481
Other business, Corporation and adjustments	(2,837,095)	(2,187,667)
Total	19,640,736	17,899,454

37. PERSONNEL EXPENSES

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Wages and salaries	1,973,562	1,926,519
Company social security costs	292,731	262,223
Additional provisions for pensions and similar obligations and defined contributions to the external pension plan (Notes 3.p and 25)	195,706	413,463
Remuneration stipulated in by-law 48.1 (Note 47)	17,000	17,000
Token payments Art. 48.4	5,588	3,398
Other social expenses	194,138	153,391
	2,678,725	2,775,994
Capitalised personnel expenses		
Intangible assets (Note 8)	(73,899)	(42,299)
Property, plant and equipment (Note 3.d)	(581,672)	(558,874)
Nuclear fuel	(3,148)	(3,225)
	(658,719)	(604,398)
Total	2,020,006	2,171,596

The average number of IBERDROLA Group employees in 2018 and 2017 has increased to 33,415 and 28,750 employees, of which 7,729 and 6,711 are women, respectively.

The average number of employees in the consolidated group corresponds to all the employees in those consolidated companies that have been integrated using the global integration method, as well as the employees of the joint ventures determined in accordance with the participation share in those ones.

38. OPERATING LEASES

The “External services” heading on the income statements includes operating lease payments of Euros 148,607 thousand and Euros 148,810 thousand for 2018 and 2017, respectively. Details of future minimum payments under non-cancellable operating leases outstanding at 31 December 2018 are as follows:

Thousands of Euros	
2019	126,656
2020	129,403
2021	124,231
2022	116,221
2023	104,473
From 2024 onwards	1,498,675
Total	2,099,659
Financial Cost	637,505
Present value of the payments	1,462,154
Total	2,099,659

The IBERDROLA Group's enters into lease agreements acting as lessee mainly for land, buildings and vehicles located at wind farms.

The amount differs from the effect of the application of IFRS 16 “Leases” for the first time as explained in Note 2.a.

On the other hand, the IBERDROLA Group acts as lessor in certain operating leases consisting basically on the rental of investment property (Note 9) and the lease of fibre optics. The heading “Net revenue” in the consolidated income statements in 2018 and 2017, includes Euros 50,607 thousand and Euros 47,885 thousand, respectively, related to this concept and the detail of the estimated future minimum proceeds under non-cancellable leases at 31 December 2018 is as follows:

Thousands of Euros	
2019	54,879
2020	35,307
2021	32,000
2022	29,706
2023	27,954
From 2024 onwards	124,084
Total	303,930
Financial Cost	54,842
Present value of the payments	249,088
Total	303,930

39. TAXES

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017 Restated (Note 2.d)
Liberalised business	802,050	861,408
Spain and continental Europe	693,509	726,622
United Kingdom	106,971	131,536
Brazil	44	39
Mexico	1,526	3,211
Renewable business	468,006	351,676
Spain	396,418	284,266
United Kingdom	23,624	21,817
United States	43,650	39,655
Mexico	357	319
Brazil	539	2,016
ROW	3,418	3,603
Networks business	647,683	636,772
Spain	90,106	89,384
United Kingdom	105,368	101,948
United States	448,421	444,319
Brazil	3,788	1,121
Other business, Corporation and adjustments	13,264	24,647
Total	1,931,003	1,874,503

Law 15/2012 was published on 28 December 2012, regarding tax measures to ensure sustainability of the energy sector. The law introduced the following tax figures registered under "Taxes" of the consolidated income statements of 2018 and 2017:

- A tax on the value of electricity output, entailing payment of 7% of the total amount to be received by the taxpayer for the production of electricity and incorporation thereof in the Spanish electricity system, measured at power station busbars, during the tax period. This tax gave rise to an expense of Euros 194,038 thousand and Euros 225,225 thousand in 2018 and 2017 respectively.
- A tax on spent nuclear fuel, the cost of which amounted to Euros 131,509 thousand and Euros 129,315 thousand in 2018 and 2017, respectively.
- A royalty on the use of inland water affecting production of electricity which, as a general rule, means the payment of a percentage of the economic value of the hydroelectric power produced. The corresponding expense in 2018 and 2017, amounting to Euros 165,135 thousand and Euros 82,365 thousand, respectively.
- A green cent tax levied against energy products used in electricity production, entailing a cost for the IBERDROLA Group of Euros 35,575 thousand and Euros 46,648 in 2018 and 2017, respectively. This payment was recognised under "Procurements" in the consolidated income statement.

Additionally, the sub-heading 'Taxes' of the 2018 and 2017 consolidated income statement includes Euros 168,310 and 165,264 thousands of Euros, respectively, as the best estimate available of the accrued expenses originated by Royal Decree-Law 6/2009 (Note 3.y).

40. AMORTISATIONS AND PROVISIONS

The breakdown of this heading in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017 (re-stated Note 2.d)
Tangible assets depreciation allowances:		
Property, plant and equipment (Note 10)	2,842,430	2,636,990
Acquisition of real property (note 9)	7,533	6,965
Intangible assets depreciation allowances (Note 8):	737,136	542,093
Allowances for impairments and write-offs of non-financial assets:		
Goodwill write off of Renewables in USA (Notes 8 and 12)	–	449,480
Reversal of impairment of intangible assets in Renewables in USA (Notes 8 and 12)	(52,688)	(42,959)
impairment of intangible assets in Gas in USA and Canada (Note 8)	–	68,715
impairment of PPE in Gas in USA and Canada (Note 10)	–	633,003
Other impairments in Gas in USA	–	41,853
Charge Reversal of impairment in PPE (Note 10)	13,565	(24,357)
Other impairment in PPE (Note 10)	81,049	37,499
Changes in provisions	26,849	59,388
Total	3,655,874	4,408,670

Prior to the sale of the gas business in the United States and Canada in 2018 (Note 41), the IBERDROLA Group received binding offers for the sale of the above for a value below the book value of the assets and liabilities for sale. Therefore, a loss for impairment of intangible assets, property, plant and equipment and inventories has been recognised in the amount of Euros 743,571 thousand. Before the decision to sell and the reception of the binding offers, the impairment of the assets was not required as long as its value in use was above its book value.

41. GAINS AND LOSSES ON DISPOSAL OF NON-CURRENT ASSETS

Details of “Gains and losses on disposal of non-current assets” in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Gain on the disposal of intangible assets and PPE	10,419	3,420
Gain on the disposal of equity investments	38,049	295,673
Total	48,468	299,093

Details of “Losses due to disposal of non-current assets” in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Loss on the disposal of intangible assets and PPE	2,331	2,611
Loss on the disposal of equity investments	37,286	17,428
Total	39,617	20,039

Year 2018

The gross losses recognised under "Losses on Disposal of Non-Current Assets" in the consolidated statement of income for 2018 relate mainly to the sale of the gas business in the United States for Euros 13,881 thousand and the 80% stake in the company Coyote Ridge Wind LLC to WEC Infrastructure for Euros 23,116 thousand (Notes 6 and 13.a).

Gross capital gains recognised in "Earnings from sales of non-current assets" on the consolidated financial statement for 2018 corresponds to the sale of IBERDROLA Energía Solar de Puertollano, S.A. for Euros 12,470 thousand and of Scottish Power Generation Limited for Euros 25,579 thousand (Note 6).

Year 2017

- As a consequence of the merger of the wind energy businesses SIEMENS and GAMESA (Note 13), there was a dilution in the percentage of shares held by the IBERDROLA Group, from 19.69% to 8.07%. The result obtained as a result of the aforementioned dilution of the operation reached 250,695 thousand, which were registered under sub-heading 'Gains on disposal of non-current assets' in the 2017 consolidated income statement.
- In April 2017, the IBERDROLA Group sold its shareholding in Amara, S.A.U. for an amount of Euros 8,000 thousand, which implied a gross capital loss of 14,502 thousand and was registered under the sub-heading 'Losses on disposal of non-current assets' in the 2017 consolidated income statement.
- In August 2017 the incorporation of ELEKTRO HOLDING in NEONERGIA was completed (Note 6). The result obtained as a result of the aforementioned dilution of the operation reached 44,012 thousands of Euros, which were registered under sub-heading 'Gains on disposal of non-current assets' in the 2017 consolidated income statement.

42. FINANCIAL INCOME

Details of "Finance Income" in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Income from equity investments	2,284	2,082
Finance income related to assets at amortised cost:		
Other financial interests and income	194,261	223,238
Other interest and finance income due to credits to associated companies	58	96
Non-hedge derivatives and inefficiencies (Note 28)	114,736	122,244
Exchange losses in foreign currency for financing activities	191,789	273,000
Other Exchange losses in foreign currency	143,360	164,808
Capitalised finance costs		
Intangible assets (Note 8)	35,735	21,506
Property, plant and equipment (Note 10)	156,896	112,536
Nuclear fuel (Note 16)	633	2,193
Inventories in real property (Note 17)	159	87
Total	839,911	921,790

The average capitalisation rates used in 2018 and 2017 for external financing of property, plant and equipment was 3.68% and 2.63%, respectively (Note 3.d).

43. FINANCIAL COSTS

Details of "Financial costs" in the consolidated statements of financial position is as follows:

Thousands of Euros	31.12.2018	31.12.2017
Finance cost related to liabilities at amortised cost:		
Finance cost and financing expenses	1,234,475	1,055,901
Other finance cost and similar expenses	94,503	71,171
Securities portfolio having the substance of a financial liability (Note 22)	12,026	6,230
Non-hedge derivatives and inefficiencies (Note 28)	161,174	127,358
Valuation adjustment to financial assets	2,798	9,015
Exchange losses in foreign currency for financing activities	198,604	279,193
Other Exchange losses in foreign currency	146,415	178,212
Financial update of other provisions (Note 26)	68,057	61,792
Financial update of provisions for pensions and similar obligations (Note 25)	77,953	70,020
Total	1,996,005	1,858,892

44. CONTINGENT ASSETS AND LIABILITIES

The IBERDROLA Group companies are part of some legal and out-of-court disputes arising as part of their ordinary course of business (ranging from conflicts with suppliers, clients, administrative or tax authorities, individuals, environmental activists and employees). The IBERDROLA Group's legal advisors believe that these proceedings will not have a material impact on its financial and equity position.

Regarding such disputes, the main contingent assets and liabilities of the IBERDROLA Group not recognised in these consolidated financial statements as the criteria established in accounting regulations is not met, are as follows:

Contingent liabilities

- On 16 June 2014, the CNMC began sanction proceedings against IBERDROLA GENERACIÓN ESPAÑA for alleged fraudulent procedures to alter the price of electricity at the Duero, Tajo and Sil hydroelectric power generation units in December 2013. The fine was announced on 30 November 2015, in the amount of Euros 25 million. IBERDROLA GENERACIÓN ESPAÑA submitted an appeal to the National Court's Contentious-Administrative Section, and this was admitted to proceedings, being also granted the suspension of the execution of the sanction. The IBERDROLA Group believes its action was proper and legal, and did not therefore make any provision for this during the year. The procedure is currently suspended due to prejudication issues.
- Claims filed with the Central Economic Administrative Court, arising from the disagreement statement signed by the Group in 2016, corresponding to the years 2008 to 2011. The main adjustments under dispute arise from the elimination of the exemption regime for dividends received, as the tax inspection considers that it is incompatible with an adjustment in the value of the portfolio for net investment coverage, differences in tax consolidation criteria and the possible concurrence in a debtor exchange transaction regarding some bond issues, due to the circumstances established in article 15.1 of the General Tax Law.

- Arbitration filed by Offshore Windforce (OWF) against IBERDROLA RENOVABLES OFFSHORE DEUTSCHLAND GmbH, due to the contracting of OWF (among others) for the installation of the wind turbine jackets for the Wikinger wind farm. During the construction process differences arose between the parties which resulted in a mutual contractual claim as regards deadline and cost, in the case of OWD, and delay penalties, in the case of IBERDROLA RENOVABLES OFFSHORE DEUTSCHLAND.

On 14 July 2018 IBERDROLA RENOVABLES OFFSHORE DEUTSCHLAND GmbH received an arbitration claim amounting to Euros 71,548 thousand, which have been accrued in the probable. On 23 November 2018 IBERDROLA replied to the arbitration request and in turn filed a counter-claim.

- The subcontractor for one of BOP Eléctrico's contractors from IBERDROLA Energy Projects (IEP, a subsidiary of IBERDROLA INGENIERÍA) on a US project has taken court action against IEP and the BOP Eléctrico contractor, claiming payment for work undertake and unpaid wages. The case has been suspended pending the result of arbitration proceedings involving IEP and the BOP Eléctrico contractor before the American Arbitration Association's International Centre for Dispute Resolution.

On 2 February 2019 the project's client expressed his intention of executing 100% of the guarantee value (USD 141 million)

- There are several labour, civil and tax complaints filed in Brazil against several NEOENERGIA Group companies. The IBERDROLA Group considers that the risk assessment of the possible losses is made by the companies, in accordance with the opinions of the administration and external legal advisors, making the corresponding provisions in accordance with the likelihood of loss depending on the available evidence, legal hierarchy and most recent case-law.

Labour complaints were filed by former NEOENERGIA Group companies or by former subcontractor as regards additional working hours, equitable salaries and other employment rights. Civil proceedings refer to actions of a commercial and indemnifying nature brought in claims for material or moral damages, arbitrations discussing matters related to engineering and energy contracts, and environmental actions.

Among these, the following infractions in place are due to:

- The lack of income tax withholding and the incidence of PIS / COFINS corresponding to the payment of interest on own capital.
- Tax assessment notice issued by the federal tax body (Receita Federal do Brasil) for the collection of capital gains tax originating from the acquisition of Neenergia Group companies (Celpe, Coelba, Cosern, Elektro, Itapebi and Termopernambuco).

They are administrative and court proceedings involving the distribution companies and the retail company NC Energia and the state tax body as regards movement of goods.

As regards regulatory actions, the distribution companies Coelba, Celpe, Cosern and Elektro are involved in similar proceedings, among which the following should be highlighted: (i) the procedures for calculating individual and collective technical continuity indicators of the service ; (ii) commercial issues; (iii) the implementation of the corresponding financial compensations and the recovery of global indicators; (iv) issues relating to the collection or legality of rate elements or items; and (v) issues regarding the legality of the administrative actions imposed by ANEEL.

- Claim by the California Public Utilities Commission: In 2002, the California Public Utilities Commission and the California Electricity Oversight Board ("CPUC" and "CEOB", respectively) submitted a claim to the FERC against a number of electricity producers, alleging that these companies had manipulated the market and that the prices set in energy purchase contracts were "unfair and unreasonable", and demanded modifications to the contracts.

FERC dismissed the claim and, following a review by the Californian courts, the Supreme Court ordered FERC to review the case, which had remained dormant since 2008. In April 2016, following the reopening of the 2014 case, an initial ruling was issued that dismissed any market manipulation by Avangrid Renewables, but considered that the prices in its energy purchase contract were excessive and to the detriment of end consumers. Damages were set at USD 259 million plus interest.

FERC recommended filing the case without sanction. Following these proceedings, FERC is expected to issue a final ruling in the last quarter of 2019 and its decision may be appealed in the courts. The IBERDROLA Group expects that the proceedings will eventually be suspended without any sanction.

Contingent assets

- AVANGRID initiated legal proceedings against the former owners of certain sites in order to recover the costs of environmental restoration work it was forced to pay.
- The subsidiary of IBERDROLA INGENIERÍA in Canada initiated two arbitrations before the International Chamber of Commerce, at its headquarters in Paris, against the boiler supplier of the two biomass projects in Canada: (i) One arbitration is on non-compliance with the supply contracts, issuing a complaint for damages and (ii) the other to issue a claim against the return of amounts paid to the supplier on the price of the supply contracts. The arbitrations are currently suspended given that the supplier is involved in insolvency proceedings in the United States.

The IBERDROLA Group's appeals on regulatory issues were submitted in opposition to general dispositions of an indefinite amount, affecting the regulatory and remuneration framework of the companies. Therefore, they concern regulatory dispositions that were in force at the time of appeal.

IBERDROLA Group's assets are not at risk with respect to the appeals submitted against general energy stipulations because the economic effects of the stipulations challenged apply when they come into force. An estimate of the appeals submitted by third parties has a limited economic scope, as this would force amendments to the regulatory framework and possible refunds.

Among the regulatory litigation brought by third parties that may affect the remuneration and equity of the IBERDROLA Group there are no outstanding resources for its importance.

In addition, within the ordinary business of IBERDROLA Group, the following contingent liabilities have arisen:

- The American gas companies are either the owners or former owners of the land on which they operate gas manufacturing plants. This land has been contaminated as a result of this activity. In some cases, the land has been decontaminated while in others it has been assessed and classified, although not cleaned. In a number of other cases, the level of contamination has yet to be determined. This latter group has not set aside any provision as of 31 December 2018, given that the cost cannot be reasonably estimated as it requires the participation and approval of the regulators. In the past, gas companies were given approval to recover the cost of decontamination from customers through tariffs, as well as hoping to similarly recuperate the cost of cleaning other land.

The contingent assets and liabilities at 31 December 2017 are described in the 2017 consolidated annual accounts of IBERDROLA.

45. INTERESTS IN JOINT VENTURES

The detail (at 100%) of the most significant economic aggregates in 2018 and 2017 relating to the main joint ventures involving the IBERDROLA Group is as follows:

Thousands of Euros	Joint property of nuclear and thermal plants					A.I.E. Almaraz- Trillo	A.I.E. Ascó- Valdellós	West of Duddon Sands	Wiking OSS	Torre IBERDROLA Other businesses
Year 2018	Almaraz	Trillo	Vandellós	Ascó	Aceca					
Segment	Liberalised							Renewables		Other businesses
Intangible assets.	–	–	–	–	–	5,290	–	–	–	21
Property, plant and equipment										
Technical installations	692,494	952,610	948,438	594,792	–	–	–	1,456,429	147,727	–
Other fixed assets	340	4,133	14,271	–	1,811	2,029	–	–	–	184,896
Non-Current financial Assets	22,533	11,291	43,090	9,864	2,430	1,919	144,532	–	–	–
Current assets	707,494	382,790	369,356	376,302	739	50,923	139,181	9,946	–	2,184
Total assets	1,422,861	1,350,824	1,375,155	980,958	4,980	60,161	283,713	1,466,375	147,727	187,101
Non-Current Liabilities	365,529	463,666	515,544	245,947	–	39,799	156,007	–	–	1,515
Current Liabilities	893,204	856,820	960,220	613,141	5,746	20,362	108,473	39,096	–	1,699
Income	908,702	444,292	304,278	484,922	7	163,076	323,508	1,372	–	13,602
Expenses	744,267	413,950	402,382	363,052	772	163,076	302,518	30,132	–	11,032

Year 2017	Almaraz	Trillo	Vandellós	Ascó	Aceca	A.I.E. Almaraz- Trillo	A.I.E. Ascó- Valdellós	West of Duddon Sands	Wiking OSS	Torre IBERDROLA Other businesses
Segment	Liberalised							Renewables		Other businesses
Intangible assets.	–	–	–	–	–	4,437	–	–	–	27
Property, plant and equipment										
Technical installations	751,698	1,042,424	1,038,075	674,207	–	–	–	1,478,192	155,274	–
Other fixed assets	377	4,511	14,435	–	1,811	2,283	–	–	–	192,514
Non-Current financial Assets	22,507	11,290	43,090	9,864	2,430	1,945	118,902	–	–	–
Current assets	703,117	386,376	410,124	359,494	732	53,103	159,062	5,476	–	1,581
Total assets	1,477,699	1,444,601	1,505,724	1,043,565	4,973	61,768	277,964	1,483,668	155,274	194,122
Non-Current Liabilities	331,443	462,493	499,855	225,358	–	40,277	128,831	–	–	1,437
Current Liabilities	1,021,982	957,884	916,211	756,556	4,289	21,491	129,901	37,264	–	1,209
Income	867,501	427,055	477,885	409,159	328	156,918	270,279	1,293	–	13,034
Expenses	765,143	412,696	422,650	360,119	559	156,918	287,994	33,732	–	10,571

46. GUARANTEE COMMITMENTS TO THIRD PARTIES AND OTHER CONTINGENT LIABILITIES

IBERDROLA and its subsidiaries are required to provide the bank or corporate guarantees associated with the normal management of the Group's activities.

In this regard, the IBERDROLA Group guarantees the obligations undertaken in energy purchase agreements and grid access transactions in different energy markets and against the operators of different electricity systems (MEFF, OMIE, National Grid, CFE, REE and EDP Distribución).

With regard to generation from renewable sources, the IBERDROLA Group has provided guarantees to third parties to cover the construction, bringing into service and dismantling of facilities, in addition to its responsibilities in long-term energy sales.

In 2016, the signing of nonconformity has taken place regarding the corporate income tax for the years 2008 to 2011 and regarding the Value Added Tax, for years 2010 and 2011. IBERDROLA has filed the corresponding claims to the Economic Administrative Court against the liquidation agreements, which confirm the acts of nonconformity, requesting the automatic suspension of the execution of the settlements by means of the necessary bank guarantees (Note 31).

In addition, at 31 December 2018 and 2017, there were outstanding obligations resulting from bond issues in the United States amounting to Euros 1,787,818 and Euros 1,701,555 thousand that were secured by the items in the property, plant and equipment of the subgroup AVANGRID.

IBERDROLA considers that any additional liability other than those provisioned at 31 December 2018 and 2017, arising from the guarantees provided at that date, if any, would not be significant.

Moreover, the IBERDROLA Group in compliance with the contractual obligations associated with loans received from banks, had fully or partially pledged some of its subsidiaries shares at 31 December 2018 and 2017. The detail, by company, of the shares pledged is as follows:

Thousands of Euros	2018			2017		
Company	Carrying amount	Percentage of ownership IBERDROLA Group	Carrying amount by percentage of IBERDROLA Group's ownership (thousands of Euros)	Carrying amount	Percentage of ownership IBERDROLA Group	Carrying amount by percentage of IBERDROLA Group's ownership (thousands of Euros)
Renewables business - Spain						
Eólica 2000, S.L.	5,764	51,00%	2,940	5,268	51,00%	2,687
Eólica de Campollano, S.A. (1)	27,031	25,00%	6,758	27,090	25,00%	6,773
Molinos de La Rioja, S.A. (1)	14,887	42,37%	6,308	13,372	42,37%	5,666
Molinos del Cidacos, S.A. (1)	37,336	31,78%	11,865	38,305	31,78%	12,173
Renewables business - Brazil						
Arizona 1 Energia Renovável, S.A.	10,993	52,45%	5,766	12,795	52,45%	6,711
Caetité 1 Energia Renovável, S.A.	16,499	52,45%	8,654	21,512	52,45%	11,283
Caetité 2 Energia Renovável, S.A.	18,895	52,45%	9,910	26,374	52,45%	13,833
Caetité 3 Energia Renovável, S.A.	16,083	52,45%	8,436	20,015	52,45%	10,498
Calango 1 Energia Renovável, S.A.	13,166	52,45%	6,906	16,882	52,45%	8,855
Calango 2 Energia Renovável, S.A.	11,192	52,45%	5,870	13,611	52,45%	7,139
Calango 3 Energia Renovável, S.A.	11,884	52,45%	6,233	13,787	52,45%	7,231
Calango 4 Energia Renovável, S.A.	10,891	52,45%	5,712	14,878	52,45%	7,804
Calango 5 Energia Renovável, S.A.	11,419	52,45%	5,989	15,565	52,45%	8,164
Calango 6 Energia Renovável, S.A.	51,491	52,45%	27,007	43,590	52,45%	22,863
Canoas Energia Renovável, S.A.	43,767	52,45%	22,956	42,184	52,45%	22,126
Energias Renováveis do Brasil, S.A.	–	–	–	133,891	52,45%	70,226
Força Eolica Participações, S.A.	58,563	52,45%	30,716	59,857	52,45%	31,395
Lagoa I, S.A.	52,827	52,45%	27,708	50,428	52,45%	26,449
Lagoa II, S.A.	42,521	52,45%	22,302	42,626	52,45%	22,357
Mel 2 Energia Renovável, S.A.	7,310	52,45%	3,834	7,536	52,45%	3,953
Santana 1, Energia Renovável, S.A.	40,791	52,45%	21,395	47,585	52,45%	24,958
Santana 2, Energia Renovável, S.A.	32,365	52,45%	16,975	37,796	52,45%	19,824
Liberalised business - Spain						
Tirme, S.A. (1) (Note 13.a)	–	–	–	24,860	20,00%	4,972
Liberalised business - Brazil						
Baguari Geração de Energia Elétrica, S.A.	37,571	52,45%	19,706	37,240	52,45%	19,532
Belo Monte Participações, S.A.	306,082	52,45%	160,540	317,238	52,45%	166,391
Companhia Hidrelétrica Teles Pires, S.A. (1)	424,280	26,75%	113,504	511,804	26,75%	136,908
Energetica Aguas da Pedra, S.A. (1)	97,405	26,75%	26,055	112,378	26,75%	30,061
Energetica Corumba III (1)	37,391	13,11%	4,903	40,117	13,11%	5,259
Geração CIII, S.A.	57,589	52,45%	30,205	55,890	52,45%	29,314
Norte Energia, S.A. (1)	2,971,872	5,25%	155,875	2,939,875	5,25%	154,343
Teles Pires Participações, S.A. (1)	326,387	26,52%	86,554	488,323	26,52%	129,503
Geração Ceu Azul, S.A.	255,988	52,45%	134,266	–	–	–
Liberalised business - Mexico						
Parque Industrial de Energías Renovables II Quecholac Felipe Angeles, S.A. de C.V.	15,556	51,00%	7,934	20,083	51,00%	10,242
Parque Industrial de Energia Renovable SA de CV	62,647	51,00%	31,950	–	–	–
Parque Industrial de Energías Renovables IV , S.A. de C.V.	403	51,00%	206	–	–	–
Networks business - Brazil						
Potiguar Sul Transmissao de Energia, S.A.	55,282	52,45%	28,995	67,966	52,45%	35,648
Total	5,184,128		1,064,933	5,320,721		1,075,141

(1) Companies recognised as equity-accounted investee.

47. REMUNERATION OF THE BOARD OF DIRECTORS

47.1 2018 by-law stipulated remuneration

Article 48 of IBERDROLA's by-laws provides that the Company shall assign, as a statutory expense, an amount equal to a maximum of 2% of the profit obtained in the year by the consolidated group for the following purposes:

On the proposal of the Appointments and Remuneration Committee, the board of directors has decided to propose to shareholders at their General Meeting to assign by-law stipulated remuneration of Euros 17,000 thousand in 2018 and the same amount as in the previous three years, this is in 2015, 2016 and 2017.

These amounts have been registered under the "Personnel expenses" heading in the consolidated income statements (Note 37).

a) Fixed remuneration and attendance premium

The fixed annual remuneration and attendance premium received by board and committee members depends on the duties assigned to them in the board of directors and its commissions in 2018 and 2017. The details are as follows:

Thousands of Euros	Fixed remuneration		Attendance premium	
	2018	2017	2018	2017
Chairman of the Board	567	567	4	4
Vice-chairman of the board of directors and committees chairmen	440	440	4	4
Committee members	253	253	2	2
Board members	165	165	2	2

b) Remuneration of the executive directors for their executive duties

The board of directors has resolved to maintain the fixed remuneration for the chairman and chief executive officer in 2018 at Euros 2,250 thousand. It also decided to maintain the limit of variable annual remuneration, which may not exceed Euros 3,250 thousand and which will be paid as far as been agreed in 2019.

The board of directors decided on a fix remuneration in 2018 of Euros 1,000 thousand for the member of the board and Business CEO and set a limit of variable annual remuneration of Euros 1,000, to be paid, as may be agreed, in 2019.

c) Board member remunerations paid and accrued

The detailed fixed remuneration accrued by the members of the board of directors, individually, during 2018 and 2017, respectively, is detailed as follows:

Thousands of Euros	Salaries	Fixed remuneration (1)	Remuneration for sitting on Committees (1)	Attendance fee	Short-term variable remuneration (9)	Compensations	Retribution in kind	Total 2018	Total 2017
Chairman of the Board									
Mr José Ignacio Sánchez Galán	2,250	567	–	92	3,088	–	65	6,062	6,149
Vice-chairman of the board of directors and committees chairmen	–	–	–	–	–	–	–	–	–
Inés Macho Stadler (2)	–	165	275	68	–	–	3	511	517
Samantha Barber	–	165	275	74	–	–	2	516	514
María Helena Antolín Raybaud	–	165	275	40	–	–	6	486	487
Georgina Kessel Martínez	–	165	275	64	–	–	1	505	499
Juan Manuel González Serna(3)	–	165	187	34	–	–	1	387	210
Committee members	–	–	–	–	–	–	–	–	–
Iñigo Víctor de Oriol Ibarra	–	165	88	38	–	–	5	296	299
Angel Jesús Acebes Paniagua	–	165	88	58	–	–	3	314	313
Denise Mary Holt	–	165	88	40	–	–	1	294	292
José Walfredo Fernández	–	165	88	40	–	–	1	294	292
Manuel Moreu Munaiz	–	165	88	62	–	–	2	317	315
Xabier Sagredo Ormaza	–	165	88	40	–	–	2	295	293
Francisco Martínez Córcoles(4)	1,000	165	–	16	710	–	27	1,918	905
Anthony Luzzatto Gardner (5)	–	118	63	16	–	–	1	198	–
Ceased members	–	–	–	–	–	–	–	–	–
Santiago Martínez Lage (6)	–	–	–	–	–	–	–	–	77
José Luis San Pedro Guerenabarrena (7)	–	–	–	–	–	–	–	–	76
Braulio Medel Cámara (8)	–	47	25	14	–	–	3	89	288
Total	3,250	2,712	1,903	696	3,798	–	123	12,482	11,526

(1) Remuneration accrued in 2018. These amounts not satisfied until the approval of 2018 by-law stipulated remuneration by the General Shareholders Meeting 2019.

(2) Appointed vice-chairperson of the board of directors on 21 June 2018.

(3) Appointed member on 31 March 2017. On 21 June 2018 the board of directors approved the appointment as a member of the Audit and Risk Supervision Committee.

(4) Appointed member-Business CEO on 31 March 2017.

(5) Appointed member on 13 April 2018. On that same date the board of directors approved the appointment as a member of the Corporate Social Responsibility Committee.

(6) Ceased as vice-chairman of Boards of Directors at their meeting on 31 March 2017.

(7) Ceased as vice-chairman of Boards of Directors at their meeting on 31 March 2017.

(8) Ceased as vice-chairman of Boards of Directors at their meeting on 13 April 2018.

(9) Amount relates to variable remuneration received in the year 2018, in accordance with attainment of targets and personal performance in 2017.

Currently, all members of the board of directors of IBERDROLA assume responsibility for any of the five committees of the board, except Francisco Martínez Córcoles.

d) Civil liability insurance

The premium paid to cover directors' Civil Liability Insurance amounts to Euros 72 thousand and Euros 71 thousand in 2018 and 2017, respectively.

e) Others

The expenses of the board of directors related to external services and other items during 2018 and 2017 amounted to Euros 2,131 thousand and Euros 1,855 thousand, respectively.

In 2018 and 2017 rebates were received amounting to Euros 106 thousand and Euros 53 thousand, respectively, with respect to the adjustment of the pension insurance policies relating to former Members of the board of directors.

The undistributed by-law stipulated remuneration for 2018 amounting to Euros 2,421 thousand can be externalized to cover the obligations incurred by the Company to ensure them, in the event they should be materialized.

47.2 Remuneration through the delivery of Company shares

The shareholders at their General Meeting held on 28 March 2014 approved the *2014-2016 Strategic Bonus* as a long-term incentive tied to the performance of the Company in accordance to certain parameters.

In the first half of 2018 the second of the three annual payments was made. The Chairman and CEO received 510,596 IBERDROLA shares. The member-Business CEO was granted 120,931 shares corresponding to his performance prior to his appointment as board member.

47.3 Remuneration for sitting on other committees

Remuneration received by executive directors who in 2018 performed director duties in companies controlled by IBERDROLA amounts to Euros 261 thousand

47.4 Law 11/2018: Non-financial information and diversity

Below the average remuneration received by members per type and sex in 2018 and 2017 is detailed as follows:

Thousands of Euros	2018		2017	
	Men	Women	Men	Women
Executive	4,121	–	4,023	–
Independent and other external	313	462	298	462

The fixed and variable compensation of the member-business CEO up to his appointment, on 31 March 2017 are described in Note 49.

Additionally, executive members have received 631,527 company shares in 2018 and 2017 (Note 47.2).

47.5 Indemnity clauses

The indemnity clauses for the directors are described in section C.1.39 of the Annual Corporate Governance Report included in the Directors' Report.

48. INFORMATION REGARDING COMPLIANCE WITH ARTICLE 229 OF THE SPANISH COMPANIES ACT

As established in article 229 of the Spanish Companies Act (Ley de Sociedades de Capital) introduced by the Royal Decree-Law 1/2010 of 2 July 2010 and in the Law 31/2014, of 3 December 2014, modifying the Spanish Companies Act for the improvement of corporate governance, the conflicts of interest.

The president and CEO and the member-Business CEO were absent during the deliberation of all the agreements related to his system of remuneration and assurance.

Finally, Mr. Sagredo Ormaza was absent during the deliberation of that agreements involving Kutxabank, S.A.

49. REMUNERATION OF SENIOR EXECUTIVES

Senior executives are those who answer directly to the Company's board of directors, chairman and chief executive officer and, in all cases, the internal audit director, apart from any other director recognised as senior executive.

At 31 December 2018 and 2017, the Company had 5 and 5 senior executives respectively.

The personnel expenses relating to senior executives amounting to Euros 6,598 thousand and Euros 10,373 thousand in 2018 and 2017, respectively, are recognised under the "personnel expenses" heading in the income statements of the mentioned years.

The remuneration and other compensation received by senior executives in 2018 and 2017 are detailed below:

Thousands of Euros	31.12.2018	31.12.2017 (1)
Retribution in cash	3,050	4,227
Performance-based compensation	2,214	2,909
Retribution in kind	98	421
Payments to account not charged	33	36
Social Security	69	70
Promoter contribution pension plan	30	40
Complementary policy accrual	613	2,171
Complementary policy risk	491	499
Total	6,598	10,373

Number of shares	31.12.2018	31.12.2017
Share-based payment plan, strategic bonus	261,106	261,106
Charged taxes and payments in cash Strategic Bonus (thousands of Euros)	1,206	2,503

- (1) Includes the proportional part of remuneration and other payments the Business CEO until 31 March 2017, then appointed member-Business CEO.

Includes the proportional part of remuneration and other payments, as well as the settlement of the 2014-2016 Strategic Bonus for the Director of Internal Audit, until the date of retirement.

Includes the proportional part of the Internal Audit Officer until the date of appointment, on 21 February 2017.

During the first semester of 2017, 261,106 shares corresponding to the 2014-2016 Strategic Bonus, were delivered to senior management, as described in Note 20; thus, the members of senior management received IBERDROLA shares in equal amounts in 2017, 2018 and 2019.

For comparative purposes, the total remuneration received by the Business CEO in 2018 amounted to Euros 1,710 thousand. The total top management remuneration amount in 2017 does not include the Euros 750 million the Business CEO was paid for his position as member of the board in 2018 (Note 47).

In the first half of 2018 the second of three annual payments has been made corresponding to the Strategic bonus 2014-2016 (Note 21), once the valid period of the grounds supporting this remuneration have been confirmed. Senior management members have received 261,106 shares for the second payment. At 31 December 2018, a provision of Euros 3,384 thousand had been recorded to guarantee the third and final payment.

A maximum of 1,000,000 shares in aggregate are to be delivered to senior executives under the *2017-2019 Strategic Bonus* (Note 21), tied to their success in achievement of objectives. As of 31 December 2017, Euros 5,090 thousand have been provided for these commitments.

Under the same conditions as the other directors of companies that are not wholly owned directly or indirectly by the Company and in accordance with the directors' Remuneration Policy approved by the General Shareholders' Meeting held on 13 April 2018, the members of senior management who have held the office of director have received from these companies the remuneration corresponding to the office in accordance with their corporate governance rules. In the year 2018 the remuneration received amounted to Euros 970 thousand.

The indemnity clauses for senior management are described in section C.1.39 of the Annual Corporate Governance Report included in the Directors' Report.

On the other hand, during 2018 and 2017 there were no other transactions with the executives outside the normal course of the business.

The amount of fixed and variable remuneration to executives not included in IBERDROLA's top management (150 people) totalled Euros 47,310 thousand in 2018. In 2017, the amount was Euros 44,610 thousand (145 people). These amounts do not include shares delivered as part of the 2014-2016 Strategic bonus.

50. RELATED PARTY TRANSACTIONS AND BALANCES

The transactions detailed below are specific to the ordinary business activity and have been carried out on an arm's-length basis:

Transactions carried out by IBERDROLA with significant shareholders

The most noteworthy transactions in 2018 and 2017 are as follows:

	Significant shareholders ⁽¹⁾	
	2018	2017
Thousands of Euros	Qatar Investment Authority	Qatar Investment Authority
Dividends and other distributed profit (2)	2,766	18,948

(1) IBERDROLA treats as a major shareholder any shareholder who exerts a significant influence on the company's financial and operating decisions. Significant influence is defined as having at least one director on the Board. This also applies to those significant shareholders whose ownership interest in the company enables them to exercise the proportional representation system.

At 31 December 2018 only Qatar Investments Authority meets this condition.

(2) Amounts recognised as dividends and other benefits distributed in the first half of 2018 and 2017 correspond to the scrip dividend scheme and the attendance fee received if applicable.

Transactions carried out by other companies with significant shareholders

The most noteworthy transactions in 2018 and 2017 are as follows:

	Significant shareholders ⁽¹⁾	
	2018	2017
Thousands of Euros	Qatar Investment Authority	Qatar Investment Authority
Finance income ⁽²⁾	344	

2) Correspond to income for cash placing in Qatar National Bank by Scottish Power, Ltd. At 31 December there were no outstanding balances.

Other investments in equity-accounted investees

The breakdown of transactions with equity-accounted investees which are related parties that were not eliminated in consolidation (Note 2.b) is as follows:

	2018						2017					
Thousands of Euros	Asset acquisition	Trade payables	Trade receivables	Sales and services provide	Provisions	Received services	Asset acquisition	Trade payables	Trade receivables	Sales and services provide	Provisions	Received services
SIEMENS-GAMESA (1)	218,602	83,510	765	1,376	1,702	37,602	365,038	126,339	2,678	2,898	1,836	55,445
East Anglia Offshore Wind, Ltd.	4,418	3,905	706	–	–	–	–	–	–	226	–	–
NGET/SPT Upgrades Ltd. (2)	85,033	874	2,839	1,731	–	741	117,397	–	891	2,848	–	–
Morecambe Wind, Ltd.	–	1,207	–	2,022	13,469	–	–	–	–	1,041	13,284	–
Companhia Hidrelétrica Teles Pires, S.A. (3)	–	7,300	1,189	14,575	84,571	–	–	9,598	19	530	101,526	–
Norte Energia, S.A. (3)	–	21,854	–	–	188,769	–	–	15,809	–	–	125,112	–
Energetica Aguas da Pedra, S.A. (3)	–	1,683	2,683	1,906	14,474	–	–	1,853	1	–	–	–
Fudepor, S.L. (4)	–	–	38	4,233	–	–	–	0	2	5,623	–	–
Cogeneración Gequisa, S.A. (4)	–	1,709	1	6,607	–	–	–	337	1	2,691	–	–
Intermalta Energía, S.A. (4)	–	–	3	7,143	–	–	–	–	4	227	–	–
Vineyard Wind LLC (Note 13.a)	–	–	–	2,608	–	–	–	–	–	–	–	–
Other companies	1,762	76,902	15,100	6,128	4,195	2,121	338	86,333	16,808	11,053	8,389	5,214
Total	309,815	198,944	23,324	48,329	307,180	40,464	482,773	240,269	20,404	27,137	250,147	60,659

⁽¹⁾ The purchase of assets mainly correspond to sales to SIEMENS-GAMESA of repair equipment, wind turbines and towers for the wind farms: Kilgallioch, (United Kingdom), Pier y Bajío (Mexico), Twin Butt II (United States) and Chimiche II (Tenerife-Spain)

On 21 December 2011, IBERDROLA and Gamesa Eólica, S.L.U (a company belonging to the GAMESA Group) entered into a framework agreement for the supply and maintenance of wind turbines whereby IBERDROLA undertakes to acquire from GAMESA a minimum amount of megawatts equal to 50% of the total fleet of onshore wind turbines acquired by IBERDROLA for its renewables business unit during the term of the framework agreement. This commitment will remain in effect from 1 January 2013 until 31 December 2022 or until the number of megawatts acquired by IBERDROLA from GAMESA under the framework agreement reaches 3,800, whichever occurs first.

⁽²⁾ The purchase of assets mainly corresponds to investments made by Scottish Power Transmission, Ltd. to build the submarine interconnection line in the Irish Sea to increase the power transmission capacity between England and Scotland. For this purpose, Scottish Power Transmission, Ltd. participates together with the British operator National Grid in the joint venture NGET/SPT Upgrades, Ltd.

⁽³⁾ Supplies relate mainly to purchases of electricity.

⁽⁴⁾ The sales and services rendered mainly correspond to gas sales to co-generation companies.

Transactions with directors and senior executives

Thousands of Euros	Significant shareholders ⁽¹⁾			
	2018		2017	
	Directors	Executives	Directors	Executives
Dividends and other distributed profit (1)	482	11	765	179

(1) Recognised dividends and other benefits distributed in the first half of 2018 and 2017 corresponded to the scrip dividend and the attendance fee to the General Shareholder's Meeting, if applicable.

51. EVENTS AFTER 31 DECEMBER 2018

After 31 December 2017 the main events have been as follows:

IBERDROLA scrip dividend

On 04 January 2019, the facts in relation to the implementation of the second paid-up capital increase (*IBERDROLA* flexible dividend) approved at the *IBERDROLA* General Shareholders' Meeting on 13 April 2018, under item 13 of the agenda, were determined and were as follows:

- The maximum number of shares to be issued under the capital increase is 142,169,533.
- The number of free allocation rights required to receive one new share is 45.
- The maximum nominal value of the capital increase amounts to Euros 106,627,150
- The acquisition price of the free allocation rights under the purchase commitment made by *IBERDROLA* is Euros 0.151.
- Gross interim dividend amount per share was Euros 0.151.

At the end of the trading period for free allocation rights:

- During the period established for this purpose, the holders of 870,368,973 shares of the Company decided to receive interim dividends. Thus, the gross total of distributed interim dividends was Euros 131.426 thousand. As a result, these shareholders have expressly forgone 870,368,973 free allotment rights and therefore 19,341,533 new shares.
- The final number of new ordinary shares with a nominal value of Euros 0.75 to be issued will be 122,828,000, giving a nominal capital increase from this implementation of Euros 92,121 thousand. This will add 1.920% to *IBERDROLA*'s pre-issue share capital.
- As a result, the share capital of *IBERDROLA* following the capital increase amounts to Euros 4,890,342,750, represented by 6,520,457,000 ordinary shares of Euros 0.75 par value each, fully subscribed and paid.
- Following compliance with on legal requirements (and verification of compliance by the Spanish National Security Market Commission), the new shares have been admitted for trading on the continuous market of the Madrid, Barcelona, Bilbao and Valencia stock exchanges on 05 February 2019. The ordinary trading of new shares has started on 06 February 2019.

Transactions with treasury shares

At the reporting date of these annual accounts, accumulators have been liquidated on treasury shares (Note 20) and the result of its liquidation has resulted in the acquisition of 4,016,049 treasury shares for Euros 26,493 thousand (3,806,688 shares have been accumulated of a maximum potential shares of 7,613,376 at 31 December 2018).

Additionally, from the 2018 year-end until the date of formulation of these consolidated annual accounts 7,568,868 treasury shares have been acquired (of which 1,260,317 have been acquired through accumulators signed since the reporting date) amounting to Euros 51,411 thousand and 1,148,555 shares have been transferred for Euros 7,218 thousand. At the date of authorization for issue of these annual accounts, IBERDROLA, S.A. had 145,427,390 treasury shares.

Banking Market and issue of Euromarket bonds

Significant financing transactions carried out by IBERDROLA after 31 December 2018 are as follows:

2019						
Lessor	Operation	Millions of euros	Currency	Coupon	Extension	Maturity
Main new financing transactions						
IBERDROLA Financiación, S.A.U.	Bilateral loan	125	EUR	-	option to extend it for 1 +1 year	Feb-24
IBERDROLA Financiación, S.A.U.	EIB loan	150	EUR	-	-	Upon disposal
IBERDROLA Finanzas	Private issue	50	EUR	1.782%	-	Oct-30
IBERDROLA International B.V.	Hybrid green bonds	800	EUR	3.25%	-	Perpetual
Main transaction for extending existing financing						
IBERDROLA S.A. ⁽¹⁾	Syndicated loan	2,979	EUR	-	+1 year	Feb-24
	Syndicated loan	2,321	EUR	-	+1 year	Feb-24

(1) Extension of novated syndicated loans for 1 additional year in January 2018 in the amount of Euros 5,300 million.

52. FEES FOR SERVICES PROVIDED BY AUDITORS

The fees resulted from the services provided in 2018 and 2017 by the statutory auditor are detailed in the chart below:

Thousands of Euros	TO IBERDROLA			To the rest of the Group Companies			Total		
	Main Auditor	Other auditors	Total	Main Auditor	Other auditors	Total	Main Auditor	Other auditors	Total
Year 2018									
Audit services	3,223	-	3,223	22,116	-	22,116	25,339	-	25,339
Other audit related services	1,459	-	1,459	1,592	-	1,592	3,051	-	3,051
Total	4,682	-	4,682	23,708	-	23,708	28,390	-	28,390

Thousands of Euros	TO IBERDROLA			To the rest of the Group Companies			Total		
	Main Auditor	Other auditors	Total	Main Auditor	Primary auditor	Total	Main Auditor	Other auditors	Total
Year 2017									
Auditing services	3,744	–	3,744	21,266	371	21,637	25,010	371	25,381
Other provided services related to auditing	1,386	–	1,386	2,336	1,633	3,969	3,722	1,633	5,355
Total	5,130	–	5,130	23,602	2,004	25,606	28,732	2,004	30,736
Other professional services	–	–	–	–	481	481	–	481	481
Total	5,130	–	5,130	23,602	2,485	26,087	28,732	2,485	31,217

The details of “Other services related to auditing” are as follows:

Thousands of Euros	2018		2017	
	TO IBERDROLA	To the rest of the Group Companies	TO IBERDROLA	To the rest of the Group Companies
Limited revision interim information	1,194	144	1,162	443
Comfort letters debt issue	205	474	224	1,042
Agreed procedure reports (*)	60	974		101
Historical information and proforma verification services	-	-	-	750
Total	1,459	1,592	1,386	2,336

(*) Mainly agreed procedure reports required by the regulator in each country, as well as reports additional to the audit report required by current legislation in certain countries where the Group operates.

53. EARNINGS PER SHARE

The weighted average number of ordinary shares used in the calculation of the basic and diluted earnings per share at 31 December 2018 and 2017 (Note 3.z) is as follows:

	2018	2017 Restated (Note 2.d)
Average number of shares during the year	6,613,937,351	6,806,224,288
Average number of treasury shares held	(156,370,387)	(125,969,679)
Number of shares outstanding	6,457,566,964	6,680,254,609

The breakdown of the required information at 31 December 2018 and 2017 is the following:

	2018	2017 Restated (Note 2.d)
Net profit from the parent Company's continuing operations (*) (thousands of Euros)	3,065,220	3,057,005
Net profit from discontinuing operations (thousands of Euros)	(51,168)	(253,011)
Number of shares outstanding	6,457,566,964	6,680,254,609
Basic and diluted earnings per share (euros) from discontinued operations	0.475	0.458
Basic and diluted earnings per share (euros) from discontinued operations	(0.008)	(0.038)

(*) Net profit for the year from net continuing operations of subsidiary companies



In the consolidated annual accounts of the IBERDROLA Group for the years ended 31 December 2018 y 2017, basic earnings per share coincide with diluted earnings per share, since there were no potential shares outstanding during these years that could be converted into ordinary shares.

As described in Note 20 and 51 of these consolidated annual accounts, in July 2017 and January 2018 two free capital increases took place in the context of the “IBERDROLA flexible dividend” programme. According to IAS 33: “Earning per share” these scrip issues meant that earnings per share for 2017 included in the consolidated annual accounts for that year had to be corrected, and have been taken into account when calculating basic and diluted earnings per share for 2018.

54. PREPARATION OF THE CONSOLIDATED ANNUAL ACCOUNTS

The consolidated annual accounts for the year ended on 31 December 2018 have been formally prepared by the directors of IBERDROLA on 19 February 2019.

55. EXPLANATION ADDED FOR TRANSLATION TO ENGLISH

These Consolidated financial statements are presented on the basis of IFRS, as adopted by the European Union. Certain accounting practices applied by the Group that conform to IFRS may not conform to other generally accepted accounting principles in other countries.



APPENDIX I

YEAR 2018 ADDITIONAL INFORMATION RELATED TO GROUP COMPANIES, JOINTLY-CONTROLLED COMPANIES AND ASSOCIATES OF THE IBERDROLA GROUP

Below is the detail of the proportion of direct or indirect ownership that IBERDROLA, S.A. holds in its subsidiaries in its different businesses. The proportion of decision-making votes in the bodies of these companies controlled by IBERDROLA basically corresponds with the proportion of ownership.

(*) The consolidation method by company is detailed as follows:

G: Full consolidation

E: Equity-accounted investee

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
<u>Liberalised business</u>					
Spain					
Cogeneración Gequisa, S.A.	Spain	Energy	50.00	50.00	E
Enercrisa, S.A.	Spain	Energy	50.00	50.00	E
Energía Portátil Cogeneración, S.A.	Spain	Energy	50.00	50.00	E
Energyworks Aranda, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Carballo, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Cartagena, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Fonz, S.L.	Spain	Energy	100.00	100.00	G
Energyworks Milagros, S.L.	Spain	Energy	100.00	100.00	G
Energyworks Monzón, S.L.	Spain	Energy	100.00	100.00	G
Energyworks San Millán, S.L.	Spain	Energy	100.00	100.00	G
Energyworks Villarrobledo, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Vit-Vall, S.L.	Spain	Energy	99.00	99.00	G
Fudepor, S.L.	Spain	Energy	50.00	50.00	E
IBERDROLA Clientes, S.A.U.	Spain	Retailer	100.00	100.00	G
IBERDROLA Clientes Internacional, S.L.	Spain	Holding	100.00	-	G
IBERDROLA Cogeneración, S.L.U.	Spain	Holding	100.00	100.00	G
IBERDROLA Comercialización de Último Recurso, S.A.U.	Spain	Retailer	100.00	100.00	G
IBERDROLA Generación España, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Generación Nuclear, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Generación Térmica, S.L.U.	Spain	Energy	100.00	-	G
IBERDROLA Operación y Mantenimiento, S.A.U.	Spain	Services	100.00	100.00	G
IBERDROLA Servicios Energéticos, S.A.U.	Spain	Services	100.00	100.00	G
Iberduero, S.L.U.	Spain	Energy	100.00	100.00	G
Intermalta Energía, S.A.	Spain	Energy	50.00	50.00	E
Nuclenor, S.A.	Spain	Energy	50.00	50.00	E
Peninsular Cogeneración, S.A.	Spain	Energy	50.00	50.00	E
Productos y Servicios de Confort, S.A.	Spain	Services	100.00	100.00	G
Tarragona Power, S.L.U.	Spain	Energy	100.00	100.00	G
Tecnatom, S.A. ⁽⁵⁾	Spain	Other	30.00	30.00	-
IBERDROLA Clientes Portugal, Unipessoal Ltda.	Portugal	Retailer	100.00	100.00	G
United Kingdom					
Scottish Power Generation Holdings Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower (DCL), Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower (SCPL), Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Energy Management (Agency), Ltd.	United Kingdom	Services	100.00	100.00	G
ScottishPower Energy Management, Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Energy Retail, Ltd.	United Kingdom	Energy	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
ScottishPower Generation (Assets), Ltd	United Kingdom	Energy	100.00	-	G
SP Dataserve, Ltd.	United Kingdom	Debt management	100.00	100.00	G
SP Gas Transportation Cockenzie, Ltd.	United Kingdom	Inactive	100.00	100.00	G
SP Gas Transportation Hatfield, Ltd.	United Kingdom	Inactive	100.00	100.00	G
SP Smart Meter Assets, Ltd.	United Kingdom	Energy	100.00	100.00	G
Rest of Europe					
IBERDROLA Energy Deutschland, GmbH.	Germany	Services	100.00	100.00	G
IBERDROLA Energie France, S.A.S.	France	Services	100.00	100.00	G
IBERDROLA Clienti Italia, S.R.L.	Italy	Services	100.00	100.00	G
IBERDROLA Ireland, Ltd	Ireland	Services	100.00	-	G
Mexico					
Hidro I, S.L.U.	Spain	Holding	100.00	100.00	G
Cinergy, S.R.L. de C.V.	Mexico	Services	100.00	100.00	G
IBERDROLA Soporte a Proyectos Liberalizados, S.A. de C.V. (Before, Electricidad de Veracruz, S.A. de C.V.)	Mexico	Services	100.00	100.00	G
Enertek, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
IBERDROLA Clientes, S.A. de C.V.	Mexico	Retailer	100.00	100.00	G
IBERDROLA Cogeneración Altamira, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Cogeneración Bajío, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Cogeneración Ramos, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Energía Altamira de Servicios, S.A. de C.V.	Mexico	Services	100.00	100.00	G
IBERDROLA Energía Altamira, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Energía Baja California, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Energía del Golfo, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Energía Escobedo, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Energía La Laguna, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
IBERDROLA Energía Monterrey, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
IBERDROLA Energía Noroeste, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Energía Tamazunchale, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
IBERDROLA Energía Topolobampo, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Generación, S.A. de C.V.	Mexico	Services	100.00	100.00	G
IBERDROLA Generación México, S.A. de C.V.	Mexico	Holding	100.00	100.00	G
IBERDROLA México, S.A. de C.V.	Mexico	Holding	100.00	100.00	G
IBERDROLA Servicios Corporativos, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Administrative services Tamazunchale, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Servicios de Operación La Laguna, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Industrial and administrative services del Noreste, S.R.L. de C.V.	Mexico	Services	51.12	51.12	G
Brazil					
Baguari Geração de Energia Elétrica, S.A.	Brazil	Energy	52.45	52.45	G
Bahia PCH II, S.A. Bahía Pequeña C. Hidroeléctrica	Brazil	Energy	52.45	52.45	G
Bahia PCH III, S.A. Bahía Geração de Energia	Brazil	Energy	52.45	52.45	-
Belo Monte Participações, S.A.	Brazil	Holding	52.45	52.45	G
Companhia Hidrelétrica Teles Pires, S.A.	Brazil	Energy	26.75	26.75	E
Elektro Comercializadora de Energia Ltda.	Brazil	Retailer	52.45	52.45	G
Energetica Aguas da Pedra, S.A.	Brazil	Energy	26.75	26.75	E
Energética Corumba III, S.A. ⁽⁴⁾	Brazil	Energy	13.11	13.11	E

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
Geração Ceu Azul, S.A.	Brazil	Energy	52.45	52.45	G
Geração CIII, S.A.	Brazil	Holding	52.45	52.45	G
Itapebí Geração de Energia, S.A.	Brazil	Energy	52.45	52.45	G
NC Energia, S.A.	Brazil	Retailer	52.45	52.45	G
Neoenergia Operação e Manutenção, S.A.	Brazil	Services	52.45	52.45	G
Norte Energia, S.A. ⁽⁴⁾	Brazil	Energy	5.25	5.25	E
PCH Alto do Rio Grande, S.A.	Brazil	Energy	52.45	52.45	G
Sever RJ Participacoes S.A. ⁽⁵⁾	Brazil	Energy	52.45	52.45	-
Teles Pires Participações, S.A.	Brazil	Holding	26.52	26.52	E
Termopernambuco, S.A.	Brazil	Energy	52.45	52.45	G
Canada					
IBERDROLA Canadá Energy Services, Ltd.	Canada	Gas	100.00	100.00	G
Renewable Business					
Spain					
Anselmo León Hidráulica, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Biocantaber, S.L.	Spain	Energy	50.00	50.00	E
Bionor Eólica, S.A.	Spain	Energy	57.00	57.00	G
Biovent Energía, S.A.	Spain	Energy	95.00	95.00	G
Cantaber Generación Eólica, S.L.	Spain	Energy	69.01	69.01	G
Ciener, S.A.U.	Spain	Energy	100.00	100.00	G
Desarrollo de Energías Renovables de La Rioja, S.A. ⁽²⁾	Spain	Energy	40.51	40.51	E
Ecobarcial, S.A. ⁽²⁾	Spain	Energy	43.78	43.78	E
Electra de Malvana, S.A. ⁽²⁾	Spain	Energy	48.00	48.00	E
Electra Sierra de los Castillos, S.L.	Spain	Energy	97.00	97.00	G
Electra Sierra de San Pedro, S.A.	Spain	Energy	80.00	80.00	G
Eléctricas de la Alcarria, S.L.	Spain	Energy	90.00	90.00	G
Eme Hueneja Cuatro, S.L.	Spain	Energy	100.00	100.00	G
Energía de Castilla y León, S.A.	Spain	Energy	85.50	85.50	G
Energías Ecológicas de Tenerife, S.A. ⁽³⁾	Spain	Energy	50.00	50.00	G
Energías Eólicas de Cuenca, S.A.U.	Spain	Energy	100.00	100.00	G
Energías Renovables de la Región de Murcia, S.A.U.	Spain	Energy	100.00	100.00	G
Eólica Campollano, S.A. ⁽²⁾	Spain	Energy	25.00	25.00	E
Eólica 2000, S.L.	Spain	Energy	51.00	51.00	G
Eólicas de Euskadi, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Eólica Marina, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Generación, S.A.U.	Spain	Energy	100.00	100.00	G
Fincalia Agropecuaria, S.L. (before, IBERDROLA Renewables Solutions, S.A.)	Spain	Energy	100.00	100.00	G
Fincalia Agropecuaria siglo XXI, S.A.	Spain	Energy	100.00	-	G
IBERDROLA Renovables Galicia, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Renovables Andalucía, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Renovables Aragón, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Renovables Canarias, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Renovables Castilla – La Mancha, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Renovables Castilla y León, S.A.	Spain	Energy	95.00	95.00	G
IBERDROLA Renovables Energía, S.A.U.	Spain	Holding	100.00	100.00	G
IBERDROLA Renovables Internacional, S.L.	Spain	Holding	100.00	-	G
IBERDROLA Renovables La Rioja, S.A. ⁽²⁾	Spain	Energy	63.55	63.55	E
Iberenova Promociones, S.A.U.	Spain	Energy	100.00	100.00	G
Iberjalón, S.A.	Spain	Energy	80.00	80.00	G
Minicentrales del Tajo, S.A.	Spain	Energy	66.58	66.58	G
Molinos de La Rioja, S.A. ⁽²⁾	Spain	Energy	42.37	42.37	E
Molinos del Cidacos, S.A. ⁽²⁾	Spain	Energy	31.78	31.78	E
Parque Eólico Cruz del Carrutero, S.L.	Spain	Energy	76.00	76.00	G
Peache Energías Renovables, S.A.	Spain	Energy	95.00	95.00	G
Producciones Energéticas Asturianas, S.L.	Spain	Energy	80.00	80.00	G
Producciones Energéticas de Castilla y León, S.A. ⁽²⁾	Spain	Energy	85.50	85.50	E



Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
Proyecto Nuñez de Balboa, S.L.	Spain	Energy	100.00	-	G
Renovables de la Ribera, S.L. ⁽⁵⁾	Spain	Energy	50.00	50.00	-
Sistemas Energéticos Altamira, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos Chandrexa, S.A.	Spain	Energy	96.07	96.07	G
Sistemas Energéticos del Moncayo, S.A.	Spain	Energy	75.00	75.00	G
Sistemas Energéticos La Gomera, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos La Higuera, S.A.	Spain	Energy	55.00	55.00	G
Sistemas Energéticos de la Linera, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos La Muela, S.A.	Spain	Energy	80.00	80.00	G
Sistemas Energéticos Mas Garullo, S.A.	Spain	Energy	78.00	78.00	G
Sistemas Energéticos Nacimiento, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos Tacica de Plata, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos Torralba, S.A.	Spain	Energy	60.00	60.00	G
Sistemas Energetics Savalla del Comtat, S.A.U.	Spain	Energy	100.00	100.00	G
Sociedad Gestora de Parques Eólicos de Andalucía, S.A.	Spain	Energy	63.91	63.91	G
Sotavento Galicia, S.A. ⁽⁴⁾	Spain	Energy	8.00	8.00	E
Ibertâmega – Sistema Electroprodutor Do Tâmega, S.A.	Portugal	Energy	100.00	100.00	G
IBERDROLA Suporte Projecto Tâmega, Unipessoal Lda.	Portugal	Energy	100.00	100.00	G
United Kingdom					
Celtpower, Ltd.	United Kingdom	Energy	50.00	50.00	E
Coldham Windfarm, Ltd.	United Kingdom	Energy	80.00	80.00	G
East Anglia Offshore Wind, Ltd.	United Kingdom	Energy	50.00	50.00	E
East Anglia One, Ltd.	United Kingdom	Energy	100.00	100.00	G
East Anglia Three, Ltd.	United Kingdom	Energy	100.00	100.00	G
East Anglia One North Ltd.	United Kingdom	Energy	100.00	100.00	G
East Anglia Two Ltd.	United Kingdom	Energy	100.00	100.00	G
Morecambe Wind, Ltd.	United Kingdom	Energy	50.00	50.00	E
ScottishPower Renewable Energy, Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower Renewables (WODS), Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Renewables UK, Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Renewables (UK Assets), Ltd	United Kingdom	Energy	100.00	-	G
United States					
Aeolus Wind Power II, LLC	USA	Holding	81.50	81.50	G
Aeolus Wind Power III, LLC	USA	Holding	81.50	81.50	G
Aeolus Wind Power IV, LLC	USA	Holding	81.50	81.50	G
Atlantic Renewable Energy Corporation	USA	Holding	81.50	81.50	G
Atlantic Renewable Projects II, LLC	USA	Holding	81.50	81.50	G
Atlantic Renewable Projects, LLC	USA	Energy	81.50	81.50	G
Atlantic Wind, LLC	USA	Holding	81.50	81.50	G
Aurora Solar, LLC	USA	Holding	81.50	81.50	G
Avangrid Arizona Renewables, LLC	USA	Energy	81.50	81.50	G
Avangrid Logistic Services, LLC	USA	Energy	81.50	81.50	G
Avangrid Renewables Holdings, Inc.	USA	Holding	81.50	81.50	G
Avangrid Renewables, LLC	USA	Holding	81.50	81.50	G
Avangrid Texas Renewables, LLC	USA	Energy	81.50	81.50	G
Avangrid Vineyard Wind, LLC	USA	Holding	81.50	81.50	G

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
Bakeoven Solar, LLC	USA	Energy	81.50	-	G
Barton Windpower, LLC	USA	Energy	81.50	81.50	G
Big Horn II Wind Project, LLC	USA	Energy	81.50	81.50	G
Big Horn Wind Project, LLC	USA	Energy	81.50	81.50	G
Blue Creek Wind Farm, LLC	USA	Energy	81.50	81.50	G
Buffalo Ridge I, LLC	USA	Energy	81.50	81.50	G
Buffalo Ridge II, LLC	USA	Energy	81.50	81.50	G
Casselman Wind Power, LLC	USA	Energy	81.50	81.50	G
Colorado Green Holdings, LLC	USA	Holding	81.50	40.75	G
Colorado Wind Ventures, LLC	USA	Holding	81.50	40.75	G
Coyote Ridge Wind, LLC	USA	Energy	16.30	81.50	E
Deerfield Wind, LLC	USA	Energy	81.50	81.50	G
Desert Wind Farm, LLC	USA	Energy	81.50	81.50	G
Dillon Wind, LLC	USA	Energy	81.50	81.50	G
El Cabo Wind, LLC	USA	Energy	81.50	80.69	G
El Cabo Wind Holdings	USA	Holding	81.50	80.69	G
El Cabo Partners, LLC	USA	Energy	81.50	81.50	G
Elk River Wind Farm, LLC	USA	Energy	81.50	81.50	G
Elm Creek Wind II, LLC	USA	Energy	81.50	81.50	G
Elm Creek Wind, LLC	USA	Energy	81.50	81.50	G
Farmers City Wind, LLC	USA	Energy	81.50	81.50	G
Flat Rock Windpower II, LLC	USA	Energy	40.75	40.75	E
Flat Rock Windpower, LLC	USA	Energy	40.75	40.75	E
Flying Cloud Power Partners, LLC	USA	Energy	81.50	81.50	G
Golden Hills Wind Farm, LLC	USA	Energy	81.50	81.50	G
Goodland Wind, LLC	USA	Energy	81.50	81.50	G
Groton Wind, LLC	USA	Energy	81.50	81.50	G
Hardscrabble Wind Power, LLC	USA	Energy	81.50	81.50	G
Hay Canyon Wind, LLC	USA	Energy	81.50	81.50	G
Heartland Wind, LLC	USA	Energy	81.50	81.50	G
Helix Wind Power Facility, LLC	USA	Energy	81.50	81.50	G
Imperial Wind, LLC (Antes Bakeoven Wind, LLC)	USA	Energy	81.50	81.50	G
Juniper Canyon Wind Power II, LLC	USA	Energy	81.50	81.50	G
Juniper Canyon Wind Power, LLC	USA	Energy	81.50	81.50	G
Karankawa Wind, LLC	USA	Energy	81.50	-	G
Kitty Hawk Wind, LLC	USA	Energy	81.50	81.50	G
Klamath Energy, LLC	USA	Energy	81.50	81.50	G
Klamath Generation, LLC	USA	Energy	81.50	81.50	G
Klondike Wind Power II, LLC	USA	Energy	81.50	81.50	G
Klondike Wind Power III, LLC	USA	Energy	81.50	81.50	G
Klondike Wind Power, LLC	USA	Energy	81.50	81.50	G
La Joya Wind, LLC	USA	Energy	81.50	-	G
Lakeview Cogeneration, LLC	USA	Energy	81.50	81.50	G
Leaning Juniper Wind Power II, LLC	USA	Energy	81.50	81.50	G
Leipsic Wind, LLC	USA	Energy	81.50	81.50	G
Lempster Wind, LLC	USA	Energy	81.50	81.50	G
Locust Ridge II, LLC	USA	Energy	81.50	81.50	G
Locust Ridge Wind Farms, LLC ⁽³⁾	USA	Energy	37.74	37.74	G
Loma Vista, LLC	USA	Energy	81.50	81.50	G
Lund Hill Solar, LLC	USA	Energy	81.50	-	G
Manzana Power Services, Inc.	USA	Services	81.50	81.50	G
Manzana Wind, LLC	USA	Energy	81.50	81.50	G
Midland Wind, LLC	USA	Energy	81.50	81.50	G
Minndakota Wind, LLC	USA	Energy	81.50	81.50	G
Mohawk Solar, LLC	USA	Energy	81.50	81.50	G
Montague Wind Power Facility, LLC	USA	Energy	81.50	81.50	G
Moraine Wind II, LLC	USA	Energy	81.50	81.50	G
Moraine Wind, LLC	USA	Energy	81.50	81.50	G
Mount Pleasant Wind, LLC	USA	Energy	81.50	81.50	G
Mountain View Power Partners III, LLC	USA	Energy	81.50	81.50	G
New England Wind, LLC	USA	Energy	81.50	81.50	G
New Harvest Wind Project, LLC	USA	Energy	81.50	81.50	G
Northern Iowa WindPower II, LLC	USA	Energy	81.50	81.50	G

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
Otter Creek Wind Farm, LLC	USA	Energy	81.50	81.50	G
Pacific Harbor Capital, Inc.	USA	Other	81.50	81.50	G
Pacific Wind Development, LLC	USA	Holding	81.50	81.50	G
Pebble Springs Wind, LLC	USA	Energy	81.50	81.50	G
Phoenix Wind Power, LLC	USA	Energy	81.50	81.50	G
PPM Colorado Wind Ventures, Inc.	USA	Holding	81.50	81.50	G
PPM Roaring Brook, LLC	USA	Energy	81.50	81.50	G
PPM Technical Services, Inc.	USA	Services	81.50	81.50	G
PPM Wind Energy, LLC	USA	Holding	81.50	81.50	G
Providence Heights Wind, LLC	USA	Energy	81.50	81.50	G
Rugby Wind, LLC	USA	Energy	81.50	81.50	G
San Luis Solar, LLC	USA	Energy	81.50	81.50	G
ScottishPower Financial Services, Inc.	USA	Other activities	81.50	81.50	G
ScottishPower Group Holdings Company	USA	Holding	81.50	81.50	G
Shiloh I Wind Project, LLC	USA	Energy	81.50	81.50	G
Solar Star Oregon II, LLC	USA	Energy	81.50	81.50	G
South Chestnut, LLC	USA	Energy	81.50	81.50	G
Start Point Wind Project, LLC	USA	Energy	81.50	81.50	G
Streator Cayuga Ridge Wind Power, LLC	USA	Energy	81.50	81.50	G
Tatanka Ridge Wind. LLC (antes Buffalo Ridge III, LLC)	USA	Energy	81.50	81.50	G
Trimont Wind I, LLC	USA	Energy	81.50	81.50	G
Tule Wind, LLC	USA	Energy	81.50	81.50	G
Twin Buttes Wind, LLC	USA	Energy	81.50	81.50	G
Twin Buttes Wind II, LLC	USA	Energy	81.50	81.50	G
Vineyard Wind, LLC	USA	Energy	40.75	40.75	E
West Valley Leasing Company, LLC	USA	Gas	81.50	81.50	-
Winnebago Windpower II, LLC	USA	Energy	81.50	81.50	G
Winnebago Windpower, LLC	USA	Energy	81.50	81.50	G
Wyeast Solar, LLC	USA	Energy	81.50	81.50	G
Mexico					
BII NEE Stipa Energía Eólica, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Corporativo IBERDROLA Renovables México, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Energías Renovables Venta III, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Eólica Dos Arbolitos S.A.P.I. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Soporte a Proyectos Renovables, S.A. DE C.V. (Before, IBERDROLA Energía Norte, S.A. de C.V.)	Mexico	Services	100.00	100.00	G
IBERDROLA Renovables Centro, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
IBERDROLA Renovables del Bajío, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Impulsora de Generación Fotovoltaica de México, S.A. de C.V. (antes IBERDROLA Renovables del Irapuato, S.A. de C.V.)	Mexico	Energy	100.00	100.00	G
Infraestructuras de Generación Eléctrica, S.A. de C.V. (antes IBERDROLA Renovables del Zacatecas, S.A. de C.V.)	Mexico	Energy	100.00	100.00	G
IBERDROLA Renovables México, S.A. de C.V.	Mexico	Holding	100.00	100.00	G
IBERDROLA Renovables Noroeste, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Parque de Generación Renovable, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Parque energías Renovables de México, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Parque Industrial de Energía Renovables, S.A. de C.V.	Mexico	Energy	51.00	51.00	G
Parques Ecológicos de México, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Pier II Quecholac Felipe Ángeles, S.A. de C.V.	Mexico	Energy	51.00	51.00	G
Pier IV, S.A. de C.V.	Mexico	Energy	51.00	51.00	G
Proyecto Alternativa Energética de México, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Servicios de Operación Eoloeléctrica de México, S.A. de C.V.	Mexico	Services	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
Brazil					
Arizona 1 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Caetité 1 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Caetité 2 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Caetité 3 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Calango 1 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Calango 2 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Calango 3 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Calango 4 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Calango 5 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Calango 6 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Canoas Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Canoas 2 Energia renovavel, S.A. (before, Tacca RJ Participacoes S.A.)	Brazil	Energy	52.45	52.45	G
Canoas 3 Energia renovavel, S.A.	Brazil	Energy	52.45	-	G
Canoas 4 Energia renovavel, S.A. (Before, Titantium RJ Participacoes S.A.)	Brazil	Energy	52.45	52.45	G
Chafariz 1 Energia renovavel, S.A. (before, Meridiano 1 Energia renovavel, S.A.)	Brazil	Energy	52.45	52.45	G
Chafariz 2 Energia renovavel, S.A. (before, Meridiano 2 Energia renovavel, S.A.)	Brazil	Energy	52.45	52.45	G
Chafariz 3 Energia renovavel, S.A. (before, Meridiano 3 Energia renovavel, S.A.)	Brazil	Energy	52.45	52.45	G
Chafariz 4 Energia renovavel, S.A.	Brazil	Energy	52.45	-	G
Chafariz 5 Energia renovavel, S.A.	Brazil	Energy	52.45	-	G
Chafariz 6 Energia renovavel, S.A. (before, Meridiano 4 Energia renovavel, S.A.)	Brazil	Energy	52.45	52.45	G
Chafariz 7 Energia renovavel, S.A. (before, Meridiano 5 Energia renovavel, S.A.)	Brazil	Energy	52.45	52.45	G
Elektro Renováveis do Brasil, S.A.	Brazil	Energy	52.45	52.45	G
Energias Renováveis do Brasil, S.A.	Brazil	Energy	52.45	52.45	G
FE Participações, S.A.	Brazil	Energy	52.45	52.45	G
Força Eolica do Brasil 1, S.A.	Brazil	Energy	52.45	52.45	G
Força Eolica do Brasil 2, S.A.	Brazil	Energy	52.45	52.45	G
Força Eolica do Brasil, S.A.	Brazil	Energy	52.45	52.45	G
Lagoa 1 Energia renovavel, S.A.	Brazil	Energy	52.45	52.45	G
Lagoa 2 Energia renovavel, S.A.	Brazil	Energy	52.45	52.45	G
Lagoa 3 Energia renovavel, S.A. (before, Meridiano 6 Energia renovavel, S.A.)	Brazil	Energy	52.45	52.45	G
Lagoa 4 Energia renovavel, S.A. (before, Soumaya RJ Participacoes S.A.)	Brazil	Energy	52.45	52.45	G
Mel 2 Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Santana 1, Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Santana 2, Energia Renovável, S.A.	Brazil	Energy	52.45	52.45	G
Ventos de Arapuá 1 Energia renovavel, S.A.	Brazil	Energy	52.45	-	G
Ventos de Arapuá 2 Energia renovavel, S.A.	Brazil	Energy	52.45	-	G
Ventos de Arapuá 3 Energia renovavel, S.A.	Brazil	Energy	52.45	-	G
ROW					
Baltic Eagle, GmbH.	Germany	Energy	100.00	100.00	G
IBERDROLA Renovables Offshore Deutschland, GmbH.	Germany	Energy	100.00	100.00	G
IBERDROLA Renovables Deutschland, GmbH.	Germany	Energy	100.00	100.00	G
IBERDROLA Renewables Australia PTY, Ltd.	Australia	Energy	100.00	-	G
IBERDROLA Renewables Bulgaria, EOOD.	Bulgaria	Energy	100.00	100.00	G
IBERDROLA Renewables Canadá, Ltd.	Canada	Holding	100.00	100.00	G
Rokas Aeoliki Cyprus, Ltd.	Cyprus	Energy	74.82	74.82	G
Ailes Marine, S.A.S.	France	Energy	70.00	70.00	G
IBERDROLA Renovables France, S.A.S.	France	Energy	100.00	100.00	G
C. Rokas Industrial Commercial Company, S.A.	Greece	Holding	99.76	99.76	G
PPC Renewables Rokas, S.A.	Greece	Energy	50.88	50.88	G
Rokas Aeoliki Thraki III, S.A.	Greece	Energy	99.61	99.61	G
Rokas Construction, S.A.	Greece	Energy	99.76	99.76	G
Rokas Hydroelectric, S.A.	Greece	Energy	99.76	99.76	G

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
IBERDROLA Renovables Magyarország, KFT.	Hungary	Energy	100.00	100.00	G
IBERDROLA Renovables Italia, S.p.A.	Italy	Holding	100.00	100.00	G
Società Energie Rinnovabili 2, S.p.A. ⁽²⁾	Italy	Energy	50.00	50.00	E
Eonergy Energia Eolica, S.A.	Portugal	Energy	100.00	100.00	G
IBERDROLA Renewables Portugal, S.A.	Portugal	Holding	100.00	100.00	G
Parque Eólico da Serra do Alvao, S.A.	Portugal	Energy	100.00	100.00	G
Eolica Dobrogea One, S.R.L.	Romania	Energy	100.00	100.00	G
IBERDROLA Renewables Romania, S.R.L.	Romania	Holding	100.00	100.00	G
IBERDROLA Renewables South Africa (PTY), Ltd.	South Africa	Energy	100.00	100.00	G
Innovation					
Algaenergy, S.A. ⁽⁵⁾	Spain	Services	14.84	17.81	-
Arborea Intellbird, S.L. ^{(2) (4)}	Spain	Other activities	18.89	18.89	E
Atten2 Advanced Monitoring Technologies, S.L. ⁽²⁾	Spain	Other activities	23.27	21.22	E
GDES Tecnología for services, S.L. ⁽²⁾	Spain	Other activities	40.00	40.00	E
IBERDROLA Servicios de Innovación, S.L.	Spain	Other activities	100.00	100.00	G
Inversiones Financieras Perseo, S.L.	Spain	Holding	100.00	100.00	G
IBERDROLA QSTP, LLC	Qatar	Services	100.00	100.00	G
Network Business					
Spain					
Anselmo León Distribución, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Anselmo León, S.A.U. ⁽¹⁾	Spain	Holding	100.00	100.00	E
Distribuidora de Energía Eléctrica Enrique García Serrano, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Distribuidora Eléctrica Navasfrías, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Eléctrica Conquense Distribución, S.A.	Spain	Energy	53.59	53.59	G
Eléctrica Conquense, S.A.	Spain	Holding	53.59	53.59	G
Electro-Distribuidora Castellano-Leonesa, S.A. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Empresa Eléctrica del Cabriel, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Herederos María Alonso Calzada – Venta de Baños, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
San Cipriano de Rueda Distribución, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
IBERDROLA Distribución Eléctrica, S.A.U.	Spain	Energy	100.00	100.00	G
IBERDROLA Infraestructuras y Servicios de Redes, S.A.	Spain	Services	100.00	100.00	G
IBERDROLA Redes España, S.A.U.	Spain	Holding	100.00	100.00	G
Sociedad Distribuidora de Electricidad de Elorrio, S.A. ⁽¹⁾	Spain	Energy	97.95	97.95	E
United Kingdom					
Manweb Services, Ltd.	United Kingdom	Energy	100.00	100.00	G
NGET/SPT Upgrades, Ltd.	United Kingdom	Energy	50.00	50.00	E
Scottish Power Energy Networks Holdings, Ltd.	United Kingdom	Holding	100.00	100.00	G
SP Distribution, Plc.	United Kingdom	Energy	100.00	100.00	G
SP Gas, Ltd.	United Kingdom	Inactive	100.00	100.00	G
SP Manweb, Plc.	United Kingdom	Energy	100.00	100.00	G
SP Network Connections, Ltd.	United Kingdom	General use connections	100.00	100.00	G
SP Power Systems, Ltd.	United Kingdom	Asset management services	100.00	100.00	G
SP Manweb, Plc.	United Kingdom	Energy	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
United States					
Avangrid, Inc.	USA	Holding	81.50	81.50	G
Avangrid Enterprises, Inc.	USA	Holding	81.50	81.50	G
Avangrid Management Company, LLC	USA	Holding	81.50	81.50	G
Avangrid Service Company	USA	Services	81.50	81.50	G
Avangrid New York TransCo, LLC	USA	Holding	81.50	81.50	G
Avangrid Networks, Inc.	USA	Holding	81.50	81.50	G
Avangrid Solutions, Inc.	USA	Other activities	81.50	81.50	G
Berkshire Energy Resources	USA	Holding	81.50	81.50	G
Cayuga Energy, Inc.	USA	Holding	81.50	81.50	G
Central Maine Power Company	USA	Electricity	81.50	81.50	G
Chester SVC Partnership ⁽³⁾	USA	Electricity	40.75	40.75	G
CMP Group, Inc.	USA	Holding	81.50	81.50	G
CNE Energy Services Group, LLC	USA	Services	81.50	81.50	G
CNE Peaking, LLC	USA	Services	81.50	81.50	G
Connecticut Energy Corporation	USA	Holding	81.50	81.50	G
Connecticut Natural Gas Corporation	USA	Gas	81.50	81.50	G
CTG Resources, Inc.	USA	Holding	81.50	81.50	G
GCE Holding, LLC	USA	Holding	40.75	40.75	-
GenConn Devon, LLC	USA	Generation	40.75	40.75	-
GenConn Energy, LLC	USA	Generation	40.75	40.75	-
GenConn Middletown, LLC	USA	Generation	40.75	40.75	-
Maine Electric Power Company, Inc.	USA	Energy	63.80	63.80	G
Maine Natural Gas Corporation	USA	Gas	81.50	81.50	G
Maine Yankee Atomic Power Company ⁽⁵⁾	USA	Other activities	30.97	30.97	-
MaineCom Services	USA	Telecommunications	81.50	81.50	G
New York State Electric & Gas Corporation	USA	Electricity and Gas	81.50	81.50	G
NORVARCO	USA	Holding	81.50	81.50	G
Nth Power Technologies Fund I, LP. ⁽⁵⁾	USA	Other	21.92	21.92	-
RGS Energy Group, Inc.	USA	Holding	81.50	81.50	G
Rochester Gas and Electric Corporation	USA	Electricity and Gas	81.50	81.50	G
South Glens Falls Energy, LLC ⁽⁵⁾	USA	Energy	69.28	69.28	-
TEN Transmission Company	USA	Gas	81.50	81.50	G
The Berkshire Gas Company	USA	Gas	81.50	81.50	G
The Southern Connecticut Gas Company (SCG)	USA	Gas	81.50	81.50	G
The Union Water Power Company	USA	Services	81.50	81.50	G
The United Illuminating Company	USA	Energy	81.50	81.50	G
Thermal Energies, Inc. ⁽⁵⁾	USA	Inactive	81.50	81.50	-
Total Peaking Services, LLC	USA	Services	81.50	81.50	G
UIL Distributed Resources	USA	Services	81.50	81.50	G
UIL Group, LLC	USA	Holding	81.50	81.50	G
UIL Holdings Corporation	USA	Holding	81.50	81.50	G
United Capital Investments	USA	Inactive	81.50	81.50	G
United Resources, Inc.	USA	Holding	81.50	81.50	G
WGP Acquisition, LLC ⁽⁵⁾	USA	Inactive	81.50	81.50	-
Xcelcom Inc.	USA	Inactive	81.50	81.50	G
Xcel Services, Inc. ⁽⁵⁾	USA	Inactive	81.50	81.50	-
Brazil					
Afluenta Geração de Energia Elétrica, S.A.	Brazil	Energy	54.57	54.57	G
Companhia de Eletricidade do Estado do Bahia, S.A.	Brazil	Energy	50.69	50.53	G
Companhia Energética de Pernambuco, S.A.	Brazil	Energy	47.02	47.02	G
Companhia Energetica do Rio Grande do Norte, S.A.	Brazil	Energy	47.98	47.98	G
EKTT 1-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Energy	52.45	-	G
EKTT 2-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Energy	52.45	-	G
EKTT 12-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Energy	52.45	52.45	G
EKTT 13-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Energy	52.45	52.45	G



Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
EKTT 14-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Energy	52.45	52.45	G
EKTT 15-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Energy	52.45	52.45	G
Elektro Operação e Manutenção, Ltda.	Brazil	Services	52.45	52.45	G
Elektro Redes, S.A.	Brazil	Energy	52.28	52.28	G
Lanmóvil Amara Celular da Bahia Ltd. (Lanmara) ⁽¹⁾	Brazil	Other activities	65.00	65.00	-
Neoenergia Investimentos, S.A.	Brazil	Holding	52.45	52.45	G
Neoenergia Servicios, Ltd.	Brazil	Services	52.45	52.45	G
Neoenergia, S.A.	Brazil	Holding	52.45	52.45	G
Potiguar Sul Transmissao de Energia, S.A.	Brazil	Energy	52.45	52.45	G
S.E. Narandiba, S.A.	Brazil	Energy	52.45	52.45	G

Other businesses

Engineering

Adicora Servicios de Intermediación de Ingeniería, S.L.U. (Before, Adicora Servicios de Ingeniería, S.L.U.)	Spain	Engineering	100.00	100.00	G
Empresarios Agrupados Internacional, S.A. ⁽²⁾	Spain	Engineering	25.46	25.46	E
Empresarios Agrupados, A.I.E. ⁽²⁾	Spain	Engineering	25.46	25.46	E
Ghesa Ingeniería y Tecnología, S.A. ⁽²⁾	Spain	Engineering	42.15	42.15	E
IBERDROLA Ingeniería de Explotación, S.A.U.	Spain	Engineering	100.00	100.00	G
IBERDROLA Ingeniería y Construcción, S.A.U.	Spain	Engineering	100.00	100.00	G
Ingeniería, Estudios y Construcciones, S.A.	Spain	Engineering	100.00	100.00	G
IBERDROLA Construção e Serviços, Ltd.	Brazil	Engineering	100.00	100.00	G
IBERDROLA Energy Projects Canada Corporation	Canada	Engineering	100.00	100.00	G
IBERDROLA Ingeniería y Construcción Costa Rica, S.A.	Costa Rica	Engineering	100.00	100.00	G
IBERDROLA Energy Project, Inc.	USA	Engineering	100.00	100.00	G
Enermón S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
IBERDROLA Ingeniería y Construcción México, S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
Iberservicios, S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
IBERDROLA Engineering and Construction Poland, SP. Z.O.O.	Poland	Engineering	100.00	100.00	G
IBERDROLA Engineering and Construction Networks, Ltd.	United Kingdom	Engineering	100.00	100.00	G
IBERDROLA Engineering and Construction UK, Ltd.	United Kingdom	Engineering	100.00	100.00	G
IBERDROLA Engineering and Construction Ro. SRL.	Romania	Engineering	100.00	100.00	G
IBERDROLA Engineering and Construction South Africa	South Africa	Engineering	100.00	100.00	G

Real Property

Arrendamiento de Viviendas Protegidas Siglo XXI, S.L.	Spain	Real Property	100.00	100.00	G
Camarate Golf, S.A. ⁽²⁾	Spain	Real Property	26.00	26.00	E
IBERDROLA Inmobiliaria Patrimonio, S.A.U.	Spain	Real Property	100.00	100.00	G
IBERDROLA Inmobiliaria, S.A.	Spain	Real Property	100.00	100.00	G
IBERDROLA Inmobiliaria Real State Investment, EOOD	Bulgaria	Real Property	100.00	100.00	G
Desarrollos Inmobiliarias Laguna del Mar, S.A. de C.V.	Mexico	Real Property	100.00	100.00	G
Promociones La Malinche, S.A. de C.V.	Mexico	Real Property	50.00	50.00	E

Other businesses



Company	Registered office	Activity	Percentage of direct or indirect interest		Method (*)
			31.12.2018	31.12.2017	
Subgrupo Corporación IBV Participaciones Empresariales	Spain	Holding	50.00	50.00	E
Siemens Gamesa Renewable Energy, S.A. (antes Gamesa Corporación Tecnológica, S.A.) ⁽⁴⁾	Spain	Holding	8.07	8.07	E
IBERDROLA Inversiones 2010, S.A.U.	Spain	Holding	100.00	100.00	G
IBERDROLA Participaciones, S.A.U.	Spain	Holding	100.00	100.00	G
Investigación y Desarrollo de Equipos Avanzados, S.A.U. ⁽¹⁾	Spain	Other activities	100.00	100.00	E
Corporation					
CarteraPark, S.A.U. ⁽⁵⁾	Spain	Inactive	100.00	100.00	-
IBERDROLA Corporación, S.A. ⁽⁵⁾	Spain	Inactive	100.00	100.00	-
IBERDROLA España, S.A.U.	Spain	Holding	100.00	100.00	G
IBERDROLA Energía, S.A.U.	Spain	Holding	100.00	100.00	G
IBERDROLA Financiación, S.A.U.	Spain	Financial	100.00	100.00	G
IBERDROLA Finanzas, S.A.U.	Spain	Financial	100.00	100.00	G
IBERDROLA International, B.V.	Holland	Financial	100.00	100.00	G
IBERDROLA Finance Ireland, DAC	Ireland	Financial	100.00	100.00	G
IBERDROLA Re, S.A.	Luxembourg	Insurance	100.00	100.00	G
IBERDROLA Energía Internacional, S.L.	Spain	Holding	100.00	-	G
Scottish Power UK, Plc	United Kingdom	Holding	100.00	100.00	G
Scottish Power, Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower Investments, Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower Overseas Holdings, Ltd.	United Kingdom	Holding	100.00	100.00	G
SPW Investments Ltd.	United Kingdom	Holding	100.00	100.00	G



JOINT OPERATIONS OF THE GROUP STRUCTURED THROUGH AN INDEPENDENT VEHICLE FOR THE YEARS 2017 AND 2018

Company	Registered office	Activity	Percentage of direct or indirect stake	
			31.12.2018	31.12.2017
<u>Liberalised business</u>				
Asociación Nuclear Ascó – Vandellós, A.I.E.	Spain	Energy	14.59	14.59
Centrales Nucleares Almaraz – Trillo, A.I.E.	Spain	Energy	51.44	51.44
<u>Renewable business</u>				
Infraestructuras de Medinaceli, S.L.	Spain	Energy	39.69	39.69
Sistema Eléctrico de Conexión Hueneja, S.L.	Spain	Energy	47.36	47.36
<u>Other businesses</u>				
Torre IBERDROLA, A.I.E.	Spain	Real Property	68.10	68.10

Additionally, the IBERDROLA Group takes part in joint operations through joint ownership and other joint agreements described in Note 45.

GROUP COMPANIES AT 31 DECEMBER 2017 WHICH HAVE LEFT THE PERIMETER IN 2018 AS A RESULT OF DISPOSAL, MERGER OR LIQUIDATION

Company	Registered office	Activity	Percentage of direct or indirect stake	
			31.12.2018	31.12.2017
<u>Liberalised Business</u>				
Cobane, A.I.E.	Spain	Energy	-	100.00
Fuerzas Eléctricas de Navarra, S.A.	Spain	Energy	-	100.00
Hidroeléctrica Ibérica, S.L.U.	Spain	Energy	-	100.00
Tirme subgroup	Spain	Energy	-	20.00
Caledonia Energy Partners, LLC	USA	Energy	-	81.50
E.O. Resources, LLC	USA	Energy	-	81.50
Enstor Energy Services, LLC	USA	Energy	-	81.50
Enstor Gas, LLC	USA	Holding	-	81.50
Enstor Grama Ridge Storage and Transportation, LLC	USA	Energy	-	81.50
Enstor Houston Hub Storage and Transportation, Ltd.	USA	Energy	-	81.50
Enstor Inc.	USA	Holding	-	81.50
Enstor Katy Storage and Transportation, LLC	USA	Energy	-	81.50
Enstor Louisiana, LLC	USA	Energy	-	81.50
Enstor Operating Company, LLC	USA	Holding	-	81.50
Enstor Sundance Storage and Transportation, LLC	USA	Energy	-	81.50
Enstor Waha Storage and Transportation, LLC	USA	Energy	-	81.50
Freebird Assets Inc.	USA	Holding	-	81.50
Freebird Gas Storage, LLC	USA	Energy	-	81.50
Gemini Capital, LLC	USA	Energy	-	81.50
Manweb Energy Consultants, Ltd.	United Kingdom	Energy	-	100.00
ScottishPower Generation, Ltd.	United Kingdom	Energy	-	100.00
SMW, Ltd.	United Kingdom	Other	-	100.00
<u>Renewable Business</u>				
IBERDROLA Energía Solar de Puertollano, S.A.	Spain	Energy	-	90.00
Oceantec Energías Marinas, S.L.	Spain	Services	-	40.39
ScottishPower Hazelwood, Pty. Ltd.	Australia	Holding	-	100.00
Hazelwood Australia, Inc.	USA	Holding	-	81.50
Hazelwood Ventures, Inc.	USA	Holding	-	81.50
Pacific Solar Investments, Inc.	USA	Energy	-	81.50
ScottishPower International Group Holdings Company	USA	Holding	-	81.50
Streator Deer Run Wind Farmer, LLC	USA	Energy	-	81.50
Rokas Aeoliki Peloponnisos II, S.A.	Greece	Energy	-	99.76
IBERDROLA Renovables Norte, S.A. de C.V.	Mexico	Energy	-	100.00
<u>Network Business</u>				
Garter Properties, Inc.	Islas Vírg.Britan.	Inactive	-	52.45
<u>Other businesses</u>				
IBERDROLA Engineering and Construction Saudi Arabia, LLC	Saudi Arabia	Engineering	-	100.00
Iberinco Hellas Techniki kai Kataskevastiki EPE	Greece	Engineering	-	100.00
IBERDROLA Ingegneria e Costruzioni Italia, SRL.	Italy	Engineering	-	100.00
IBERDROLA Inzhiniring I Stroiteistvo, LLC	Russia	Engineering	-	100.00
IBERDROLA Ingenieria y Construcccion. Venezuela, S.A.	Venezuela	Engineering	-	99.81
Fiuna, S.A.	Spain	Real Property	-	100.00
Promotora la Castellana de Burgos, S.A.	Spain	Real Property	-	100.00
Urbanizadora Marina de Cope, S.L.	Spain	Real Property	-	80.00



Company	Registered office	Activity	Percentage of direct or indirect stake	
			31.12.2018	31.12.2017
<u>Corporation</u>				
Demon Internet, Ltd.	United Kingdom	Inactive	-	100.00
Manweb Nominees, Ltd.	United Kingdom	Inactive	-	100.00
Manweb Share Scheme Trustees, Ltd.	United Kingdom	Inactive	-	100.00
Scottish Power UK Holdings, Ltd.	United Kingdom	Holding	-	100.00

- (1) Companies that are controlled by the Group but due to their immateriality have been integrated using the equity method. At 31 December 2018, the total aggregate assets value and the profit for the year corresponding to these companies amounts to Euros 40,537 thousand and Euros 5,301 thousand, respectively. On 31 December 2017, the aggregate total assets and results of the corresponding period of such companies amounted to Euros 35,953 thousand and Euros 4,443 thousand, respectively.
- (2) Companies considered joint ventures, accounted for the equity method, where shareholders agreements just grant the right to the net assets of the business.
- (3) Companies, where despite holding a percentage of voting rights less than 51%, the Group holds the control through shareholders agreements.
- (4) Companies where the Group has significant influence despite holding a percentage of voting rights less than 20%, since it is represented these companies' board of directors.
- (5) Companies where the Group holds the control, joint control or significant influence, but given its limited relevance, they have not been included in the consolidation scope.



APPENDIX II

INDUSTRY REGULATION AND FUNCTIONING OF THE ELECTRICITY AND GAS SYSTEM

The IBERDROLA Group companies engage in electricity business activities in Spain and abroad (see Appendix I) and are heavily affected by the respective regulatory frameworks. A description of the main regulations affecting the IBERDROLA Group is provided below.

1. European Union

Member states of the European Union in which IBERDROLA is present, should comply with EU regulations.

The aim of the European legislation is the implementations of the single gas and electricity markets in order to facilitate the exchange of energy flows and allow any consumer in the European Union to deal freely with any supplier in the EU. In this regard, there are two types of legislation: directives, which set out common criteria to be observed in domestic markets and which the member states should transpose into national legislation; and regulations, which establish standards for supranational issues, especially those related to the transit of gas and electricity, and are applicable directly.

Other legislation that indirectly affects the energy sector is that arising from the energy and climate policy. In 2007 the triple objective of reducing greenhouse gas emissions (GHGs) by 20%, setting a quota of renewable energy of 20% and a target for reducing consumption by 20%, all by 2020, was agreed. To meet these objectives by 2020, four documents have been drafted to complement the legislation: the reform of the EU Emissions Trading System (EU-ETS), the national targets for emissions from non-EU ETS, the national objectives on renewable energy and the capture and storage of carbon.

Paris Agreement: On 11 April, Decision (EU) 2016/590 of the Council was published, regarding the signing, on behalf of the European Union, of the Paris Agreement approved by virtue of the United Nations Framework Convention on Climate Change. The signing by 174 countries and the European Union took place in New York on 22 April 2016. This agreement came into force on 4 November 2016.

The legislation on infrastructures is also relevant. The European Union has powers with regards to trans-European networks, specifically those relating to energy. During the last few years and months, various regulations and programmes have been created to promote a greater connectivity between the Member States, such as the Trans-European Energy Networks (TEN-E), the European Energy Programme for Recovery (EEPR) and the Connecting Europe Facility (CEF). In December 2014, the European Council approved the creation of a Strategic Investment Plan for the European Union, to mobilize Euros 315,000 million in 2015 – 2017.

On 25 February 2015, the European Commission launched a framework strategy for a resilient Energy Union with a Forward-Looking Climate Change Policy, that includes fifteen action points to be implemented during the mandate of the current European Commission (2014-2019), including, among others, setting out the goals of an energy union and the steps the European Commission will take to achieve it, a new legislation to redesign and reform the electricity market, ensure the supply for electricity and gas, EU funding for energy efficiency, a new energy renewables package and a structural reform of EU-ETS, facilitating the compliance of 2030 Targets set by the European Council in October 2014.

The European Commission presents on annual basis the advances achieved and the steps to be undertaken in the following years

Directive 2003/87/EC on CO₂ emission allowances makes it obligatory for the industry and the electricity sector to deliver an emission allowance for each ton of CO₂ emitted by a plant. The goal for 2020 is that emissions from sectors covered by the EU ETS will be 21% lower than in 2005.

Emission allowances may be acquired by companies through:

- Issuances in capital markets: European Energy Exchange-EEX and Futures Europe – ICE
- In some cases, free temporary allocation where the amount of allowances is determined on the European Union level

Since 2013 IBERDROLA has no longer been entitled to receive any allocation free of charge.

With reference to emissions trading, on 14 March 2018 the Official Journal of the European Union (OJEU) published Directive 410/2018, with the objective of intensifying emission reductions. The reform's most significant features are:

- An increase in the reduction applied each year to the stock of auctioned allowances (known as the “linear factor”) from 1.74% to 2.2% starting in 2021. This parameter is associated with the mechanism's “aim”, upon expecting that a gradual reduction of allowances auctioned implies lower total emissions from the sectors involved in emissions trading.
- If the total number of allowances in circulation (TNAC) exceeds 833 million, 24% of the excess allowances will be withdrawn from the auctions each year and added to the Market Stability Reserve (MSR), from 2019 to 2023. The rate of withdrawal of allowances at 12% is maintained for the following years. If the total number of allowances in the market is less than 400 million, then the MSR releases 100 million into the market. Those allowances remaining in the reserve in 2023 shall be cancelled to prevent them from being returned to the market.

This mechanism is intended to stabilize the EU ETS (EU Emissions Trading System) and strengthen the carbon price signal reducing gradually the surplus allowances.

- Conversely, the procedures for allocation of allowances to sectors subject to the risk of carbon leakage are amended.
- Lastly, support for modernizing the electricity sector in countries with lower GDP is planned, but exclude coal (a point of contention in the negotiations).

As regards non-ETS sectors, the following rules and standards have been published:

- Regulation (EU) 2018/841 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF sector): It establishes accounting rules for measuring carbon emissions and removals from cropland, grassland, managed forests and wetlands in 2021-2030. Carbon removals in the LULUCF sector have to be at least equal to emissions.
- Regulation 2018/842, the “Effort Sharing Regulation” With a view to meeting the commitments made in the context of the Paris Agreement, it regulates the binding annual greenhouse gas emission reductions of Member States from 2021 to 2030. It establishes measures for non-ETS sectors to reduce their emissions by 30% by 2030 compared with 2005 by means of national objectives linked to GDP per capita, an emissions reduction path for Member States and a safety

reserve of 105 million metric tons of CO₂ equivalent to help less-favoured Member States with difficulties in achieving the 2030 objectives.

On 30 November 2016 the EC published the package Clean Energy for all Europeans, consisting of 70 documents, of which 8 are legislative proposals and sets the framework to complete the implementation of the energy internal market and to achieve the environmental 2030 targets. November 2016 package involves the wholesale and retail markets and the frameworks for renewable energy sources and energy efficiency.

Practical implementation to market operation is expected to take in place by 2020. At 31 December 2018 the OJEU has published 4 rules:

- Directive (EU) 2018/844 on the energy performance of buildings obliges Member States to establish long-term strategies for renovating buildings so as to shift investment in renovation into highly energy-efficient and decarbonised buildings by 2050. It also establishes minimum requirements for installing recharging points for electric vehicles in buildings with more than ten parking spaces.
- Directive 2018/2001 on the promotion of the use of energy from renewable sources establishes an overall EU target of 32% of energy from renewable sources by 2030, as well as a target of 14% in the transport sector (in each Member State) and an indicative average annual increase of 1.3 percentage points in the heating and cooling sector. It establishes stable (non-retroactive) support schemes for renewables with visibility over five years. It allows individual and group self-consumption, guaranteeing the contribution to the costs of using the grid. It prohibits charges to renewable energy self-consumers in general, but allows them for installations with a capacity of more than 30kW and where otherwise necessary to ensure the financial sustainability of the electricity system.
- Directive 2018/2002 on energy efficiency: This establishes an EU target of 32.5% for 2030, setting obligatory savings each year from 2021 to 2030, per Member State, of 0.8% of annual final energy consumption averaged over the period 2016-2018. It encourages the electrification of the heating and cooling and transport sectors and states explicitly that States may use contributions to Energy Efficiency National Funds as alternatives to obligation schemes.
- Regulation 2018/1999 on the Governance of the Energy Union and Climate Action establishes the rules for drawing up States' national energy and climate plans in accordance with EU targets for 2030 and their reporting to the EC. It imposes a calendar (draft by 31 December 2018, final plans by 31 December 2019) for States' presentation of and the Commission's comments in these Plans, which define the national strategy for attaining the targets and security of supply. It establishes a mechanism for supervising the 2030 targets, allowing the EC to impose measures if the overall targets are at risk of not being met.

In December 2018 agreement was reached among the European Commission, Parliament and Council on the rules for the Market Design, concluding negotiations on the rules of the *Clean Energy for all Europeans* package. The main features of the proposed Directive and Regulation on the internal market for electricity are:

- Capacity mechanisms: An emission limit of 550 g CO₂ kWh for new plants was agreed, applicable once the new Regulation comes into force. For existing plants, the limit of 550 g CO₂ kWh and 350 kg CO₂ on average per year will be applied from 1 July 2025. After 1 July 2025, no power plant with emissions exceeding these limits will be able to receive State aid in the form of capacity

mechanisms (except for those committed to in capacity contracts existing before 31 December 2019).

- Cross-border trade in electricity: At least 70% of interconnector capacity must be left available for cross-border trade in electricity. From January 2026, TSOs may use up to 30% of their interconnector capacity for reliability margins, loop flows and internal flows.
- Energy poverty and regulated prices: Member States may regulate prices temporarily in order to protect vulnerable households. However, preference has to be given to social security systems as the means to address energy poverty. Member States that maintain regulated prices for domestic consumers may continue to do so, but must present evaluation reports on progress towards abolishing regulated prices.

In the course of the first quarter of 2019 the Regulation on Risk-preparedness in the electricity sector will be published, as will the Regulation on the Agency for the Cooperation of Energy Regulators (attributes of the European Regulator) and the Regulation and Directive on the internal market (market design).

In November 2017, the EC published its Clean Mobility Package, which outlines measures to reduce transport sector emissions in 2020-2030, and adapt Europe's industry to comply with the Paris Agreements without losing global market share. Now being processed in the European Council and Parliament are the following matters:

- New emissions standard: vehicles sold between 2025 and 2030 must emit 15% less than those sold in 2021. For 2030 the emission reduction goal compared to 2021 is 37.5% for new vehicles and 31% for new vans. Annual goals will therefore be established for each manufacturer, and incentives will be granted to those with a lower percent than what is established for zero-emission and low-emission vehicles (<50gCO₂/km principally plug-in hybrids).
- Clean Vehicle Directive: promotes the acquisition and leasing of vehicles for public administration. Each State will include a goal for 2025 - 2030 (Spain: 1/light vehicles, 33% set for entire period; 2/heavy vehicles, trucks 10%-14% and buses 50%-75%).
- Communication regarding action plans to promote the use of alternative fuels (electricity, LNG, biogas, etc.): for the purpose of evaluating the investment needs (from Euros 16,000 to 22,000 million in recharge and supply infrastructures) and proposes a strategy to adapt specific States' regulation. The EC will provide Euros 800 million to finance the projects.

Other significant rules published by the OJOU in the recent years:

- Regulation 2016/1952/EU on European statistics on natural gas and electricity prices (17 November 2016). This legislation establishes a harmonised framework to elaborate and disclose the statistics on gas and electricity prices, both for residential customers and for companies. The new rules allow more transparent understanding of the different price components, splitting energy, networks and "taxes and other". EC's Energy Costs and Prices Study included in the "Clean Energy Package" is in accordance with this statistic methodology.
- On 17 August 2017, the Commission Implementing Decision (EU) 2017/1442 was published establishing emission thresholds applicable to large combustion plants (>50MW) using best available techniques. Member States must adapt to these new limits on acid gas emissions [nitrogen oxides (NO_x), sulphur dioxide (SO₂), fine particulate matter and, for the first time, mercury] by 2021.



- Regulation 2017/1938 concerning measures to safeguard the security of gas supply (28 October 2017). The Regulation's general purpose is to reinforce the European Union's energy security, reduce foreign dependence and enable it to confront possible. Main novelties:
 - Principle of solidarity: In the event of a serious gas crisis that puts the supply at risk, the Member States will help their neighbouring states to ensure the supply of gas to homes and necessary social services.
 - Reinforcement of regional cooperation: Common security risks of one Regional Group's supply will be jointly assessed and preventive and common emergencies measures will be agreed on.
 - Reinforcement of system security tools: Preventive action plans and mandatory regional emergency plans are established, along with regional risk analysis, which will be prepared jointly by all Member States that belong to the same risk group.
 - Transparency: To facilitate better supervision of the contracts' risks and clauses, the gas companies must notify the long term contracts that are relevant to the security of the supply (those that represent 28% of yearly gas consumption in the Member State).
- On 26 June 2017, the EC published Directives regarding environmental and social information, complementary to Directive 95/2014 requirements regarding non-financial information. Applicable to more than 500 employees. They comprise a voluntary guide applicable to firms with more than 500 employees, to report information relevant to environmental, social, and labour policies and risks, human rights issues, anti-corruption efforts and gender policies. They include best practices and among others, experience in monitoring Sustainable Development Objectives and the Paris Agreement.
- Electricity balance sheet: EC Regulation 2017/2195 was published on 28 November 2017, establishing a guideline on electricity balancing including the establishment of common principles for the procurement and the settlement of frequency containment reserves, frequency restoration reserves and replacement reserves and a common methodology for the activation of these reserves. This Regulation applies to all transmission systems and interconnections in the European Union except the transmission systems on islands that are not connected with other transmission systems
- EC Decision SA.40348 (2015/NN) was published, authorising the Spanish system for aid to renewables (December 2017). The EC has come to the conclusion that the Spanish system of support for electricity generation from renewable energy sources, cogeneration of high efficiency heat, electricity and waste is in accordance with the state aid rules of the European Union.

2. Industry regulation in Spain

The National Commission for Market and Competition (CNMC) is as a public body attached to the Ministry of Energy, Tourism and Digital Agenda and is subject to parliamentary scrutiny. Its functions include market regulation and supervision.

– Industry regulation and functioning of the electric system in Spain

The electricity sector is regulated by Electricity Industry Law 24/2013 of 26 December 2013, the principles of which are summarised as follows:

1. Activity separation

It establishes the legal and accounting separation of regulated activities (economic and technical management of the system, transmission and distribution) and liberalised activities (generation, wholesale and retail or other activities unrelated to electricity or activities abroad). However, a group of companies can carry out both kinds of activity provided that these are performed by different companies within it.

2. Energy generation activities:

Generation activity is carried out in free market competition, subject to a schedule of approvals, with its remuneration established in the market:

- The daily hour price for energy is established in the wholesale market by marginalist criteria; the dispatch determined by the lowest price until the demand is satisfied. Intra-day markets are also established to adjust the position with regard to the daily schedule. Conversely, certain production plants obtain additional remuneration to provide additional necessary services to guarantee supply.
- Order ITC 3127/2011 regulating payments for capacity, which consist of an investment incentive, an environmental incentive and an availability service is established. This Order establishes an incentive to investment during the first 20 years of the useful life of a facility and an environmental incentive during 10 years to investments for improving air quality. On the other hand, it governs a yearly availability service to be extended at the end of each year. In 2018 this incentive was capped to the first half of the year, except for hydroelectrical plants for draught reasons. For 2019 Order TEC/1366/2018 on tolls has been repealed.

Renewable generation

Royal Decree 413/2014 regulating electricity generation by means of renewable energy sources, cogeneration and waste establishes the specific remuneration scheme for existing and new facilities. The remuneration will be on the basis of six-year periods and some of them may be revised every three years. For facilities prior to July 2013, the remuneration system consists of the sum of:

- Investment remuneration (EUR/MW) to cover, where applicable, the investment costs that cannot be recovered from the sale of electricity in the market, defined on the basis of the reasonable yield on 10 year government bonds plus a spread, initially fixed at 300 basis points for the first regulatory period ending on 31 December 2019 (i.e., 7.398% before taxes).
- Operation remuneration (EUR/MWh) to cover, where applicable, the difference between the operating costs and income obtained in the electricity market. The return on the operation in circumstances where the operating cost of a technology is dependent on fuel prices may be changed at least once a year. The last Order published including an update of these operational costs is the Order ETU/1046/2017.

On the other hand, the Order IET/1045/2014 of June 2014 sets out a classification of standard installations in terms of the technology, installed capacity or any another characteristic already in place for the application of this remunerative scheme. These have been revised by Order ETU/130/2017 for the period 2017-2019.

The remuneration for new renewable facilities, cogeneration and waste will be set by a competitive tendering process. In 2017 there were two competitive bidding processes, with 3,000 MW of wind power awarded in the first and 3,909 MW of solar power and 1,128 MW of wind power in the second. In neither case will any awardee receive additional remuneration if market prices remain at their current levels — only if they fall below a certain threshold.

For 2019, the first call for tenders for wind power in the Canary Islands has been issued for projects co-financed by the ESIFs for a maximum of 271 MW. No other bidding processes have been initiated, although the government has announced a possible one for 3,000 MW of new renewable power.

3. Agents that guarantee the proper functioning of the market

- System Operator (SO): Red Eléctrica de España, S.A. carries on the transmission management and system operation activities. As system operator, it is responsible for managing the adjustment markets to guarantee a continuous balance demand and generation between energy.
- Market Operator (MO): The Iberian Market Operator (IMO) is responsible for the operation the Iberian electricity market (MIBEL) which manages Portuguese and Spanish daily, intra-day and forward markets in Spain and Portugal.

4. Transmission and Distribution

The Electric Industry Law [LSE] establishes that distribution and transmission are regulated activities that are classified as low-risk, whose remuneration is determined by six-year regulatory periods.

- It introduces the concept of “efficient and well-managed company, and the financial remuneration rate will be in accordance with ten year government bonds plus an appropriate spread for a low risk activity.
- It stipulates that the collection of the remuneration generated by new investments starts in the year $n+2$.

On 30 December 2013 two royal decrees regulating the new remuneration methodology of the transmission (Royal Decree 1047/2013) and distribution (Royal Decree 1048/2013) activities were published, as part of the regulatory and tax measures that started in the second half of 2013. The methodology set out in Royal Decree 1048/2013 is in accordance with new standard investment and operation costs and limits the annual volume of investment.

It also sets incentives in quality (it may fluctuate between +2% and -3% of the company's remuneration), in losses (it may fluctuate between +1% and -2%) and in anti-fraud measures, which may reach 1.5% of the company's remuneration.

Orders IET/2659/2015 and IET/2660/2015 published on 12 December 2015 determine the type of facilities and unit values to consider when calculating the remuneration for 2016 onwards.

Remuneration to transmission and distribution for 2016 was published on Order IET/980/2016 on 10 June 2016. However, in September 2017 proceedings were instigated aimed at having this order declared harmful to the public interest due to the treatment of fully depreciated assets still in use, and this has still not been resolved. An objection was also lodged in respect of the parameters used to calculate remuneration for 2016, on the basis that the final amount recognised should take account of the valuation of assets constructed by third parties and subsequently ceded to distributors.

Apart from this, the remuneration has still not been published for either 2017 or 2018, and an amount equivalent to that of 2016 is being paid provisionally, in accordance with Orders ETU/1976/2016 and ETU/1282/2017 which maintain the values published for 2016 for remuneration of distribution (Euros 5,175 million for the sector and Euros 1,655.5 million for IBERDROLA) and transmission (Euros 1,709 million for the sector).

The recent Royal Decree-Law 20/2018 of 7 December on urgent measures to boost economic competitiveness in the industrial and commercial sector in Spain, empowers the government to develop legislation covering Closed Distribution Networks, for supplying electricity only to industrial users which, basically for reasons of safety, are within geographically confined areas. The economic and financial sustainability of the electricity system must be taken into account, as must non-discrimination among consumers and non-redundancy in networks.

5. Access tolls

Access tolls are defined as the consideration consumers will pay for use of the networks and other unrelated supply costs included in the invoice, designated as charges. Access tolls are uniform across the country and are collected by the distributors and carriers, which act as the collector agents of the electricity system.

Currently, the government establishes these access tolls for each year that consumers must pay in each voltage level, in absence of regulatory implementation that outlines an allocation methodology and calculates the tolls per network use as well as unrelated supply charges. The recently published Royal Decree-Law 1/2019 transfers the responsibility of establishing the methods of remuneration, the tariffs for use of the grid and the conditions of access to the electricity and gas transmission and distribution networks to the CNMC, starting with the next regulatory period (2020). The government retains the power to set the charges, which concern all other costs included in the bill that are not related to the use of the networks.

Royal Decree-law 14/2010 of 23 December, developed by Royal Decree 1544/2011 of 31 October, extended the application of access tolls to electricity producers and established a provisional access toll of Euros 0.5 per MWh fed into the grid.

The Order IET/1366/2018, of 20 December, establishes the access tolls for 2019. This Order:

- It freezes all the tolls and current capacity payments.
- It provisionally maintains the transmission and distribution remuneration, until the orders with definitive values for 2019 are published.



- It establishes the use of funds from the accumulated surplus in such amount as is strictly necessary to balance income and costs. As regards revenues from the General State Budget, it includes Euros 750 million for auctions of CO₂, although the Royal Decree-Law on mining published on the same day raises this amount to Euros 1 billion.
- It consolidates the derogation of availability payments, although it maintains the current capacity prices paid by customers.
- It establishes the provisional remuneration of the SO and MO,

6. Supply activity

From 1 July 2009 all consumers may freely contract their supply of electricity with a supplier of their choice.

The government, however, maintains a Voluntary Price for the Small Consumer (VPSC), a regulated tariff for consumers that have a contracted power rating of less than 10 kW, and for those that do not meet the requirements to sign up for it but who temporarily do not have a valid contract with a free market operator.

Royal Decree 216/2014, of 28 March establishes the legal regimen for contracting the VPSC and methodology for calculating it, such as sum of energy cost, access tolls and charges, and commercial margin. In addition, as established by Law 3/2014, it provides the option for consumers to contracting an electricity price fixed for a year with the reference trader.

25 November 2016 saw the publication of Royal Decree 469/2016, changing the commercial margin of the PVPC ("voluntary price for the small consumer") established in Royal Decree 216/2014. Now the commercial margin is in accordance with the costs of three most efficient reference traders plus remuneration for the year of activity (1.05% on the energy price) and excludes face-to-face channel.

On 24 December, a Ministerial Order was published with the concrete values, both for the past (from 1 April 2014) and the future (until 2018).

The recently published Royal Decree-Law 15/2018 on urgent measures for energy transition and consumer protection approved a number of measures that affect sales and marketing:

- Prohibition of "door-to-door" selling of electricity and gas, except by prior appointment.
- CORs (reference marketers) should include a simulation of the application of the variable time slot costs in their invoice.
- It makes it easier to have fraudulent sellers disqualified.
- It facilitates contracting of power in multiple tranches of 0.1 kW for supplies of less than 15 kW.
- Supplies of less than 15 kW are exempt from invoicing for reactivation. Revenues obtained by distributors from reactive energy charges cease to be considered as subject to the settlement procedures and will be applied to actions necessary to comply with the voltage control requirements.

7. Social tariff

The social tariff was created in 2009 as a measure to protect vulnerable customers. It offers a discount on the regulated rate for certain groups. The social tariff is financed by all parents of the Groups with supply activity, in accordance with the method for calculating the percentages for distribution and the procedure for settling the amounts to be financed, in accordance with prevailing legislation. In 2018 IBERDROLA is responsible for 35.05%.

On 24 December 2016, Royal Decree-law 7/2016, which regulates the mechanism for financing the cost of the social tariff and other measures to protect vulnerable electricity consumers, was published. It was subsequently developed by Royal Decree 897/2017, which governs who qualifies as a vulnerable consumer, the social tariff and other protection measures for household electricity consumers, and by Order ETU/943/2017.

Three categories of vulnerable consumers are defined in accordance with criteria involving income, number of minors in the household and other conditions, and a VPSC discount is applied to their bill up to an annual consumption limits count applied to their bill up to an annual consumption limit.

- Vulnerable consumer: 25% discount on VPSC.
- Severe vulnerable consumer: 40% discount on VPSC.
- Consumer at social exclusion risk: 100% discount on VPSC. They must be helped by social services, who will cover at least 50% of their bill at VPSC.

The procedures to suspend supply in the event of non-payment are also reviewed in this legislation. Information requirements are added for all suppliers, payment terms and suspension of supply due to non-payment in the free and regulated market is equalised, with special consideration to consumers at risk of social exclusion, whose service is deemed essential and therefore cannot be suspended. Royal Decree-Law 12/2018 adds an extra level of protection for households in receipt of the bono social subsidy with minors under 16 or disabled or dependent members whose supply is also considered essential and as such not susceptible of being cut off in the event of non-payment.

8. Electric mobility

Royal Decree-Law 15/2018 eliminates the role of gestor de carga (charging agent), introduced by Royal Decree-Law 6/2010. Any consumer can now provide charging services, free of charge or for valuable consideration, on their own behalf or that of others.

It also allows distributors to install charging points where there is no private interest. If subsequently conditions become economically attractive, the installations will have to be transferred to other operators against appropriate compensation; enabling regulations have yet to be developed for this process.

9. Self-consumption

Self-consumption is regulated for the first time in the Electricity Industry Law 24/2013 and defined as the consumption of electricity power provided by generation facilities associated with a consumer. In accordance with the aforementioned Law, self-consumers must pay the same access toll for the consumed energy.

Subsequently, Royal Decree-law 9/2015 of 10 July 2015 modified Law 24/2013 to establish the possibility of setting exemptions for small power self-consumers (up to 10 kW). This measure is exceptional and it will be implemented provided that the safety and economic and financial sustainability of the system is guaranteed.

The administrative, technical and economic conditions of the self-consumption modes are regulated in Royal Decree 900/2015 of 10 October as amended by the recent Royal Decree-Law 15/2018 on urgent measures for energy transition and consumer protection, which establishes two modes of self-consumption:

- Without surplus: when the physical equipment installed prevent any injection of surplus energy into the grid, so that the consumer is only a consumer.
- With surplus: when the generating installations can inject surplus energy into the grid, so that the consumer is also a producer.

Furthermore, Royal Decree-Law 15/2018 eliminates the requirement for a meter for generation and the limitation whereby installed capacity had to be less than consumption. It also eliminates the charges and tolls on self-consumed energy from renewable sources, co-generation or waste and allows shared self-consumption and the setting of quantities for use of the grid. Lastly, it allows the remuneration of surpluses as the rest of production, and the simplified offsetting for self-consumers of shortfalls and surpluses in their production for facilities of up to 100 kW.

10. Interruptibility and assistance to electro-intensive consumers

The interruptibility service for a consumer consists of reducing its active capacity in response to a reduction order from the system operator, in line with the needs that arise in operating the electricity system in accordance with certain technical, security and financial criteria.

- Technical criteria: As a rapid response mechanism in emergency situations in the operation of the system.
- Economic criteria: In situations where the application of the service has a lower cost than that of the adjustment services of the system.

To execute the option, the system operator will send a power reduction order to the service providers who will reduce their active power demanded until the committed residual power values are fulfilled.

The allocation of the interruptibility service will be carried out through an auction procedure managed by the system operator, as established in the Order IET/2013/2013. In October 2017 its application was limited to the first five months of 2018, although subsequently Order ETU/362/2018 revised the mechanism, extending the period to 31 December 2018 and replacing the 90 MW interruptible product by one of 40 MW. Consumers wishing to provide the service must also show that they have no outstanding debts in connection with the provision of the demand-side interruptible load management service.

Lastly, Royal Decree-Law 20/2018 of 7 December, on urgent measures to boost competitiveness, provides for the creation, by means of royal decree, of a Statute of Electro-intensive Consumers, which will take account of objective variables linked to the guidelines and volume of capacity and energy required, as well as its potential contribution to improved technical and economic management of the electricity system.

This Statute will develop mechanisms designed to mitigate the effects of energy costs on competitiveness, in accordance with EU legislation, with obligations and commitments in terms of energy efficiency, substitution of emitting and polluting sources of energy and investment in R+D+i and employment, among other things. Beneficiaries of the subsidies will be obliged to maintain productive activity for a period of three years.

11. Cogeneration

Royal Decree 413/2014 on electricity generation by means of renewable, cogeneration and waste establishes the remuneration scheme for existing and new facilities.

Royal Decree-Law 20/2018 of 7 December introduced an extension to the economic regime of co-generation. High-efficiency co-generation facilities that use renewable fuels or natural gas and that exceed their regulatory useful life after 1 January 2018 may receive the payment term for the operation for a further two years from the entry into force of this royal decree-law, unless a new regime regulating this technology is developed.

Apart from this, the recently published Order TEC/1303/2018 recognises the right of certain manure treatment plants to the efficiency complement for the period 2007-2010, amounting to Euros 11 million, which the CNMC must pay from its accumulated surplus. Euros 1 million corresponds to IBERDROLA plants.

12. Tariffs balance

The difference between collection of tariffs and access tolls set by the Government and real costs related thereto, produced a revenue shortfall between 2000 and 2013, which was financed by the electricity companies. Recovery of this shortfall is deferred through annuities incorporated in the annual tariff.

As measures adopted since 2009 proved to be insufficient throughout 2013, the Government carried out a process of regulatory and tax reform for the electricity sector. As a step prior to this reform, the Law 15/2012 set out new tax measures and Royal Decree-law 9/2013, was approved, adopting urgent measures to guarantee the financial stability of the electricity system and modified the methodology for calculating the remuneration of the transmission and distribution activities, special regime and capacity payments, among other measures.

To consolidate tariff balancing in the sector, Law 24/2013 is governed by the principle of economic and financial sustainability of the electricity system, meaning that any regulatory measure which causes an increase in costs or a reduction in income for the electricity system should include an equivalent reduction of other cost items or an equivalent increase in income that ensures the balancing of the system. Thus, the possibility of new deficits accumulating, as have occurred in the past, is ruled out.

The Electricity Sector Act also establishes a mechanism limiting the revision of charges, by establishing that as long as cost items of the electricity system reflect payments corresponding to debts from previous years, charges may not be revised downwards. This principle is reinforced with the obligation to automatically review, from 2014 onwards, the tolls and fees if the annual or accumulated imbalances exceed 2% or 5%, respectively, of the income estimated for a given year.

The part of the imbalance that, without exceeding such limits, is not compensated by increases in tolls and fees will be financed by the parties to the settlement system in proportion to the remuneration that corresponds to them for their activities. The amounts thus contributed will be returned in the corresponding settlements during the following five years together with an interest rate equivalent to the market rate.

The surplus income that could arise will be used to compensate imbalances from previous years and, in 2017, by virtue of the 2018 General State Budgets Act, to compensate companies for the litigation resulting from the electricity regulation. Hence part of the accumulated surplus has been used to pay to companies in reimbursement of the financing of the “social bonus”, effectively a government-sponsored energy discount, for 2014, 2015 and 2016, including interest. The recently published Royal Decree-Law 15/2018 empowers the Ministry to use the accumulated surplus to cover possible deficits for the years 2018 and 2019, and increases the budgetary credit of revenues transferred from CO2 auctions.

Royal Decree 680/2014 of 1 August 2014, regulates the procedure of budgeting, recognition, settlement and control of the surcharges on the production of electricity power in the isolated electricity systems of the non-peninsular territories charged to the General State Budgets, thus developing the provisions of Law 24/2013, which stipulated that from 1 January 2014, 50% of these surcharges would be financed against the General State Budgets.

Final settlements for 2014, 2015, 2016 and 2017 were closed with a surplus of Euros 550 million, Euros 469 million, Euros 421 million and Euros 150 million, respectively. This accumulated surplus of Euros 1,074 million, deducting the return of the social tariff, will be paid into an account held by the CNMC.

13. Energy efficiency

In this sense, the European Union has set itself the target of achieving a 20% improvement in energy efficiency by 2020.

Law 18/2014 of 15 October, approving urgent measures for growth, competitiveness and efficiency, contains a set of mechanisms designed to achieve the energy saving targets established in the Energy Efficiency Directive. To this end, it created the National Energy Efficiency Fund, managed by the Institute for the Diversification and Saving of Energy (Instituto para la Diversificación y Ahorro de la Energía) and financed by an annual contribution from all suppliers of gas and electricity, wholesalers of oil products and of liquid petroleum gases, in accordance with their sales.

Law 8/2015 of 21 May, modified Law 18/2014 and established that the obliged entities must make an annual contribution from 2016 onwards to the National Energy Efficiency Fund in four instalments: on 31 March, 30 June, 30 September and 31 December of each year. Order ETU/257/2018 of 16 March, establishes the 2018 contributions to the National Energy Efficiency Fund.

– Industry regulation and functioning of the gas system in Spain

The natural gas sector in Spain has undergone significant changes in its structure and operation in the last ten years, driven mainly by the liberalisation measures included in European directives concerning common rules for the internal market in natural gas (Directive 2009/73/EC is currently in force) aimed at opening up markets and creating a single European gas market.

1. Activity separation

The Hydrocarbon Industry Law of 1998 laid the foundations for the new gas system, particularly with regard to the separation of activities (regulated and liberalised), the introduction of third-party access to the regulated network, the abolition of the former concessions for piped gas supply and their conversion into regulated administrative permits, and the establishment of a timetable for progressive market deregulation.

The Hydrocarbon Industry Law 34/1998 provided for the legal separation of liberalised and regulated activities and the segregation for accounting purposes of the various regulated activities. Law 12/2007 took a further step in establishing the functional separation between liberalised activities and the grid and between the latter and the technical management of the system. In 2012, Royal Decree-Law 13/2012 was approved, establishing further measures of separation in management of the transmission network.

In line with these principles, the gas system has been structured around two types of activities: regulated (regasification, basic storage, transmission and distribution) and liberalised (trading and supply).

2. Deregulation of the gas sector

The effective deregulation began with the publication of Royal Decree-Law 6/2000 on urgent measures to intensify competition in markets for goods and services, which created the Technical System Manager, and Royal Decree 949/2001.

Royal Decree 949/2001 established the specific terms and conditions for third-party network access and, for regulated activities, a cost-based system of remuneration, tariffs, tolls and fees structured according to pressure levels and consumption bands. The remuneration assigned to each company as well as the tariffs, tolls and fees are updated annually by ministerial orders and resolutions.

The economic system also defined a settlement procedure to allow redistribution of revenues collected among the various regulated activities.

Other issues related to the regulation of the transmission, distribution and supply businesses, the administrative authorisation procedures for natural gas facilities and the regulation of certain aspects of the supply business are covered in Royal Decree 1434/2002.

The deregulation process in Spain was completed with Law 12/2007 transposing Directive 2003/55/EC. The two key changes enacted by this law were the elimination of regulated supply and the functional separation among activities.

As in the Spanish electricity sector, since 1 July 2008 all customers have been able to choose their gas supplier freely, although there is a regulated Last-Resort tariff that may be used by low-pressure customers with annual consumption of less than 50,000 kWh. The price is calculated automatically and cumulatively.

3. Technical operation of the system

Order ITC 3126/2005 develops the rules for the technical management of the gas system. Inter alia, these regulations establish that each operator is individually responsible for maintaining its liquidity and enacts specific protocols for the conduct of the technical system manager in exceptional operating circumstances.

Despite the sector's progressive deregulation, prevailing regulation upholds the state's obligation to ensure the safety and continuity of supply. Royal Decree 1766/2007 establishes the obligation of sellers and direct consumers in the market to hold minimum safety stocks corresponding to 20 days of firm supplies, with a limit of 50% on the maximum percentage of supplies from any one country.

Additionally, the Winter Plan for Gas in force published in 2017 obliges gas retailers to hold a winter reserve (from November to March) in the form of stocks of liquefied natural gas (LNG) equivalent to 3.5 days of their contracted input capacity to the transmission and distribution network.

The State also maintains responsibility for obligatory planning work for certain infrastructures (for example, gas pipelines forming the core transmission network, the secondary transmission network, determining the total LNG regasification capacity necessary and core natural gas storage facilities). For all other infrastructures, the state's planning work is indicative only. In 2012, Royal Decree-Law 13/2012 enacted a series of measures to halt the construction of new infrastructure in a context of falling demand for gas.

Royal Decree 335/2018 of 25 May amends various royal decrees relating to the administrative handling of certain installations, the procedure to be followed in cases of disqualification of sellers and the setting of tolls and fees. This last point has been held in abeyance due to the transfer of responsibilities to the National Commission on Markets and Competition (CNMC).

4. Remuneration

Law 18/2014 approving urgent measures for growth, competitiveness and efficiency, and before that Royal Decree-Law 8/2014, establish the principle of economic and financial sustainability of the gas system. This principle is reinforced with the obligation of automatic revision of tolls and fees if the annual mismatch exceeds 10% of revenues subject to settlement for the financial year or 15% of the sum of the annual mismatch and annual amounts recognised and pending amortisation.

The part of the imbalance that, without exceeding the above limits, is not compensated by the increase in tolls and fees, will be financed by the parties to the settlement system in proportion to their remuneration. The amounts contributed will be returned in the following five years and will earn an interest rate equivalent to the market rate.

The deficit accumulated as at 31 December 2014 will be financed by the owners of the installations during a period of 15 years.

On the other hand, the remuneration of the regulated activities will be in accordance with the costs necessary for an efficient and well-managed company to carry out the relevant activity, following the principle of performing the relevant activity at the lowest cost for the gas system. In addition, the remuneration of regulated activities will be on the basis of six-year regulatory periods. The first regulatory period ends on 31 December 2020. Every three years adjustments may be made to the remuneration parameters within the gas system in the event that there are significant changes in revenues or costs.

The remuneration system for distribution is in accordance with the previous year's system adjusted to market growth. The remuneration system for transmission, storage facilities and regasification is in accordance with the net value of the assets plus a complement associated with trends in demand. The cost of operation and maintenance is also taken into account.

5. The organised gas market

The Hydrocarbon Industry Law was modified by Law 8/2015 of 21 May, the main aspects of which regarding the gas system are:

- The creation of an organised wholesale gas market.
- The designation of the operator of the regulated gas market.
- Measures relating to minimum security stock levels.
- It empowers CORES (Corporación de Reservas Estratégicas de Productos Petrolíferos) to constitute, maintain and manage strategic gas and LNG stocks.
- Inspections may be carried out by any natural gas installation company, not only distribution companies.

Finally, the Royal Decree 984/2015 of 30 October 2015 regulated the organised wholesale gas market and the third party access to the facilities of the natural gas system. It establishes the bases for the development of the organised gas market, which will initially include the negotiation of short-term standardised products by an electronic platform managed by the Market Operator (MIBGAS - OMEL), together with a system of centralised management of guarantees. In addition, it centralises the contracting of capacity managed by the TSO (technical system operator) (ENAGAS), with standardised products and auction procedures.

At the end of 2017 the Resolution for the provisions of compulsory market service by dominant operators (Endesa y GNF) was published. They are therefore obliged to maintain a minimum volume of sales or purchases up to a maximum of 5.68% of their annual gas supplies in Spain. The price separation between the purchase and sale offers must be equal to or less than 0.50 euros per MWh. This measure is complementary to the periodic call of voluntary market makers.

3. Industry regulation in the UK

The principal laws that govern Scottish Power Ltd.'s (hereinafter, *SCOTTISH POWER*) activities are the Electricity Act 1989 and the Gas Act 1986, as substantially amended and supplemented by numerous subsequent amendments, including the Gas Act 1995, the Utilities Act 2000, the Energy Act 2004, the Energy Act 2008, the Energy Act 2010, the Energy Act 2011, the Energy Act 2013, the Energy Act 2016 and various EU Directives (subject to any changes arising from the UK's forthcoming exit from the EU).

1. The Regulatory Authorities

The principal regulatory authority for utilities is the Gas and Electricity Markets Authority (*GEMA*), comprising a chairman and other members appointed by the Secretary of State for Business, Energy and Industrial Strategy (*BEIS*). *GEMA* is backed by the *Office of Gas and Electricity Markets* (*OFGEM*). The main instrument of regulation used by *GEMA* is the licensing regime which in most cases requires the various activities of the energy industry to be carried out under a licence to which standard conditions apply. In addition, there are a number of statutory obligations for licence holders, known as relevant requirements, which are enforced by *GEMA* as if they were licence conditions.

GEMA's principal objective is to promote the interests of present and future consumers and promote effective competition. Under the Energy Act 2010, the interests of such consumers must be taken as a whole, including their interest in reducing greenhouse gases and in the security of the supply of gas and electricity.

In furthering this objective *GEMA* must ensure that all reasonable demand for electricity and gas is met, ensure that licence holders are able to finance the activities they are obliged to undertake, and contribute to the achievement of sustainable development. It must also take into consideration vulnerable customers and *GEMA* must observe certain guides on social and environmental matters.

GEMA's functions include the granting of licences (and their revocation in certain limited circumstances), the proposal of changes to licence conditions (including the operation of price controls for the monopoly network functions), the review of industry code modifications, operating schemes for promoting renewable electricity and energy efficiency, and the enforcement of the industry's obligations.

GEMA's regulatory activities must be transparent, responsible, proportionate, consistent and focused solely on those cases where action is needed in line with best regulatory practices.

GEMA has the power to impose monetary penalties for past and ongoing breaches of licence conditions and relevant requirements and it can order that redress is provided to consumers. Fines and redress orders for a particular breach can in aggregate be up to 10% of the licensee's applicable turnover.

The principal Regulatory Authority for competition matters is the Competition and Markets Authority (*CMA*). They can undertake general market investigations and, working concurrently with *GEMA*, can investigate potential breaches of competition law in the utility field. Consumer protection matters are enforced by the *CMA*, *OFGEM* and Local Authority Trading Standards departments.

2. Licences

Companies within the *SCOTTISH POWER* Group hold licences for various activities including:

- The supply, generation and distribution of electricity;

- the shipping of gas (that is, arranging for the insertion, the transmission, and the removal of it from the public network) Gas; and
- the transmission of gas to certain specific sites (such as proposed new gas fired power stations).

The conditions of licences regulate such matters as:

- for network licences: the quality of service and the charges that can be made.
- for supply to household consumers: consumer protection provisions including rules on standards of conduct, provision of information, disconnection in view of debt, cost reflective pricing, supply information to customers and on treating customers fairly.
- for most types of licence: rules requiring adherence to industry codes that set down the detailed technical rules for operating the industry, and providing for OFGEM to determine whether proposed changes to the codes should go ahead.

The Gas Act 1995 and Utilities Act 2000 introduced standard licence conditions to ensure that all holders of a particular licence type are subject to the same conditions. Under the Electricity and Gas Regulations 2011 (Internal Markets), modifications of individual or standard licensing terms no longer require the holders' consent.

A gas and electricity market investigation was carried out by the CMA, which issued a report on 24 June 2016. The final report concluded that competition in the wholesale gas and electricity markets works well and that the presence of vertically integrated companies does not have a detrimental impact on competition.

However, a number of adverse effects on competition were identified in the supply market, some due to ill-conceived regulation, but mainly focussed on the 'weak customer response' from the 70% of customers who are on standard variable tariffs (SVT) and who lose out through lack of engagement in the market. Most of the CMA's remedies are focussed on increasing competition in the SVT segment, including creating a database of disengaged customers (those who have been on SVT for more than three years) which could be used by rival suppliers for marketing, and a programme of trials to develop more effective customer prompts. In the case of customers with prepayment meters the CMA decided to impose a transitional safeguard tariff cap, to be set above the "efficient" level of pricing.

Other remedies include location-dependent charging for transmission losses, changes to industry settlement processes and code governance, and recommendations to the Government on a number of subjects including GEMA's duties.

The CMA made a number of orders in December 2016 to implement relevant remedies, ahead of its statutory deadline of 23 December to complete implementation. On 7 December 2017, OFGEM decided to extend the CMA's prepayment meter price cap to a further 1 million customers in receipt of Warm Home Discount (WHD) payments with effect from 2 February 2018.

On 19 July 2018, the Domestic Gas and Electricity (Tariff Cap) Act 2018 received Royal Assent. This legislation obliges OFGEM to cap energy tariffs temporarily (to the end of 2020) for all domestic customers on SVT and other default tariffs, with a view to protecting existing and future domestic consumers, and having regard to the need to create incentives for efficiency, enable effective competition, maintain incentives for switching and ensure licensed activities remain financeable.

OFGEM decided on 6 November 2018 that the cap would come into effect on 1 January 2019 and for the first period (1 January 2019 to 31 March 2019) would be set at £1,137 for dual fuel customers paying by Direct Debit (DD) and £1,221 for those paying by Standard Credit (SC). Customers currently covered by the WHD price cap would move to the default tariff cap for DD (whether they pay by DD or SC). Those covered by the CMA's prepayment price cap are unaffected (but the cap is subject to review by the CMA in 2019).

3. Price controls

A number of temporary price controls are currently in effect in the domestic energy supply market.

- As noted above, following its 2014-2016 Energy Market Investigation, the CMA introduced a transitional safeguard tariff cap for domestic consumers with prepayment meters (PPMs), which will apply from 1 April 2017 to 31 December 2020. and in December 2017 OFGEM extended to consumers in the WHD program WHD, which will apply from 2 February 2018 to 31 December 2019. Following enactment of the Domestic Gas and Electricity (Tariff Cap) Act 2018, prices for the sale of electricity and gas to the domestic consumers on SVT or other default tariffs will be subject to a temporary cap (the 'Default Tariff Cap') applying from 1 January 2019 to 31 December 2020 (extendable on an annual basis to 31 December 2023). The level of the cap is set by OFGEM.
- The provisions of the Competition Act 1998 and the Transmission Constraint Licence Condition (TCLC), may also provide a constraint on prices charged to commercial customers or on other prices in the wholesale electricity and gas markets. TCLC prohibits electricity generators from making excessive profits resulting from possible actions in balancing markets. OFGEM has published guidelines on the interpretation and application of the TCLC. The condition was renewed and made permanent on 16 July 2017 and some elements were removed to address potential overlap with REMIT.
- OFGEM has implemented electricity market liquidity obligations for large integrated retail and generation companies, including SCOTTISH POWER. These include obligations to facilitate trading with smaller suppliers and also an obligation to create market in a number of wholesale products during two specified "windows" in each business day. Although the prices of bids and offers are not regulated, the licence condition limits the spread between them. OFGEM will revise this obligation in 2019 in view of the drop in the number of companies subject to it.
- The networks are considered to be a natural monopoly. Therefore, their revenues have been controlled and this is now achieved through the new RIIO framework (Revenue = Incentives + Innovation + Outputs). This involves setting a revenue profile for an eight year period (with the opportunity for Ofgem to propose a limited revision every four years) which would deliver a target return on investments in accordance with the regulator's assessment of the costs of an efficient network operator and the likely capital programme (aided by a business plan submitted by the company). The formula also includes various incentives and takes into account inflation. The formula uses a Market Indicator for setting the debt cost, and phases in (for electricity) an asset depreciation period of 45 years, replacing the 20 year period used previously.

In the transmission business, SPTL's new RIIO-T1 framework became effective from April 2013. In distribution, the new RIIO-ED1 for the Scottish Power network in the South of Scotland and in the Manweb area came into force on 1 April 2015.

OFGEM is reviewing the RIIO framework ahead of the second round of controls, which will start with RIIO-T2 in April 2021.

- a duration of RIIO-1 of 5 years instead of 8;
- *Retail Price Index* will be replaced by *Consumer Price Index* (CPI);
- The participation of stakeholders will improve through the creation of *Stakeholder Challenge and User Groups*;
- the existing depreciation policy for *Regulated Asset Value* (RAV) will still be in force;

OFGEM is considering options for the adjustment mechanisms of the Fair Returns to limit the companies having abnormally high returns. Ofgem has also signalled that large, new and separable transmission projects may be tendered or made subject to a bespoke (lower) rate of return. OFGEM is currently developing two models: a 'Special Purpose Vehicle' (SPV) model, in which projects would be delivered through a SPV that would bid competitively for the financing, construction and operation of the assets in an Ofgem supervised auction; and a 'Competitive Proxy Model' (CPM) in which the project would be developed by the transmission licensee and Ofgem would set the allowed revenue using 'competitive' benchmarks.

4. Other issues

Other key elements of the regulatory regime in the United Kingdom include:

The Renewables Obligation (RO)

For some time, the United Kingdom Government's aim has been to source at least 30% of electricity from renewable sources by 2020. To help meet this objective, the RO Orders (which apply separately to different parts of the United Kingdom within a unified scheme) place obligations on suppliers of electricity to source an increasing proportion of their electricity from renewable sources (in accordance with the expected level of renewable energy production in each year plus a 10 percent spread in order to prevent certificate prices from falling sharply).

Suppliers meet their obligations by presenting sufficient Renewables Obligation Certificates (ROCs) or by paying an equivalent amount into a fund. If suppliers default on their obligations and the total shortfall is above a threshold amount, the shortfall is recovered from the remaining suppliers through a process of 'mutualisation'.

The proceeds of the fund are paid back to those suppliers that have presented ROCs in proportion to the number of ROCs presented. Since April 2009, the RO has been banded so that differing technologies receive different levels of support depending on the expected average costs.

The RO was closed for new projects after 31 March 2017 and the Government has implemented the Contracts for Difference (CFDs) mechanism that was part of the Electricity Market Reform (EMR) programme. The wind farms in ScottishPower's onshore renewables pipeline that received planning permission in time to qualify for the relevant grace period were be eligible to accredit under the RO. The RO remained in place for new facilities entering the scheme before the relevant closure date; payments will continue until 31 March 2027 for projects that started generating power before 1 April 2009 and for 20 years after entry into the RO for subsequently dated projects. The Energy Act 2013 foresees changing from the RO to a premium payment on substantially similar terms.

Electricity Market Reform (EMR)

The principal elements of the United Kingdom Government's EMR programme are:

- a new incentive scheme, in accordance with CFDs to boost low carbon generation; and
- a Capacity Market to enhance security of supply (market-wide auction - CM mechanism).

The first CFD Allocation Round took place on 4 February 2015 in two “pots”; one for ‘established technologies’ (mainly onshore wind and solar) and a second one for ‘less established technologies’ (mainly offshore wind). ScottishPower's 714 MW East Anglia ONE offshore Wind Farm achieved a contract in the auction at a price of GBP 119.89 per MWh. The second round concluded on 11 September 2017 and procured some 3.2GW of offshore wind, mostly at a clearing price of £57.50 per MWh. The Government has now announced a further CFD Allocation Round for less established technologies which is due to commence in 2019). A budget allocation of GBP 557 million (2011/12 prices) has been made in aggregate for allocation rounds prior to 2025.

Within this overall budget the Government has published the draft budget for Allocation Round 3, namely, £60 million (2011/12 prices) for delivery years 2023/24 and 2024/25. The Government expects this to support the delivery of around 4GW of new capacity, and the allocation round will be subject to an overall 6GW capacity cap (subject to State Aid approval). The CfD administrative strike prices for offshore wind are set at £56/MWh for projects delivering in 2023/24 and £53/MWh for those delivering in 2024/25 (in 2012 prices). A final Budget and parameters will be set ahead of the auction.

Annual Capacity Market auctions took place in December 2014, 2015 and 2016, for capacity delivery in winter 2018, 2019 and 2020, respectively.

On 15 November 2018, the European Court of Justice upheld Tempus Energy's challenge against the EU Commission, annulling its decision not to raise State Aid objections to the UK CM. BEIS announced a ‘standstill period’ until the scheme can be approved again by the Commission. On 6 December 2018, BEIS published its forward plan (agreed with the Commission) for obtaining State Aid re-approval for the CM. This envisages the Commission issuing an Opening Decision to open the formal investigation in early 2019. The Government intends to hold a ‘top-up’ T-1 auction during summer 2019, for delivery in winter 2019/20, making any agreements conditional on the outcome of the Commission's formal investigation. The Government has also published (subject to consultation) a “minded-to” plan to resume supplier charging arrangements to fund deferred payments to capacity providers (upon State Aid re-approval). The T-4 auction for 2022/23 is planned to be run as a T-3 auction upon State Aid re-approval.

EU-ETS and United Kingdom Carbon Price Support

The Climate Change Act 2008 set out a trajectory towards reducing UK greenhouse gas emissions from 1990 levels by at least 80% by 2050, with interim reduction targets.

A positive final State Aid decision would allow CM payments to be made to CM agreement holders that have met their obligations during the ‘standstill period’. This EU ETS participation position for the UK remained the case for 2018, but the position for 2019 and subsequent years is not yet clear due to ongoing Brexit negotiations. In light of Brexit developments to date, as expected, the EU Commission has suspended for the time being the UK-related processes in the Union Registry of the EU ETS with effect from 1 January 2019.

The Carbon Price Support mechanism is a United Kingdom tax levied on fossil fuels used for electricity generation at differential rates which simulate a charge on the CO₂ emissions. In recent years, this charge has been set at GBP 18 per tonne of CO₂. The Government announced in its 2018 budget that it will maintain this GBP 18 per tonne of CO₂ rate for 2020/21. In the case of a Brexit without agreement the budgets of 2018 establish that the Government will introduce a new rate to the CO₂ emissions (Carbon Emission Tax) that in 2019 would be of 16 pounds sterling per ton.

The Energy Companies Obligation (ECO)

Energy suppliers who supply over 250,000 domestic customers are required to achieve energy efficiency improvements or heating cost reductions by domestic customers.

As with any other cost, the costs of making those improvements can be incorporated by suppliers into tariffs, subject to the need to remain competitive in the market. These costs need to be taken into account in any price caps.

The current ECO program began in April 2017 at a cost of 640 million pounds sterling per year. The new program (ECO3) began in October 2018 (and will continue until March 2022) focused on vulnerable customers. Under the ECO3, the exemption is reduced to the program of small suppliers in a staggered way, leaving exempt in 2019/2020 those suppliers with less than 200,000 clients and, in 2020/2021 those with less than 150,000 clients (instead of the current 250,000). **Closure of coal plants**

In November 2015 then Secretary of State Amber Rudd announced plans to consult on requirements for all coal power stations without CCS to close by 2025 (subject to any security of supply issues). At the end of 2016 the Government published a request and in January 2018 confirmed its intention of eliminating coal generation from the system in 2025.

Pollution Control

European pollution control directives are: The Integrated Pollution Prevention and Control (IPPC), the Large Combustion Plant Directive (LCPD) and the Industrial Emissions Directive (IED) impose limits on various categories of emissions transposed into United Kingdom law through the Pollution Prevention and Control (Scotland) Regulations 2012 and amendments to the Environmental Permitting (England and Wales) Regulations 2010. These controls are enforced by the Environment Agency or, in Scotland, the Scottish Environmental Protection Agency.

The Medium Combustion Plants Directive places emission limits on smaller generating and other combustion plants. As part of the implementation of this, Defra (Department for Environment, Food and Rural Affairs) is expected to impose NOX limits on diesel generators, which could reduce the air quality implications of allowing such plants to participate in the capacity mechanism.

4. Industry regulation in the USA

1. Electricity and natural gas distribution

Some of the most important specific regulatory processes that affect AVANGRID Networks, Inc. (hereinafter, AVANGRID NETWORKS) include the New York rate settlement for NYSEG and RG&E, the Connecticut United Illuminating distribution rate case decision, the Maine and Connecticut transmission Federal Energy Regulatory Commission (FERC) Return on Equity (ROE) case and the Reforming Energy Vision (REV) process of New York.

The main revenues of AVANGRID NETWORKS are essentially regulated, and are in accordance with tariffs established in accordance with administrative procedures set by the various regulatory bodies. The tariffs applied to regulated activities in the United States are approved by the regulatory commissions of the different States and are in accordance with the cost of providing service. Energy, financial and capital costs are included (capital costs show the Company's capital index and legitimate capital profitability).

Energy costs that are set on the New York and New England wholesale markets are passed on to consumers. The difference between energy costs that are budgeted for and those that are actually incurred by the utilities is offset by applying compensation procedures that result in either immediate or deferred tariff adjustments.

These procedures apply to other costs, which are in most cases exceptional (due to effects of extreme weather conditions, environmental factors, regulatory and accounting changes, treatment of vulnerable customers, etc.) that are offset in the tariff process.

Each of the eight supply companies in AVANGRID NETWORKS, must comply with regulatory procedures that differ in form but in all cases conform to the basic framework outlined above.

As a general rule, tariff reviews cover various years (three in New York and Connecticut) and provide reasonable returns on equity, protection and automatic adjustments for exceptional costs incurred and efficiency incentives.

2. New York

– New York State Electric & Gas Corporation (NYSEG) and Rochester Gas and Electric Corporation (RG&E) Tariff Plans presented in 2015:

On 20 May 2015, NYSEG and RG&E filed electric and gas rate cases with the New York Public Service Commission (NYPSC). The companies requested, on the one hand, rate increases for NYSEG Electric, NYSEG Gas and RG&E Gas and, on the other hand, RG&E Electric requested rate decreases.

On 19 February 2016, the NYSEG, RG&E and other signatory parties filed a Joint Proposal, or the Proposal, with the NYPSC for a three-year rate plan commencing on 1 May 2016. The Proposal was submitted on April 7, 2016 and June 15, 2016, the adoption resolution of the NYPSC, with the retroactive application of May 1, 2016.

The delivery rate increase can be summarized as follows:



Utility	01 May 2016		01 May 2017		01 May 2018	
	Rate Increase (Millions USD)	Delivery Rate Increase (%)	Rate Increase (Millions USD)	Delivery Rate Increase (%)	Rate Increase (Millions USD)	Delivery Rate Increase (%)
NYSEG Electric	29.6	4.10	29.9	4.10	30.3	4.10
NYSEG Gas	13.1	7.30	13.9	7.30	14.8	7.30
RG&E Electric	3.0	0.70	21.6	5.00	25.9	5.70
RGE Gas	8.8	5.20	7.7	4.40	9.5	5.20

The allowed rate of return on common equity for NYSEG Electric and NYSEG Gas is 9%. The equity ratio for both Electric and Gas is 48%. The Proposal includes an applicable Earnings Sharing Mechanism (ESM). The customer share of earnings would increase at higher earnings levels, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10% and 10.5% of ROE, respectively, in the first year. Earnings thresholds would increase in subsequent years.

The Proposal reflects the recovery of deferred costs of approximately USD 262 million incurred by electric storms and borne by NYSEG, and also continues reserve accounting for qualifying Major Storms (USD 21.4 million annually at NYSEG and USD 2.5 million annually at RG&E). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided that they meet certain thresholds.

The Proposal establishes threshold performance levels for designated aspects of customer service quality and continues and expands bill reduction and arrears forgiveness Low Income Programs at increased funding levels.

The Proposal provides for the implementation of NYSEG's Energy Smart Community ("ESC") Project in the Ithaca region which will serve as a test-bed for implementation and deployment of Reforming the Energy Vision (REV) initiatives. The ESC Project will be supported by NYSEG's planned rollout of Distribution Automation and Advanced Metering Infrastructure (AMI) to customers on circuits in the Ithaca region.

The Proposal provides for partial or full reconciliation of certain expenses including, but not limited to: pensions, other postretirement benefits; property taxes; variable rate debt and new fixed rate debt; gas research and development; environmental remediation costs; Major Storms; nuclear electric insurance limited credits; economic development; and Low Income Programs. The Proposal provides for partial or full reconciliation of certain expenses including, but not limited to: pensions, other postretirement benefits; property taxes; variable rate debt and new fixed rate debt; gas research and development; environmental remediation costs; Major Storms; nuclear electric insurance limited credits; economic development; and Low Income Programs.

• Reforming the Energy Vision

Reforming the Energy Vision: In April 2014, the NYPSC commenced a proceeding titled Reforming the Energy Vision (REV), which is an initiative to reform New York State's energy industry and regulatory practices.

The REV has followed several paths simultaneously: Track 1 deals with market design and platform technology and Track 2 deals with the regulatory reform. REV's objectives include the promotion of more efficient use of increasing the utilization of renewable energy resources such as wind and solar power (in support of New York State's renewable energy goals) and a wider deployment of "distributed" energy resources, and storage.

REV is also intended to promote greater use of advanced energy management products to enhance demand elasticity and efficiencies. AVANGRID is currently participating in the initiative with other New York utilities. The NYPSC issued a 2015 order in Track 1, which acknowledges the utilities' role as Distribution System Platform (DSP) providers, and requires the utilities to file an initial Distribution System Implementation Plan (DSIP) by 30 June 2016. The DSIP was filed on 30 June 2016 and included information regarding the proposed deployment of Automated Metering Infrastructure (AMI). Various REV-related proceedings have also been initiated by the NYPSC, and each proceeding has its own schedule. These proceedings include the Clean Energy Fund, Demand Response Tariffs, Net Energy Metering/Value of Distributed Energy Resources and Community Choice Aggregation.

Track 2 of the REV initiative is also underway, and through a NYPSC personnel Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York state and NYPSC's policy objectives. On 1 December 2016, NYSEG and RG&E filed their proposed Earnings Adjustment Mechanism (EAM), and despite collaborative sessions have been held in the first and second quarters of 2017, the companies cannot forecast the result of the proceeding.

On 20 December 2016, NYSEG and RG&E filed a petition for the full deployment of Automated Metering Infrastructure (AMI) with the Commission. The AMI petition requests authorisation to implement full-scale AMI at NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas. Approximately 1.8 million AMI electricity meters and gas modules will be installed.

The Companies also requested to implement a surcharge to recover the investment until such values can be included in base delivery rates in their next rate cases.

On 14 September 2017, the NYPSC issued an order related to the Value of Distributed Energy Resources (VDER), which included filing requirements for (1) new tariffs, (2) a timeline and cost estimate for implementing automated consolidated billing, and (3) proposed changes to Standard Interconnection Requirements.

- **NY Transco**

AVANGRID NETWORKS owns approximately 20% of New York Transco. New York Transco was established by the New York transmission utilities to develop, own, and operate electric transmission in New York.

In December 2014, New York Transco filed for regulatory approval of its tariffs, terms, and conditions, with the FERC, including a base ROE of 10.6%, plus 150 basis points as incentives. The New York Transco will not make final decisions on transmission project development until a FERC decision.

On 2 April 2015, the FERC issued an order granting, inter alia, a 50 basis points adder for NY Transco's membership in the NYISO RTO. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected the New York Transco's owners' cost allocation method for the Transmission Owner Transmission Solutions (TOTS), Projects because it would allocate costs to the Long Island Power Authority (LIPA) and the New York Power Authority (NYPA) that they did not voluntarily agree to pay.

On 5 November 2015, New York Transco's owners filed the Settlement with the FERC to resolve all outstanding issues associated with the TOTS Projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation by virtue of an Open Access Transmission Tariff (OATT) under the New York Independent System Operator, Inc. (NYISO) for the TOTS Projects. The FERC approved the Settlement on 17 March 2016.

- **Net Energy Metering**

On 16 October 2015, the NY Commission issued an order establishing interim ceilings on the interconnection of net metered generation (Floating Cap Order). The Commission directed that net metering limitations should "float" until completion of a proceeding to develop an interim method of evaluating the benefits of distributed energy resources.

Following the issuance of the Floating Cap Order and the launch of the CDG program, the Joint Utilities experienced a surge in new applications for net metered resources, ultimately leading to more than 4000 MW of interconnection applications. The Commission implemented the Value of Distributed Energy Resources (VDER) mechanism in response to the decision to leave the limit of net metering open and the promise to adopt a "new regulatory approach" for assessing Distributed Energy Resources (DER).

- **New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm**

On 11 March 2017 the New York State Department of Public Service (the "Department") commenced an investigation into NYSEG's and RG&E's preparation for and response to the March 2017 windstorm, which affected more than 219,000 customers.

A Department Report on the investigation was issued in November 2017 which identified 29 recommendations for corrective action, as well as identifying four Emergency Response Plan (ERP) alleged violations for NYSEG and eight ERP alleged violations for RG&E.

On December 18, 2017, NYSEG and RG&E filed a response to the order in which it accepted the 29 recommendations and proposed implementation plans associated with each of the recommendations. These plans will be reviewed by the Department Staff and will be subject to approval by the NYPSC. On May 18, 2018, NYSEG and RG&E filed two settlement Joint Proposals with the NYPSC, both which have been executed by the Companies and the New York State Department of Public Service. The settlement Joint Proposals reflect agreement by the Companies to make resiliency and emergency response investments totalling \$3.9 million, which will not be reflected in the Companies' rate base or operating expenses. The Joint Proposals are a settlement of potential penalties stated and should not be construed as an assessment of a fine or penalty.

The settlement Joint Proposals will be subject to a public comment period and we expect the NYPSC Commission to make a determination on the settlement agreements in 1Q19.

- **NY 2018 March Snowstorms**

NYSEG's lower Hudson Valley and United Illuminating's service territories were significantly impacted by three of four March Nor'easter snowstorms, resulting in tens of thousands of customer outages, primarily in NYSEG's Brewster division. For some customers, outages lasted up to a week, causing customers and local politicians to harshly criticize NYSEG's storm preparedness and response.

On March 6, 2018 NY Governor Cuomo called for an investigation on NYSEG's preparedness and restoration efforts related to Winter Storm Riley, the first of the four Nor'easters. The investigation includes an evaluation under the Public Service Commission's emergency response scorecard, a regulatory tool developed following Super storm Sandy to gather data and assess utility performance. Utility filings of scorecard data were submitted in April 2018.

3. Maine

- **CMP Distribution Rate Case**

On May 29, 2018 the MPUC received a ten person complaint requesting the MPUC open a rate case to determine if CMP and its parent Companies are making excessive returns on investment. The Complaint also request that CMP be denied recovery of its October 2017 storm costs. CMP responded stating the Complaint should be dismissed because it is without merit. On July 24, 2018, the MPUC issued Order dismissing the complaint as it relates to CMP's parent companies and the October 2017 Storm costs.

The MPUC performed a calculation of CMP's returns and found that its 2016 and 2017 returns exceeded the allowed reasonable range and therefore opened an investigation and ordered CMP to make a general rate case filing by October 15, 2018.

On October 15, 2018, CMP submitted its required rate case as directed by the Maine Public Utilities Commission (MPUC). In its filing, CMP is proposing to keep customer distribution rates the same as those rates currently in effect. The Company is proposing to use savings from changes in federal tax laws to keep its distribution prices stable while making its electric system more resilient. CMP plans on using savings from the *Tax Cut and Jobs Act*, passed in December 2017, to pay resiliency programmes costs and other investments.

The Commission has established a 10-month process to review CMP's filing and we expect a decision in August of 2019 with new rates taking effect in September of 2019.

- **MPUC Investigation into the Response by Public Utilities to the October 2017 Storm**

On December 19, 2017, the Commission issued a Notice of Investigation regarding utility response to the October 2017 Storm. The wind storm of October 2017 was unprecedented in the number of customers impacted and the magnitude of the damage across the entire Central Maine Power service territory. The vast majority of tree related damage was from trees that were located outside of the maintenance clearance zone. Damage occurred on nearly every CMP distribution circuit, resulting in more than 1,400 broken poles. CMP incurred the total incremental costs are approximately \$68.6 million, of which \$24.7 million are capital costs associated with the replacement of damaged infrastructure, including poles, cross arms, transformers and related equipment and after applying the agreed up capitalization method contained in the approved stipulation.

On June 29, 2018, the MPUC approved a Stipulation Agreement in Docket no. 2018-00069 which provides for the recovery of incremental storm restoration costs through CMP's distribution rates. The Stipulation agreement included a revised storm capitalization amount and the value of recovery was reduced by approximately \$531 thousand of cumulative underspent funds on non-cycle vegetation management activities.

On October 4, 2018, the Commission issued an Order stating that in accordance with the weather forecast information and the availability of storm restoration crew resources, that both Central Maine Power Company (CMP) and Emera Maine acted reasonably in their preparation for and response to a major wind and rain storm in October 2017 (October Storm) and that no further investigation of this aspect of the utilities response is warranted. The Commission identifies there are potential for improvements for future storm performance of the utilities, and with respect to coordination and communication with other involved entities. CMP filed its report on December 1, 2018.

- **Net Energy Metering**

On 14 September 2016, the Maine Public Utilities Commission (MPUC) issued a Notice of Rulemaking regarding Amendments to the Net Energy Metering Rule.

The MPUC made a decision on its Notice of Rulemaking on 31 January 2017. The MPUC has not yet issued the final rule but did issue a notice stating that the resulting rule a) grandfathers existing customers for fifteen years, b) for new entrants it locks in the phase down level, at the year in which they enter, for fifteen years, and c) maintains incentive margins consistent with the declining costs of solar technology.

4. Connecticut

- **UI rate case**

On 1 July 2016, UI filed an application with the Connecticut Public Utilities Regulatory Authority, or PURA, requesting approval of a three-year rate plan commencing 1 January 2017, and extending through 31 December 2019.

UI's rate request is attributable primarily to the amount of capital expenditures devoted to its electric distribution system for the purpose of reliability and system resiliency, both in relation to routine operations and during major storm events.

On 15 December 2016, the PURA issued its Final Decision authorising a cumulative three-year rate of USD 57 million (compared to the 98.3 million requested by UI during the process) for the years 2017, 2018 and 2019. The 2017 rate increase is USD 43.0 million, with an additional USD 11.5 million in 2018, and an additional USD 2.9 million in 2019. The PURA established a 9.10% ROE and 50% equity ratio.

The three year rate plan retains the existing earnings sharing level whereby earnings above the allowed ROE are shared equally between customers and shareholders. The Company's revenue decoupling mechanism continues. The PURA did reduce the residential basic service charge to USD 9.65 per month.

- **SCG rate case**

On June 30, 2017, The Southern Connecticut Gas Company (SCG) filed an application with PURA for new tariffs to become effective January 1, 2018.

On 13 December 2017, PURA approved the amended settlement agreement and the new rates are effective as of 1 January 2018 the DIMP as proposed by SCG, the amortization of certain regulatory liabilities and rate increases in accordance with an ROE of 9.25% and approximately 52% equity level.

The parties also agreed on a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019, and 2020, respectively. The new rates are effective as of 1 January 2018.

- **CNG Rate Case Settlement Agreement**

On June 30, 2018, CNG filed an application with PURA for new tariffs to become effective January 1, 2019. CNG requested a three-year rate plan for calendar years 2019, 2020 and 2021 and a proposed ROE of 10.20%. On August 30, 2018, the parties reached a three year settlement agreement with PURA for approval, which includes tariff increases in accordance with an ROE of 9.30% and 54%, 54.5% and 55% equity levels during years 1, 2 and 3. The parties agreed on rate increases of \$9.9 million, \$4.6 million and \$5.2 million in 2019, 2020, and 2021, respectively.

PURA approved the rate case settlement agreement on December 19, 2018 and new tariffs became effective on January 1, 2019.

- **Net Energy Metering**

On May 24, 2018, Connecticut Public Act 18-50 was passed. The act changes the current annual net energy metering in Connecticut to a customer choice between either (A) a tariff for the purchase of all energy and renewable energy certificates produced by the distributed generation on a cents-per-kilowatt-hour basis (no net energy metering), or (B) a tariff for the purchase of any net energy produced by a facility and not consumed for a period of no greater than one day, to be determined by PURA (daily net energy metering). There is currently an active docket to determine the net energy metering interval, and other tariff requirements.

- **Millstone nuclear plant**

On December 5, 2018 PURA issued a decision finding that the Millstone nuclear power plan is at-risk of retirement as soon as June, 2023 if it needs to rely on the ISO New England wholesale market for its revenues. The Connecticut Department of Energy and Environmental Protection (DEEP) is conducting a request for proposals (RFP) for zero-carbon generation, including nuclear energy, and this RFP provides a mechanism for Millstone to receive a bidding preference as an existing generating resource found to be at-risk of retirement.

The RFP allows DEEP to select bids totalling up to 12 million MWh per year. It is possible that UI will be directed by DEEP to enter into one of more long-term contracts as a result of this RFP, including a long-term contract to procure a share of the output from Millstone.

5. Massachusetts

On May 17, 2018 Berkshire Gas Company filed a petition with the Massachusetts Department of Public Utilities seeking approval of a distribution rate increase of approximately \$3.3 million. The Company requested a 10.35% ROE and a 61.5% equity ratio and to implement a revenue decoupling mechanism.

On December 4, 2018, Berkshire Gas and the Attorney General's Office filed a Settlement Agreement with the MDPU. The Settlement Agreement provides for a \$1.6M distribution base rate increase effective January 1, 2018 and an additional \$0.7M based distribution increase effective November 1, 2019 if certain investments are made by Berkshire. The distribution rate increase is in accordance with a 9.70% ROE and 55% Equity. The Settlement Agreement, pending of approval by the MDPU, provides for the implementation of a Revenue Decoupling Mechanism and pension expense tracker and also provides that Berkshire Gas will not file to change base distribution to become effective before November 1, 2021.

6. FERC

Federal Tax Cuts and Jobs Act (Tax Act): On 22 December 2017, the US President approved the tax reform, Tax Act, which implied a cut of 1.5 billion US dollars. The new law establishes the following:

- The permanent reduction of corporate income tax from 35% to 21%, effective as of 1 January 2018.
- The elimination of the corporate Alternative Minimum Tax (AMT).
- The maintenance of corporate deductions for local and state taxes.
- The limitation on the deduction of interests.
- The exclusion of the utilities (regulated public services) from the total expense and their exemption from the limitation on the deduction of interests.
- The inclusion of normalisation and the excess provisions of deferred taxes.
- The maintenance of tax on dividends and capital gains.
- The maintenance of the elimination and gradual reduction of the PTC (Production Tax Credits) and the ITC (Investment Tax Credits), without modifications.
- Enforcement of a Base Erosion Anti-Abuse Tax on the deductions for the costs paid or accrued to a foreign subsidiary.

AVANGRID does not anticipate a direct impact from BEAT under current conditions. However, most U.S. providers of tax equity for renewable energy projects (generally, large banks and other corporations) meet the criteria to be subject to the BEAT.

By January 2018, inquiries and/or proceedings were initiated in all Avangrid Networks jurisdictions to assess the impact of this new law and ensure resulting benefits are passed back to customers.

- The deferred liability associated with the tax rate change began to be returned to customers in July 2018 for CMP (deferred balance from Jan 2018 – Jun 2018) and May 2018 for MNG (deferred balance from Jan 2018 – Apr 2018). CMP purposed to keep rates stable by taking advantage of the tax cuts in their Rate Case filing.
- On 8/9/18 the NYPSC issued a Ruling requiring credits effective 1/10/18 for annual savings plus a three-year amortization of the existing deferred liability. Estimated impact to NYSEG and RG&E is \$61M (\$54M annual value + \$6M amortization). Consistent with the ruling, Credits began to be reflected in tariffs on 1/10/18.

- In Massachusetts, the Company is proposing to return the tax rate reduction in the Berkshire Gas Rate Case presentation effective April 2019.
- In Connecticut, PURA reopened the most recent rate case decisions of each public utility to determine how the new tax law will impact rates. A Hearing was held on 7/5/18 establishing the appropriateness of an adjustment to rates.
- Utilities with formula rates will automatically have the tax benefits returned to customers through the formula. In May, NYSEG and RG&E submitted proposed revisions to its stated transmission rates which if approved would have an effective date of 1/1/19.

In all jurisdictions, the Company has created regulatory liabilities to capture the tax benefits of the Tax Act. Revisions to these balances are possible upon resolution of the proceedings. The final result of these cases will likely include the amortization of the liabilities.

FERC Rates

CMP's and UI's transmission rates are determined by a rate regulated by the FERC and administered by ISO New England (ISO-NE). Transmission rates are set annually pursuant to a FERC-authorized formula that allows for recovery of operating and maintenance expenses, as well as the return on assets invested. Prior to 16 October 2014, the FERC provided a base ROE of 11.14% and additional ROE incentives applicable to assets based upon vintage, voltage and other factors.

On 30 September 2011 a complaint was filed (Complaint I) seeking sought an order from the FERC reducing the 9.2% base return on equity (ROE) used in calculating formula rates for transmission service under the ISO-New England.

On 16 October 2014, FERC issued its final decision in the Complaint I setting the base ROE at 10.57% and a maximum total ROE of 11.74% (base plus incentive ROEs) for the October 2011 – December 2012 period as well as prospectively from 16 October 2014.

In June 2015, the affected parties filed an appeal in the U.S. Court of Appeals for the District of Columbia, which overwrote FERC's decision on Complaint I and remanded it back to FERC. The Court ruled that FERC should have first determine that the then existing 11.14% base ROE was unjust and unreasonable before selecting the 10.57% as the new base ROE.

On 26 December 2012, a second ROE complaint (Complaint II) for a subsequent rate period was filed requesting the ROE be reduced to 8.7%. On 19 June 2014, FERC accepted Complaint II, and established a 15-month refund effective date of 27 December 2012.

On 31 July 2014, a third ROE complaint (Complaint III) was filed for a subsequent rate period requesting the then effective ROE of 11.14% be reduced to 8.84%, and on 29 April 2016, a forth ROE complaint (Complaint IV) was filed for a subsequent rate period requesting the then effective ROE be reduced from 10.57% to 8.61% and that a ROE cap of 11.24% be established.

CMP and UI reserved refunds for Complaints I, II and III consistent with the FERC's final decision of 3 March 2015 in Complaint I. Refunds were provided to customers for Complaint I. The CMP and UI total reserve associated with Complaints I, II and III is USD 22.2 million and USD 4.4 million, respectively, as of 30 September 2017.

On 5 October 2017 the New England Transmission Owner's (NETO) companies filed a Motion for Dismissal asserting that all four complaints should be dismissed because the complainants have not proven that the existing ROE of 11.14% is unjust and unreasonable as the Court decision requires. In addition, the NETOs assert that Complaints II, III and IV should also be dismissed because the Court decision implicitly found that FERC's acceptance of Federal Energy Legislation Section 206 complaints was statutorily improper. In the event FERC chooses not to dismiss the complaints, the NETOs request that FERC consolidate the complaints and issue a final order.

FERC issued an "Order Directing Briefs" on October 16, 2018 regarding the New England Transmission Owner's (NETO) ROE Complaints I - IV. The FERC Order addresses United States Court of Appeals (D.C. Circuit) Remand of FERC Opinion No. 531-A issued October 16, 2014 relating to ROE Complaint I. FERC proposes a methodology for addressing Remand; including New ROE Method resulting in a base ROE of 10.41% and maximum ROE at 13.08% for Complaint I. The FERC Order is not a Final Order or Opinion. "Order Directing Briefs" requires "Paper Hearing" on the new proposed ROE method.

Initial Briefs due January 2019 and responses are due March 2019. There is no decision due date. The FERC Order applies to Complaint I. If adopted, then new ROE method would need to be applied to Complaints II, III and IV periods.

CMP and UI have been reserving in accordance with FERC Opinion 531-A base ROEs of 10.57% and 11.74% Cap. Total reserve is \$26.4 million as of September 2018. If New FERC Proposed ROE (Base ROE of 10.41% / Cap ROE of 13.08%) is adopted for all Complaint Periods, then preliminary impacts are: \$24 M historical one-time benefit; \$3.4 M annual prospective benefit.

FERC Formula Rate Proceeding: A settlement in principle was reached in February 2018 providing for regional and local transmission formula rates for calendar years periods consistent with the majority of transmission formula rates across the country.

The new formula rates will be effective January 1, 2020.

7. Electricity generation from renewable energy resources

Numerous State Governments and the Federal Government have adopted measures and implemented numerous regulations designed to foster the development of electricity production from renewable resources. State programs have generally come in the form of: 1) Renewable Portfolio Standards (RPSs) that usually require utilities to generate or purchase a minimum amount of renewable electricity; and 2) tax incentives. To date, the Federal Government has primarily supported renewable energy development through tax credits for production and investment as well as accelerated tax depreciation.

State Law

Several States have adopted mandatory RPS requirements, which vary across the states but will generally range from 15-33% of the generation by 2025. The requirements are typically implemented through a system of tradable renewable energy certificates that verify that a kWh of electricity has been generated from a renewable resource.

Several state legislatures have debated whether to repeal or roll back significantly their RPS requirements. In 2014 Ohio enacted legislation to freeze its RPS program until 2017; in 2015, Kansas replaced its mandatory RPS with a 20% voluntary standard as part of a compromise that retained existing property tax exemptions. In contrast, California (in 2015) and Oregon (in 2016) enacted legislation to increase the state RPS to 50%. California in 2018 raised the bar further, to 60% by 2030 while Massachusetts and Connecticut also increased their requirements to 40%. New Jersey set a 50% standard by 2030 and Nevada approved a 50% by 2030.

Most states also offer a wide variety of tax incentives to promote investment in renewable energy resources. For instance, Washington and Colorado, among other states, exempt the sale and use of renewable energy equipment from taxation, which reduces development costs substantially. Several states reduce property tax requirements on renewable power generation facilities through enterprise zones or similar designations, while Minnesota has substituted a property tax in lieu of fixed production tax. Other states, such as Texas, boost the construction of electricity infrastructure (Competitive Renewable Energy Zones) to ease the transmission of renewable electricity towards load points.

In 2018 California legislators approved and signed Senate Bill 100, raising the RPS to 60% by 2030 (with interim targets) and establishing a state policy of zero carbon emissions from electric generation by 2045. Both New Jersey and Massachusetts raised their RPS requirement and set objectives for procurement of offshore wind generation. Maryland enacted an RPS increase. Proposals to provide financial support to operating nuclear plants in New Jersey.

Federal Law

In 1992, the US Congress enacted legislation that established a Production Tax Credit (PTC) of USD 15 per MWh (adjusted for inflation) for the production of electricity from wind power facilities for the first ten years of a project's operation.

This programme has been renewed several times and extended to include the generation of electricity from other renewable sources, such as biomass, geothermal power, urban solid waste and hydro power.

In 2005 the Congress established a 30% Investment Tax Credit (ITC) for solar power projects.

The PTC, which is currently valued at USD 24 per MWh, was extended and phased out by the Congress on 18 December 2015. The wind projects that are launched before 2017 will be eligible for full credit, while those that start construction between 2017 and 2019, will opt for a reduced credit. The plants that meet the requirements can also opt for an ITC of 30% instead of a PTC.

Congress also phased down the solar ITC. Projects to be commissioned before 2020 may opt for a 30% ITC, but those whose construction is to start after 2019 will opt for a lower ITC.

FERC

In regard to generation, FERC has focused on two areas. The first is the issue of resilience of the bulk power system. Following FERC's decision not to adopt the proposal submitted by the Department of Energy that would have directed payments to generation resources that maintain on-site fuel supplies, FERC initiated a new proceeding to collect information on the matter. Second, FERC in conjunction with certain of the Regional Transmission Organizations, has approved or is considering changes to capacity market eligibility requirements. Consideration of these matters will continue in 2019.

5. Industry regulation in Mexico

The Mexican Energy Reform, which began at the end of 2013 with the amendment of three articles of the Mexican Constitution, set in motion the in-depth transformation of the electricity and hydrocarbons sectors, through the creation of a completely new regulatory framework and the promotion of competitiveness, non-existent up until now in the country. As a consequence of this constitutional reform, twenty-one new laws were enacted during 2014 and 2015 and twenty-five regulations were either created or reformed.

Besides having an impact on the hydrocarbons sector, the Proposal also introduced new business opportunities in the generation, transmission, distribution and management of electricity infrastructure. This transformation opens to the private sector some activities previously reserved for the state in the electricity sector.

The Hydrocarbons Law (LH) regulates activities like petroleum treatment and refining natural gas processing export and import of hydrocarbons and petroleum products; transportation, storage, distribution, compression, liquefaction, decompression, re-gasification, marketing and sale to the public of natural gas, hydrocarbons, petroleum products and petrochemicals, along with the management of integrated systems. All these activities are now open to private investment.

One of the main goals of the industry restructuring is to improve the electricity power generation, promoting the use of renewable sources or low carbon emissions. Thus, the Government introduced Clean Energy Certificates (CECs) through the Electricity Industry Law (Ley de la Industria Eléctrica - LIE).

Concurrently with the COP 21 in Paris, the Mexican Congress and Senate passed the Energy Transition Law (Ley de Transición Energética - LTE), which creates binding obligations for clean energy generation and emission reductions targets for the future, bringing a strong legal framework to the development of clean energy projects in Mexico.

The previous regulatory framework will continue being applicable to IBERDROLA's existing businesses and facilities.

1. Competences after the Energy Reform

The planning and control of the National Electrical System (SEN), as well as the electricity power distribution and public transmission service are the exclusive responsibility of the Government of Mexico. Power generation, excluding nuclear, is open to private investment, as are electricity supply sales to the end users. The Mexican Government may grant service contracts to private companies, creating opportunities to participate in the construction, operation and maintenance of T&D infrastructure.

Power generation, excluding nuclear, is open to private investment, as well as power sales to the end users.

The Electricity Industry Law (Ley de la Industria Eléctrica - LIE) regulates activities in the electricity sector in Mexico. In accordance with the LIE, private companies can now generate and sell electricity under an organised Wholesale Electric Market, and also invest in transmission and distribution infrastructure, under specific Public-Private Associations and other legal structures described in the LIE.

From the regulatory side, three agencies will have primary responsibility for the sector. The Energy Secretariat (SENER) will have the function of applying public policies; the Energy Regulatory Commission (CRE) will have the regulatory function; and the National Energy Control Center (CENACE), a new decentralized and independent agency, will operate the power grid and the Wholesale Electric Market.

2. Energy Secretariat

As part of the Energy Reform, the Energy Secretariat (Secretaría de Energía - SENER) has been empowered to coordinate the centralised planning and direct the national energy policy, both for hydrocarbon and electricity subsectors. SENER is also in charge of guaranteeing the implementation of the laws derived from the reform, including the LTE enacted in December 2015 for the transition to clean energy and emission reduction.

In 2015, SENER issued the “mandatory requirement of Clean Energy Certificates (CECs) for year 2018”, with a target of 5% of the total consumption and in March 2016 established a target of 5.8% for 2019. In March 2017, the targets for CECs for 2020, 2012 and 2022 (7.4%, 10.9% and 13.9%, respectively) were defined. Penalties for non-compliance with the requirements of CECs have also been issued.

In 2016 SENER called for the second long term auction, and twenty three companies were awarded contracts to develop 2.8 GW of the renewable capacity; the cost of the clean energy was 30% lower than in the first auction in 2015. In 2017 a long-term auction was held where the award prices were again decreased (-40% with respect to the previous auction) for 2 GW of new allocated renewable generation.

In February 2017, the first Medium-Term Auction was held for 1- to 3-year energy and power contracts, which resulted in less than 4% of the Power purchase bid and 0% of the Energy awarded. On 20 December 2018 CENACE convened the second Medium-Term Auction, while the publication of the final bidding specifications were pending.

Throughout this process, SENER has been responsible for publishing updates of all wholesale electricity market Operational Manuals that outline the fundamental aspects of the market Guidelines. In December 2017, SENER delivered this package of Manuals to the CRE, which will be responsible for carrying out modifications and updates in accordance with market behaviour.

In June 2018 SENER published the annual updated versions of the National Electric Grid Development Programme (Programa de Desarrollo del Sector Eléctrico Nacional - PRODESEN) including projections of power generation, demand and infrastructure requirements for the 15 years following its publication (2017-2031).

3. Regulatory bodies

As a key part of the energy reform in Mexico, the country enacted the Regulatory Body Law in August 2014, setting out the guidelines for operating and responsibilities of the new regulatory bodies in the energy field: the National Hydrocarbons Commission (Comisión Nacional de Hidrocarburos - CNH) and the Energy Regulatory Commission (Comisión Reguladora de Energía - CRE).

CRE and the CNH are the two most relevant regulatory authorities in the energy sector. They have their own legal status, budget, technical and governance autonomy. Both bodies have a similar governance authority of seven commissioners and an executive secretary.

Regarding electric power, the main faculties of CRE are to modify WEM's basis and define terms and conditions of auctions and bidding processes; to supervise the wholesale market operation; to issue rules for transactions between generators and suppliers; to authorise the contract and auction models; to regulate with regard to reliability issues; to define capacity requirements and operational costs; to regulate and define the regulated tariffs and contract models for services involving transmission, distribution and basic supply of electricity; to issue models and authorise technical specifications for interconnection of power stations and users, issue rules regarding smart grids;

Other roles of the CRE include granting permits for market participants, to issue CECs and other instruments to promote clean energy; to resolve controversies and enforce fines related to non-compliance of wholesale market participants.

Regarding the hydrocarbons, the CRE regulates and promotes the development of transmission, storage, distribution, compression, liquefaction and regasification activities of all hydrocarbons. In this regard, the natural gas market deregulation began in 2017, for the purpose of promoting fair conditions for participation of new retailers in the market and protection of natural gas end users in the country.

The CNH has the fundamental task of regulating and supervising the exploration and extraction of hydrocarbons.

4. National Agency for Energy Control

Mexico created the National Agency for Energy Control (Centro Nacional de Control de Energía - CENACE) as a decentralised public body with authority to perform the operational control of the National Electricity System and the wholesale electricity market.

CENACE has full autonomy and acts under the authority of SENER and CRE, in order to control the participation of generators and suppliers in the market; acquire and provide electricity and capacity in a competitive environment; and summon and manage the long-term auctions of capacity, energy and CECs.

CENACE guarantees open access to the transmission and distribution facilities to all market participants, public and private.

Additionally, CENACE also operates and oversees the preparation of proposals for planning and expansion of the entire national electricity grid through its development programme (PRODESEN), which is then supervised and issued by SENER and thereafter by CRE.

During 2016, CENACE launched the first phase of the Wholesale Electricity Market, conducted the second auction for CECs, Clean Energy and Capacity and issued the first result of the Capacity Balance Market process.

In 2017, CENACE developed the Clearing House that allows all Responsible Load Entities (Users and/or Suppliers) to buy products from the Wholesale Electricity Market through long-term auction. Additionally, it develops the Market Information System, a key piece of the WEM's operations.

As is the case every year, in February 2018 it issued the results of the Power Balance Market for 2017, which sets a price on the available capacity during the year 2017. This availability is recognised for the system's 100 critical hours. The resulting price was US\$37.7 per kW year (709.6 pesos per kW year) for the National Interconnected System (NIS), US\$31.4 per kW year for the Baja California system and US\$146.3 per kW year for the Baja California Sur system. As of February 2019, the same is expected for 2018; likewise it is expected that CENACE will operate for the first time the CEL Market.

At the end of March 2018, CENACE convened a new Long Term Auction, in which Purchase Offers were registered by five entities in addition to the CFE Basic Service Supplier, which considerably increased purchase volumes. Sales offers were registered from 28 bidders. At the beginning of December 2018, before the execution of the economic model, the Auction was suspended for the revision of its objectives and scope by the new CENACE administration, introduced after the change in the Republic's Presidency.

On 12 July 2018 the CRE published the criteria that the CENACE must follow to purchase Power by means of Reliability Auctions (SEN). These auctions will be proposed by CENACE when it foresees a deficit of generation capacity within a horizon of three to twelve months, purchasing power for a maximum term of one year. Contracts will be paid at the price offered and their cost will be distributed among the entities responsible for the Charge according to the power not covered by electrical coverage contracts.

At the end of 2018, the second annual market report was published by an Independent Monitor to evaluate market operations, its evolution, performance, efficiency and level of competition with the intention of issuing a series of opinions and recommendations.

5. Federal Electricity Commission Law

The Federal Electricity Commission Law (Ley de la Comisión Federal de la Electricidad), issued in August 2014, stipulates that the Federal Electricity Commission (CFE) becomes a productive state-owned production company wholly owned by the Federal Government.

The new CFE has budgetary and governance autonomy, with a board of directors formed by members of the incumbent secretariats (SENER, Treasury, etc.) and independent board members.

The new CFE will operate through its subsidiaries and affiliates and will participate in electricity generation, transmission, distribution and supply, so that other parties will be able to participate in the private investment in the wholesale electricity market.

During 2016, SENER published the terms and conditions of the strict legal separation of CFE and carried out asset restructuring. The operation of its recently created subsidiaries and affiliates as separate entities in the wholesale electricity market was commenced. A very significant success of CFE during 2016 was the renegotiation of the Labour Union Contract, which significantly reduced the burden of the pension liability in CFE's Balance Sheet.

6. Transmission and Distribution

As ruled by the LIE, the Mexican Government will perform electricity transmission and distribution (T&D) as a strategic regulated public service through state-owned production companies or their subsidiaries. CFE's legal separation allows creating these entities as regulated open access companies.

The Reform introduces the possibility for the State to form associations or enter into contracts with individuals to carry out the activities relating to this public service, such as financing, installation, maintenance, management, operation, expansion, rehabilitation, surveillance and preservation of the required infrastructure for this service.

Therefore, in December 2017, the preliminary guidelines for the first bidding for transmission lines were published following the Reform's implementation. Called by SENER in February 2018, this bid invitation will award the High Voltage Direct Current (HVDC) project that connects the National Interconnected System with Baja California. This bid was cancelled on 16 January 2019.

One of the key elements in this matter is the implementation of a HVDC transmission line that will connect Istmo de Tehuantepec (one of the most important wind energy generation zones in Mexico) with the central area of the country (one of the areas with highest demand in the country); the preliminary bidding package was issued in the last quarter of 2016 and in February 2018, although the bidding date has still not been defined.

7. Generation and Supply

The LIE provides that generation and supply of electricity power can be performed by any private or public entities subject to the compliance of permits and market rules. Generation plants 0.5 MW or larger require a permit from the CRE.

These are three types of permits required for electricity power supply: 1- basic supply with regulated tariff (for those consumers with a demand of less than 1 MW) or 2- qualified supply through the wholesale electricity market under liberalised conditions for consumers with a demand of 1 MW or above and 3) supply of last resort, of temporary use when the qualified consumers have not chosen a supplier or the supplier has stopped supplying them.

SENER may revise and reduce the threshold of 1 MW to opt for qualified supply. However, becoming a qualified user is optional and is only mandatory for new customers.

Accordingly, several Qualified Services Supplier (QSS) licenses have been issued, which in a free access and not unduly discriminatory environment, have competed since 2016 with the CFE affiliate dedicated to this service is one of the keys to making the electricity market's liberalisation a success.

8. Wholesale electricity market

The wholesale electricity market (WEM) commenced operation at the beginning of 2016. It is a local marginal price market operated by CENACE, where generators, suppliers and qualified consumers of electricity power can carry out transactions involving energy, capacity, ancillary services, CECs and financial transmission rights in Day Ahead, Hour Ahead and Real Time markets.

All of the Market Rules have not yet been fully developed, although a high degree of progress has been reached and many aspects of this Market are already operational. The Market Guidelines were issued in the second half of 2015, and since then more than 20 WEM Operational Manuals have been published. The Manuals outlining all aspects of the WEM's management and operations were made public in 2018.

9. Sustaining of previous regime for permits, plants and existing electricity industry contracts

Private generators currently holding a generation permit granted under the former Public Electricity Power Service Law (Ley del Servicio Público de Energía Eléctrica - LSPEE) shall retain their permits and prevailing terms and conditions thereof, provided that they do not breach what is stipulated by the LIE.. Once the wholesale electricity market starts operating, the holders of these legacy contracts - self supply and Independent Power Producers ("IPP") - have the alternative to migrate partially or completely to the new market system. Generators which, upon entry into force of the LIE, hold interconnection contracts known as Legacy Connection Contracts (Contratos de Interconexión Legados - CIL) issued under the former system should take into account that these contracts cannot be renewed upon termination.

Permit requests for self-supply, co-generation, small-scale production, imports or exports made before August 2014 were resolved under the LSPEE terms and conditions, provided that the facilities under such permits start operation before 31 December 2019.

10. Electricity tariffs

In November 2017, the CRE published the new calculation methodology for regulated tariffs that apply to basic supply. The principle of the new tariffs is to be in accordance with the recovery of all generation costs, connection services, transmission and distribution costs, clean energy certificates and other recoverable costs and collection targets.

During 2018, the performance of the rate showed high volatility due to the generation costs recognised by the CRE, partly because the performance of the generation mix was different from the forecast and partly because the fuel costs were not correctly reflected. At the end of 2018 it was felt that the revenue provided by the rate was able, in an aggregate way, to recover the necessary costs to an acceptable extent.

Throughout the second half of 2018, the CRE worked to fine-tune the rate methodology by designing improvements expected to apply as of 2019, contributing to a more predictable and less volatile rate.

As the main mechanism to promote the reduction of non-technical losses arising from customer fraud, the CRE has imposed collection targets on the transport and distribution companies.

11. Functioning of Natural Gas System

As part of the Energy Reform, the former owner of the Natural Gas Transportation System (SISTRANGAS), Petróleos Mexicanos (PEMEX), has been split into the following affiliates and subsidiaries: Pemex exploration and production, Pemex industrial transformation, Pemex perforation, Pemex logistics, Pemex co-generation and services, Pemex fertilisers and Pemex ethylene, as provided under the PEMEX Law enacted in August 2014. This law transformed PEMEX into a state-owned production company which performs business activities with profitability goals. Concurrently with this transformation, the natural gas transportation system was transferred from PEMEX to Centro Nacional de Control de Gas Natural (CENAGAS), in order to promote an open market for gas transmission, distribution and supply.

As a result of liberalisation, provisions concerning open access and pipeline transport and natural gas storage services were published and amended at the end of 2018 as well as provisions for their marketing. In accordance with the principle of asymmetric regulation, PEMEX could not continue to integrate the transport and the marketing of gas within the same company so a programme to transfer the natural gas contracts to new marketers was established. This programme concluded in 2018.

CENAGAS has issued the 5 year programme (2015-2019) for the Expansion of the National Natural Gas Transmission and Storage System governing its operation, of which two revisions have been issued. As part of the programme to reduce fuel oil consumption, CFE called for several bidding processes to contract natural gas transmission services through private companies.

The large majority of these pipelines will be operational by 2018, thus increasing the availability of natural gas to generate electricity and reducing the CO₂ emissions from the industry.

The Legacy Transportation Permits (permits given before the energy reform) for self-supply and the long-term natural gas supply contracts with PEMEX required by the electricity plants will remain in effect and will not be adversely affected by these changes in the new regulatory framework.

During the second half of 2016 CENAGAS was empowered to conduct the future bidding processes for natural gas transmission auctions, (CFE or Pemex no longer have exclusivity). Additionally, all capacity rights of the SISTRANGAS were transferred to CENAGAS to control its management.

SENER issued a public policy to create a Natural Gas Open Market by 2018, in order to promote the entry of new players and to reduce the role of PEMEX in the supply.

As part of this public policy in 2017, CENAGAS issued an Open Season for Transportation Capacity in the SISTRANGAS, which granted firm capacity rights to the winning bidders for year 2017 and will help to identify the sections that need to be expanded in the future.

6. Industry regulation in Brazil

1. Generation

The Brazilian system

Although hydroelectric generation's share has decreased in recent years, Brazil's generation system is predominantly hydraulic. In terms of the energy matrix, from 2000 to 2018, hydraulic share has decreased from 83% to 64%, with reference to installed capacity. On the other hand, wind share has increased to 7%. In upcoming years, Brazil's government expects the system to expand mainly through wind, solar energy and firm complementation source possibly natural gas.

The Brazilian system is interconnected and the power plants are spread over four electricity regions: southeast, south, northeast and north. These regions have distinct hydrology and the synergies between them can be used.

Electricity (independent system operator) dispatch is based in power plant audited cost optimization done by ONS, the Brazilian independent system operator. ONS uses a series of computer programs to determine what generation assets (hydroelectric and thermoelectric plants) should be optimally dispatched considering hydrological uncertainty, reservoir storage capacity, thermal power plant fuel and O&M costs, non dispatchable (i.e.: wind and solar) generation forecast, interconnection restrictions and demand forecast. In addition to defining the power plants' dispatch, these programs calculate the marginal energy cost, used as the market's spot price.

Assured energy

Since the system is predominantly hydraulic, the installed capacity is insufficient to measure the supply guarantee. Therefore, each hydroelectric station has a related assured energy, calculated by the Brazilian government, which represents the contribution in terms of the reliability of each power plant interconnected to the system. Thermoelectric and hydroelectric plants (dispatchable generation) have their assured energy calculated by the computer programs used to determine dispatch when they participate in the energy auction. Non-dispatchable sources have their assured energy calculated considering their generation expectations in the long term.

The regulation establishes that hydroelectric plants' assured energy must be reviewed every five years, but the first review was conducted in 2017 and only for those power plants that have been running for at least five years.

The following table contains details of the assured energy (in MW med) for those plants that have been reviewed. It shows the new values valid from 2018 onwards.

Utility	Avg MW	
	Former	New
Baguari	80.2	84.7
Corumbá III	50.9	49.3
Itapebi	214.3	209.1

Energy reallocation mechanism

A financial mechanism exists that allows centralized dispatch and mitigates the hydrologic risk of hydraulic plants. This mechanism is called energy reallocation mechanism (ERM) and all hydroelectric plants must participate in it. The important thing for the ERM is total hydraulic generation and not each plant's individual generation. According to this mechanism, each month the total hydroelectric generation is allocated between each hydroelectric plant in proportion to its share in the system's total hydroelectric assured energy.

The total hydraulic generation of the group of ERM generators divided by their total assured energy is denominated Generation Scaling Factor (GSF) and its monthly calculation is used to implement the ERM. The energy allocated to each generator is, then, the GSF multiplied to its assured energy.

This mechanism worked well until 2012. Since then, hydrological conditions and other issues have reduced the GSF and this has caused a significant financial impact on hydroelectric power plants.

Recent hydrology and litigation

In recent years, total hydraulic generation has been systematically less than the total assured energy (GSF below 100%). Part of this can be explained due to the low level of hydrology, but there are other reasons that have reduce the hydraulic generation.

- Thermal power generation outside the order of merit: on several occasions the operator decided to replace the hydraulic generation determined by the computer programs by higher cost thermal generation, for the purposes of conserving hydro reservoir levels.
- Delays in the transmission line construction: some new hydraulic power plants were finished before the transmission lines necessary for their electricity evacuation were operational. However, these hydroelectric plants still participated in the ERM with their total assured energy even though they could not generate at full capacity. This scenario reduces the energy allocated for all participants of the mechanism.
- Assured energy timeline acceleration hydroelectric plants has their assured energy recognised in advance during project construction and commissioning. That is, they have participated in the ERM with more assured energy than they were able to generate. This has been a regular practice at large hydroelectric plant, such as Belo Monte, Santo Antonio and Jirau.
- Increase of intermittent sources, such as wind has reduced hydraulic generation.

All these reasons have resulted in energy allocated to each ERM generator below their assured energy.

Given that the assured energy has been used as the benchmarking level for long-term energy contracts resulting in the generators being short and the high spot market prices in those years, the ERM generators suffer huge financial losses. Because of this, since 2015 some companies have filed administrative and judicial claims with the government to review ERM rules and cease spot market charges.

At the end of 2015, the government offered an insurance to those generators with contracts with distributors in order to protect these generators against a GSF (below a certain limit from 89% to 100%) in exchange of a premium to be paid by the generator.

This process, known as renegotiation of the hydrological risk, reallocated part of the hydrological risk to the customers in exchange for an insurance premium and abandonment of current and future hydrological risk litigation.

However, the majority of claims of generators with contracts in the free market are currently in force. At the end of October 2018, a preliminary decision which protected these generators was annulled. But the values from 2015 up to February 2018 are still under judicial dispute.

The total amount under dispute is 6.78 billion of Brazilian Reals and the final solution depends on the publication of a specific law to regulate the GSF. During 2019 is expected that this law will continue its parliamentary procedure (PL 10.985). This law tries to eliminate from the calculation of the GSF all the factors not related to the hydrological situation.

Generation assets

In the generation business, NEOENERGIA has 3.5 GW of installed capacity between hydroelectric, wind and natural gas projects.

The most relevant hydraulic projects are: Teles Pires with a participation of 50.1%; Belo Monte (10% participation) and Baixo Iguaçu (70% participation).

Regarding Baixo Iguaçu, the Ministry of Mines and Energy proposed in 2014 to reduce its assured energy from 172.8 MWmed to 171.1 MWmed. After submitting resources and several interactions, the assured energy has been set at 172.4 MWmed.

NEOENERGIA has 100% of its wind energy production contracted in PPA in the long term, in the free and regulated markets. In December 2017, NEOENERGÍA won 294 MW in auction A-6 with the award of nine wind farms. In accordance with the rules of the auction, these wind farms will begin commercial operation on January 1, 2023.

In June 2018, NEOENERGÍA started a process in ANEEL to obtain the construction authorization in Paraíba for six other free-market wind farms.

Regarding thermal generation, NEOENERGIA operates the gas power plant Termopernambuco that arose from the Priority Thermal Power Program (PPT in Portuguese), established by the Ministry of Mines and Energy in 2000. In accordance with the PPT the minister established that the gas supply guarantee should be provided by Petrobras. In recent years, Petrobras has tried to disregard the fuel supply contracts signed under the regulatory framework established by the PPT, alleging insufficient charges.

In this regard, Petrobras started arbitration proceedings in August 2010, which have been completed in November 2018, with a decision 100% favourable for Termopernambuco.

Generation auctions

The government held two new auctions in 2018: A-4 in April and A-6 in August.

The A-4 auction hired 39 new generation projects, representing 1,024 MW of installed power and respective assured energy equivalent to 356 MW average. Solar energy had a highlighted participation with 29 plants (807 MW), almost 80% of the total energy sold. Also four wind farms (114 MW), four small hydropower plants (42 MW) and two biomass plants (62 MW) were awarded winners.

The average final price of the auction was BRL 124.75/MWh, with average discount of 59.07% from the ANEEL's auction cap-price.

The A-6 auction hired 62 new generation projects, representing 2.1 GW of installed power and respective assured energy equivalent to 1.23 GW average. The average final price of the auction was BRL 149.87/MWh, with average discount of 46.89%. The energy supply will start on January 1st, 2024.

On December, the Government held two auctions for electric power from existing plants to adjust the demand needs of distributors in the next two years.

- In auction A-1, an average of 4 MW was awarded at a price of 142.99 Brazilian reais per R \$ / MWh (discount of 16% on the ceiling of 170 Brazilian reais for R \$ / MWh). The resulting supply contracts will last from 1 January 2019 until 31 December 2020.
- In auction A-2, an average of 359 MW was awarded at a price of 161.35 Brazilian reais per R \$ / MWh (discount of 4% on the exit price 162 Brazilian reais for R \$ / MWh). The contracts will have a duration from 1 January 2020 until 31 December 2021. 53% of the contracted energy is natural gas thermal, sold under the modality of contract for availability.

Regulatory laws published in 2018

On 5 June, ANEEL published resolution nº 817 with the criteria to treat transmission congestion surplus and expositions of some specific generators. By this rule, in case of congestion, the transmission surplus is used to cover primarily financial expositions of ERM and, secondarily, to gift the system charges account.

On 26 June, ANEEL published the resolution nº 822 that change the resolution nº 697. This resolution establishes a new ancillary service for complementary frequency control services.

On 10 July, ANEEL published resolution nº 824 which allows distribution companies to sell contracts in the free market through multilateral auctions in case they are long (have more energy contracted than demand). Additionally, the resolution changes some rules of current mechanisms for other distribution companies' contract exchange mechanism known as surplus and deficits compensation mechanism (or MCS-D, its Portuguese acronym) and bilateral agreements limiting the participation only to generators that aren't in commercial operations. Resolution 833/2018, of December 4, establishes the specific marketing rules and the sanctions procedure. The first round of this market took place on December 26, 2018 (for 3-month energy delivery).

2. Distribution

Distribution activities are regulated and executed in a 30-year concession under a monopoly. The concession term may be extended during the same period at the granting authority's (Union) discretion. At the end of the concession period, the assets will be reversed back to the Union and the concessionaire must be compensated for investments not depreciated or redeemed.

The Brazilian regulatory framework is in accordance with a price cap system which designates a major revision and reparametrization, known as tariff review, every four or five years, depending on each company concession contract. COELBA and COSERN have a five-year term, whilst CELPE and ELEKTRO have a four-year term.

Moreover, tariffs are updated annually by ANEEL, through the annual adjustment process that considers inflation, an ex-ante efficiency factor and variations on non-manageable costs components, such as energy purchase costs and transmission tolls.

The purpose of the annual adjustment is to ensure that the charges, transmission and energy acquisition costs (known as Parcel A) are passed on to the tariff and to adjust the distribution costs (known as Parcel B) for inflation, discounting a predetermined efficiency factor (factor X).

An annual tracking account mechanism is used to register Parcel A's imbalances, which should be passed on to tariffs in the following tariff review process.

In 2018 COELBA and COSERN's rates **were revised**:

- On 17 April, ANEEL approved COELBA's annual tariff readjustment, which increased its tariffs by an average 16.95%, in effect as of 22 April 2018. There was an increase of 15.85% in Parcel A (due to transmission costs and industry charges) and of 25.20% in Parcel B, mainly due to remuneration to investment.
- On 17 April, ANEEL approved COELBA's annual tariff readjustment, which increased its tariffs by an average 15.61%, in effect as of 22 April 2018. There was an increase of 10.42% in Parcel A (due to transmission costs and industry charges) and of 11.69% in Parcel B, mainly due to remuneration to investment.

Additionally, ANEEL approved CELPE and ELEKTRO's **annual tariff adjustment**.

- On 24 April, ANEEL approved the annual tariff adjustment of CELPE's tariffs, which increased its tariffs by an average 8.89%, in effect as of 29 April 2018. The most striking thing was the 8.26% increase in Parcel A (responsible for the final rate increase of 5.67%) due to energy acquisition costs and networks. Parcel B increased some 1.42% as a result of the inflation adjustment index, IGP-M minus factor X, and was responsible for the 0.45% drop in the final rate.
- On 21 August, ANEEL approved ELEKTRO's annual tariff readjustment, which increased its tariffs by an average 22.42%, in effect as of 27 August 2018. The most significant adjustment was the 13.11% hike in Parcel A due to energy transmission networks costs. Parcel B rose by 5.85% in accordance with index IGP-M minus factor X.

2018 metering procedures	COELBA Change	ELEKTRO Change	CELPE Change	COSERN Change
Variation Parcel A	15.85%	13.11%	8.26%	10.42%
Variation Parcel B	25.20%	5.85%	(1.42%)	11.69%
Economic adjustment index	18.45%	11.28%	5.22%	10.81%
Package A monitoring account/Other financial components	2.73%	13.39%	5.36%	4.13%
Total	21.18%	24.67%	10.58%	14.94%
Removal of previous year's financial components	(4.21%)	(2.25%)	(1.69%)	0.67%
Consumer impact	16.97 %	22.42%	8.89%	15.61%

In accordance with current regulation, the distributors must sign PPAs with the generators in order to supply 100% of the estimated demand. The cost assumed by the distributors for the purchase of this energy is transferred to the final tariff, as long as it covers between 100% and 105% of the estimated consumption. . If the distributor purchases energy for less than 100% of its estimated demand it may be penalised; conversely, if it has contracts over 105% of its demand, it will be exposed to spot price risk.

In 2016, distributors had a surplus of energy contracts due to relocation¹ of hydroelectric energy participation (known as energy quotas), which increased the quantity of energy of PPAs of some distributors.

Other reasons for the surplus were the migration of consumers to the energy free market, (without the distributors being able to reduce the PPAs) and the significant market reduction, due to the economic crisis and the cumulative tariff increases of previous years. In order to confront this issue, MME and ANEEL have carried out several actions, such as:

- Acknowledgement that the additional energy received by the distributors by the quota system must be considered involuntary and transferred to the tariff (resolution 706/2016)
- Creation of a mechanism whereby the distributors and generators commonly agree to reduce their PPAs (resolution 711/2016)
- Determination of the distributors right to reduce PPAs for the purpose of compensating the exit of special customers to the free market (customers with demand between 0.5 and 3MW (resolution 726/2016)
- Broadening of the new energy relocation (MCSD de Energia Nova), thus allowing generators to offer reduction of the PPA (resolution 727/2016)
- Reduction of the energy limit that must be acquired by distributors in A-1 auctions, for distributors with surplus energy (decree 8,828/2016)
- Reduction from 95% to 90% of the insured energy volume considered under the quota system (whereby the electric power is distributed among the distributors regardless of the demand forecast they have; by decreasing the volume of insured energy, less energy is distributed)
- Permission for distributors to sell energy surplus to generators, retailing companies and consumers (up to 3 MW).

¹ Energy from hydroelectric power plants renewing their concessions in accordance with Law 12.783/2013.

Since 2015, distributors' tariffs have been complemented with tariff flags, revised annually by ANEEL in accordance with marginal operation cost (energy cost).

In 2018 the flags were set in the following manner:

Flag	Thermal plants in operation (fuel cost)	BRL/MWh
Green	Up to 211.28 BRL/MWh	-
Yellow	211.28 - 422.56 BRL/MWh	10
Red - level 1	422.56 – 610.00 BRL/MWh	30
Red - level 2	More than 610.00 BRL/MWh	50

In 2018 the green flag was set for January, February, March, April and December, whereas the yellow flag was set for May and November and the Level 2 of red flag for from June to October.

WACC is used to define the remuneration of investments made by energy distributors. ANEEL decided during a Public Meeting of the Board of Directors held on March 6th, to maintain the weighted average cost of regulatory capital (WACC) of 8.09% for the distribution segment. According to the Agency's decision, the methodology used in 2015 has been maintained and the current percentage will be applied until December 2019. The idea is for a new system to be applied from January 2020 on.

ANEEL approved on 04 September 2018 the extraordinary review of the Energy Development Account (CDE) budget for 2018. On Dec. 28, 2018 Decree No. 9,642 was published on the reduction of subsidies in the sector account of the CDE. The decree establishes an annual reduction of the subsidy of the electricity tariff of rural consumers and irrigators of 20% until its elimination in 2023. It also eliminates the possibility that these rates accumulate more than one discount.

The Board of ANEEL decided on October 23, 2018 to approve a resolution authorizing the Electric Energy Trading Chamber (CCEE) to manage the restitution of the balance of the Reserve Energy Account (CONER), which generates a financial surplus when the Settlement Price (PLD) is higher than the average value of the reserve power contracts (renewables). Part of this surplus is retained at CONER's account to guarantee the payment of contracted generators. Under the rules previously in force, the reimbursement to consumers of reserve power would be equivalent to one third of that balance. With the new resolution, the expectation is that the reimbursement will increase bringing relief in the tariff of the distributors.

3. Transmission

In the electric transmission business, NEOENERGIA has five concession contracts between 2009 and 2013, which include transmission lines and substations, as well as reinforcements. Together, they generate an annual allowed profit (RAP) of approximately BRL 80 million.

Company	Annual profit allowed (BRL)
Afluenta T	39,697,547
SE Narandiba	9,805,992
SE Extremoz II	3,111,373
SE Brumado II	1,953,742
Potiguar Sul	25,349,469
Total	79,918,123

These assets are subject to tariff reviews every five years, in addition to annual adjustments made for monetary reformulation. In 2018 SSE Brumado II was submitted to a tariff review process; and in 2019, SE Naradibay Potiguar Sul will submit to a tariff review process.

In 2018, two transport auctions were held:

- The first (Auction 002/2018) made available 20 projects, representing 2,562 km of transmission lines and substations with a transformation capacity of 12,226 MVA.
- The second (Auction 004/2018) took place on 20 December 2018. It awarded 16 lots totalling 7,152 km of transport lines and 14,819 MVA in transformation capacity, with works in 12 Brazilian states and with an average discount of 46%. The total investment planned amounts to 13,170 million Brazilian Reals. The term of execution of the works varies between 48 and 60 months and the duration of the concession is 30 years from the signing of the contract.

4. Other regulatory changes

Changes in the regulatory framework and liberalization of the electricity market.

Currently, consumers over 3 MW can migrate to the free market. Customer between 0.5 and 3 MW can also migrate if they are supplied only from incentivized sources (wind and solar).

The National Congress has been working on a proposal to launch two bills: PL 1917/2015 (Chamber of Deputies) and PL 232/2016 (Federal Senate) that contemplate the following schedule of liberalization of the market: 2 MW in 2020 regardless of the contracted voltage, 1 MW in 2021, 0.5 MW in 2022 and 0.3 MW from 2024. On December 28, Ministerial Decree No. 514/2018 was published, which anticipates the liberalization of the electricity market by establishing the intermediate milestone of 2.5 MW in July 2019.

Hourly Spot Price in short-term market

At the end of 2017, the Ministry of Mines and Energy opened the Public Consultation 42, about the adoption of hourly spot prices in short-term market to 2019 onwards. NEOENERGIA, and other companies and associations noticed that the process was not taking all the necessary steps required to guarantee a safe transition. In April 2018 it was started a parallel accounting of prices and dispatch known as shadow operation. But in June 2018, the Independent System Operator (ONS) and the Commercialization Chamber (CCEE) realized that the DESSEM computation model (used to optimize dispatch and compute prices hourly), needed some improvements. Then, they decided to postpone the implantation of hourly spot price to 2020.

New limits of the LDP (Resolution No. 2498/2018 published on December 18, 2018)

The resolution establishes that the minimum limit of the PLD for 2019 is 42.35 Brazilian reais per MWh and the maximum is 513.89 Brazilian reais per MWh. It also establishes the rate of auxiliary services for 2019.

Light for All Program extended until December 2022 (Decree No. 9.357 / 2018)

The “Luz para Todos” program was created in 2003 with the aim of electrifying rural, isolated and economically disadvantaged areas. The program is coordinated by the Ministry of Mines and Energy, operated by Eletrobrás and executed by energy concessionaires and rural electrification cooperatives.

This program is financed jointly with: 1) sectorial funds such as the Conta de Desenvolvimento Energético

(CDE) and the Reversão Global Reserve (RGR), 2) by the Governments of the States and 3) by the distribution companies (that recover later investments in the corresponding tariff reviews).

Privatisation of Eletrobras

During the second half of 2018, the privatization of the six distributors managed by Eletrobrás was carried out, with the following results:

Company	Auction winner	Discount
Companhia Energética do Piauí (CEPISA)	Equatorial Energia	119%
Companhia de Eletricidade do Acre (ELETROACRE)	Energisa	31%
Centrais Elétricas de Rondônia (CERON)	Energisa	21%
Boa Vista Energia S.A. (BOA VISTA)	Consórcio Oliveira Energia	-
Amazonas Energia	Consórcio Oliveira Energia	-
Companhia Energética de Alagoas (CEAL)	Equatorial Energia	-



CONSOLIDATED DIRECTORS' REPORT 2018

This directors' report has been prepared taking into consideration the "Guide of recommendations for the development of directors' reports of listed companies", published by the CNMV in July 2013.

1 COMPANY'S POSITION

The Company has undergone a major transformation over the last 15 years, staying clearly ahead of the energy transition in order to address the challenges posed by climate change and the need for clean electricity.

Boasting a track record that spans over 170 years, today IBERDROLA is an international energy leader producing and supplying electricity to more than 100 million people in the countries in which it operates.

As a result of our environmental commitment and our engagement in the decarbonisation of the economy, we stand out as the leading renewable energy company and have succeeded in reducing its emissions in Europe by 75% since 2000, reaching levels that are 70% below the average for European companies in its sector.

The IBERDROLA group is currently present in the following countries and geographical regions, where we occupy a leading position and are regarded as a benchmark thanks to our sustainable energy model.

- Euro zone: leading producer of wind power in Europe, leading energy company in Spain, with a presence in Portugal, France, Italy, Germany, Greece, Hungary, Romania, Cyprus, etc.
- United Kingdom: 100% renewable producer, transmission and distribution networks in England, Scotland and Wales.
- United States: Gas and electricity distributor in New York, Maine, Connecticut and Massachusetts and third biggest producer of wind power.
- Brazil: one of the leaders in the energy sector.
- Mexico: leading private sector producer of electricity.

As the electric utility of the future, IBERDROLA has placed its bets on clean energy, smart grids, efficient energy storage and the development of solutions tailored to its customers. At the centre of this strategy are the various stakeholders, with which it engages in ongoing dialogue. In order to confront the future energy scene with assurance of success, the Company places its trust in digital transformation, which is in accordance with two main pillars: technology and innovation.

On this basis, IBERDROLA is now embarking on a new stage of growth, supported by a strong investment drive essentially in regulated businesses or with long-term contracts, which will provide the security, stability and visibility that are the hallmarks of the company's business model. Likewise, IBERDROLA will continue maintaining its social commitments, acting as a driver for the growth and generation of employment in the countries where it operates, and creating sustainable value for all its stakeholders.

1.1. Business model

The current trends in the energy sector — the decarbonisation and electrification of the economy, technological advances and customers' increased connectivity — confirm the focus of our three global businesses: networks, renewables and generation and retail, and all of them centred on the customer.

The IBERDROLA Group accelerates value creation along five strategic pathways: profitable growth, operational excellence, a customer-focused approach, optimisation of capital, and finally digitisation and innovation.

To make its business model as competitive as possible, IBERDROLA has organised the management of its activities into three global businesses:

Renewable Business the renewables area is tasked with generating and marketing electricity from renewable sources: wind (onshore and offshore), mini-hydroelectric, solar thermal, photovoltaic, biomass, etc. Among the main objectives of the renewable business are:

- Safety in operations.
- Efficiency in operations to maximise the return on assets.
- Efficiency in construction costs, with special emphasis on offshore wind projects.
- Profitable growth in onshore and offshore wind power in strategic countries for the Group and new counties of interest.
- New long-term energy sale contracts at global level.

Network business: the networks area is responsible for the construction, operation and maintenance of power lines, substations, transformer centers and other facilities for delivering electric power from the production centres to the end user. Among the main targets are:

- Zero accidents.
- Offering an excellent service to customers, in accordance with quality of supply and grid information.
- Maximising efficiency in the operation of the system through operating excellent and digitisation of assets.
- Leading change towards a more efficient integration of renewable distributed energy.
- Integration of the electrical vehicle.
- 100% smart grids by 2030.

Generation and Supply business: the generation and supply area focuses on the production of electricity through the construction, operation and maintenance of generation plants and the sale and purchase of energy in wholesale markets. It also supplies energy and additional products and services to end customers.



- Competitive supply and excellence in customer service.
- Safety at work.
- Environmental management and respect for biodiversity.
- Identifying and minimising risks.
- Development of growth opportunities and new energy solutions.
- Growth in direct sales with private companies.
- Smart energy and mobility.
- Smart solar.

1.2 Mission, Vision and Values of the IBERDROLA Group

Our corporate governance system is inspired and takes form in our commitment to the Mission, Vision and Values of the IBERDROLA Group, which is our corporate ideology, channels our ordinary activity and guides our strategy and all our actions.

Mission

“Our mission is to create value in a sustainable way in carrying out our activities for society, citizens, customers, employees, shareholders, and other stakeholders, as the leading multinational group in the energy sector providing a quality service through the use of environmentally-friendly energy sources, which engages in innovation, leads the process of digital transformation in its area of activity, and is committed to the fight against climate change through all of its business activities, with a social dividend and the generation of local employment and wealth, and which considering its employees a strategic asset. With this in mind, we foster their development, training, and work-life balance, favouring a good working environment and equal opportunities. All of the foregoing is within the framework of our strategy of social responsibility and compliance with tax rules.”

Vision

“We want to be the leading multinational group in the energy sector at the forefront of a better future, sustainably creating value with a quality service for people: citizens, customers and shareholders, whom we care for and involve in our corporate life, and for the communities in which we carry out our activities, generating employment and wealth, with whom we engage in constructive dialogue. We want to be known for our firm commitment to ethical principles, good corporate governance and transparency, the safety of people and security of supply, operational quality and excellence, innovation, protection of the environment, customer focus and the Sustainable Development Objectives approved by the UN. We will make this possible through the work of our employees and the people working at our suppliers and collaborators, whom we care for by offering all the training and work-life balance resources at our disposal for their development and to strengthen equality of opportunity.”

Values

The mission and vision of the Group are in accordance with a firm commitment to 12 values to which all Corporate Policies, internal rules and other internal codes and procedures must adhere:

- Creation of sustainable value
- Ethical principles
- Good corporate governance and transparency
- Development of our workforce
- Social commitment
- Sense of belonging
- Safety and reliability
- Quality
- Innovation
- Respect for the environment
- Customer focus
- Institutional loyalty

1.3. IBERDROLA' corporate governance model

Corporate governance system

IBERDROLA constantly updates its corporate governance system, which consists of its By-Laws, the Mission, Vision, and Values of the IBERDROLA Group, the corporate policies, the governance rules of the corporate decision-making bodies and internal committees, and the compliance function. In order to move forward in developing specific aspects of its corporate governance system, the Company promotes the creation of working groups composed of authorised representatives of the stakeholder group(s) affected in each case, Company employees and top-level external experts in the field concerned.

The IBERDROLA Group's commitment to good corporate governance and transparency is reflected in its Mission, Vision and Values, the bases of which as regards corporate governance are the involvement of the shareholders in the Company's affairs and maintaining a leadership position in the application of best practices and in transparency.

The general corporate governance policy contains a summary of the basic principles regulating the corporate governance of the Company and of the Group and of its most important components, available in full at www.iberdrola.com.

Governance model

This duly makes a distinction between the functions of strategy and supervision and those of management and control:

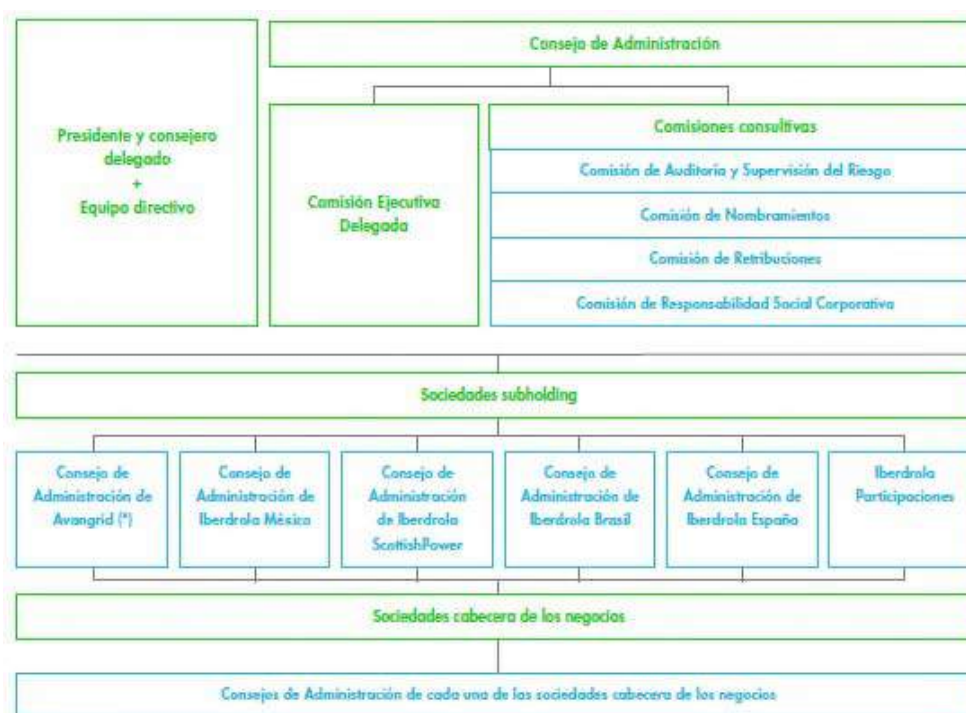
- The IBERDROLA Board, composed of a large majority of independent directors, focuses on defining, supervising and monitoring the policies, strategies and guidelines to which the group must adhere.
- The chairman of the Board, the chief executive officer and the rest of the management team are responsible for the group's strategic coordination and organisation, through the distribution, implementation and monitoring of the general strategy and its basic guidelines.
- In all countries in which the group operates, business is organised and strategically coordinated through subholding companies, which group investments in energy business operating in the country concerned and centralise the provision of common services to these companies. The group also has a subholding to handle all non-energy business.

The subholdings have boards with independent directors, and their own Audit and Compliance Committees, Internal Audit departments and Compliance units or departments.

- Parent companies are tasked with ordinary management and effective administration of all lines of business. They also have boards with independent directors and specific management teams.

This structure, which operates along with the group's business model, fosters global integration of the lines of business (Networks, Generation and Sales and Renewables), and focuses on maximising operational efficiency, by implementing best market practices.

Corporate and governance structure of IBERDROLA, S.A.



(*) Sociedad cotizada en la Bolsa de Nueva York.

1.4. Corporate structure of the Group

Given the nature of the activities carried out by the IBERDROLA Group, its organization responds to the strategic business units, rather than product and service lines. These businesses are managed independently, as they respond to different technologies, regulations, and geographic markets (Note 7).

The IBERDROLA Group has a decentralised structure and management model to approximate the decision taking to places where they should have effect, through the subholding companies and parent companies of the businesses. In addition, the independence and listed subholding companies' reinforced autonomy are guaranteed.

The corporate structure encompasses the Company (IBERDROLA, S.A.), subholding companies and business parent companies.

- IBERDROLA, S.A. (Parent company)

The board of directors of the Company defines and supervises the Group's policies and strategies and of the basic guidelines for the management thereof, and adopts strategic decisions.

The chairman of the Board of Directors & chief executive officer of with the technical support of the Operating Committee, the Group's Business CEO and the rest of the management team, assumes the duty of organisation and strategic coordination of the Group through the dissemination, implementation and monitoring of the overall strategy and of the basic management guidelines established by the Board of Directors.

- Subholding companies

The subholding companies group together the equity investments in the energy business parent companies that conduct their activities in the various countries in which the Group operates. This structure also comprises a subholding company that groups together certain equity investments in other entities, including the parent companies of non-energy businesses, present in several countries.

They contribute to organisation and strategic coordination in their respective countries, disseminating and implementing the Group's guidelines and management policies.

Furthermore, they centralise the provision of shared services to the business parent companies, always in accordance with applicable legislation and, in particular, with the rules on segregation of regulated activities.

The subholdings have boards with independent directors, and their own Audit and Compliance Committees, Internal Audit departments and Compliance units or departments.

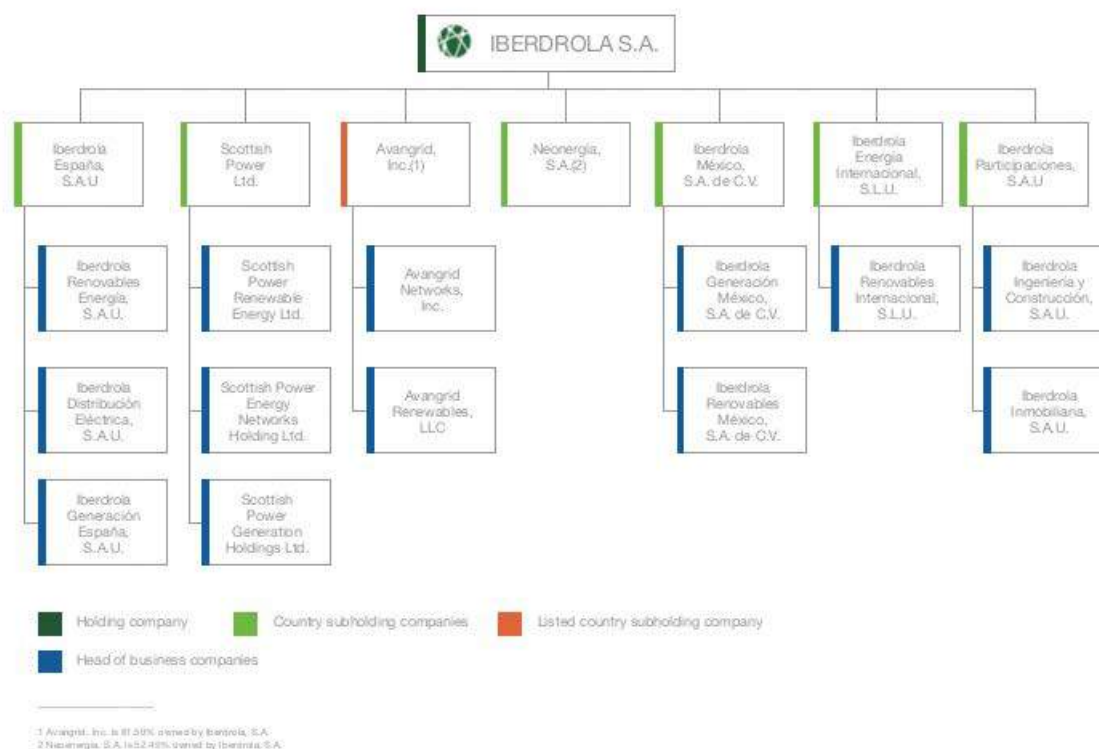
Listed subholding companies enjoy greater autonomy, as provided for in legislation and with regard to related party transactions and management.

- Business parent companies

The business subholding companies of the Group assume decentralised executive responsibilities. They have the necessary autonomy to carry out the day-to-day administration and effective management of each of the businesses, and are responsible for the day-to-day control thereof.

They are organised through their Boards of Directors, which may include independent directors, and their own governing bodies; they may also have their own audit committees, internal audit areas, and compliance departments.

Outline of the Group's corporate structure



The Company's and the Group's governance conforms to the structure described above: it segregates the duties relating to strategy, oversight, and control of the Group as a whole, those of organisation and coordination of the businesses in each country and the multinational non-energy business, as well as those of day-to-day administration and effective management of each business.

It is established on the following bases:

- The board of directors of the Company, which solely exercises holding company duties, has been assigned powers relating to the establishment of the Group's policies and strategies and of the basic guidelines for the management thereof, as well as general oversight of the implementation of such policies, strategies and guidelines and of decisions on matters that are strategically significant at the Group level.
- The chairman of the board of directors & chief executive officer of the Company, with the technical support of the Operating Committee, the Group's Business CEO and the rest of the management team, assumes the duty of organisation and strategic coordination of the Group through the dissemination, implementation and monitoring of the overall strategy and of the basic management guidelines established by the board of directors.

- c) This organisation and coordination duty is strengthened through the boards of directors of the subholding companies, which includes independent directors, as well as their own audit committees, internal audit areas, and compliance units or departments.
- d) The business parent companies of the Group assume decentralised executive responsibilities. They have the necessary autonomy to carry out the day-to-day administration and effective management of each of the businesses, and are responsible for the day-to-day control thereof. These business parent companies are organised through their respective boards of directors and their own governing bodies.

The corporate and governance structure of the Group described above operates in parallel with the Group's business model, which entails the global integration of the businesses and aims to maximise the operational efficiency of the different units. The business model ensures the dissemination, implementation and monitoring of the overall strategy and of the basic management guidelines established for each business, primarily through the exchange of best practices among the various companies of the Group, while upholding their decision-making autonomy.

In any case, the Company and the Group assume the commitments established by law in connection with the legal and functional separation of the companies carrying out regulated activities, while the subholding companies ensure compliance with such legislation.

1.5. Organisation of the board, or the bodies to which its decision-making function is delegated, including control functions and the policy with respect to non-controlling interests.

A comprehensive description of the governance structure of the Company, and of the functions and internal regulations of the committees is provided in section C of the annual corporate governance report, which forms part of this directors' report.

1.6. Regulatory framework of the activities

A comprehensive description of sector regulation and operation of the electricity and gas system in the markets in which the Group operates is provided in Appendix 2 "Sector regulation and operation of the electricity and gas system" attached to the annual accounts.

1.7. Main products and services, and production processes

The main products that IBERDROLA offers to its customers are electricity and natural gas, in both the wholesale and retail markets serving the end consumer. The Company also offers a wide range of products, services and solutions in the fields of:

- Improving the quality of life, peace of mind and safety of the consumer.
- Efficiency and energetic services.
- Caring for the environment: renewable energy and sustainable mobility.
- Quality of power supply and safety of facilities.
- Installation of electrical infrastructure.

- Global management of facilities and energy supplies.

Through its subsidiaries, the Company also provides services for the engineering and construction of power generation, distribution and control facilities; operation and maintenance of power generation facilities, land management and development; and the sale and rental of housing, offices and commercial premises. More detailed information can be found at www.iberdrola.com, in the "customers" section.

As a general rule, companies directly manage the activities that make up their core business and outsource the activities they consider will be conducted more efficiently by other specialised companies, of which IBERDROLA requires certain quality standards and responsible behaviour as regards environmental, social and labour aspects.

This information can be extended with the corresponding indicators described in the sustainability report.

1.8. Strategic principles for the 2018-2022 period

The energy scenario in which IBERDROLA will be undertaking its activity in the coming years will be based on three pillars:

- The need for decarbonisation.
- Technological advances, continuing the trend toward increased efficiency in terms of the sources of renewable energy and electricity grids.
- New demands from consumers, who need new energy services, more connections. These will be possible thanks the possibilities offered by digitalisation.

All of this means an increase in demand for energy, especially for electricity, which will grow 60% in the years to 2040². In order to attend to this growth in demand for electricity, associated investment will exceed 16.3 billion dollars² in power grid and renewables alone.

In accordance with this increase in electricity consumption, in the 2018-2022 period, the company will continue to develop its strategy in the different businesses and markets where it has a presence:

- In the United States the company is taking up a position to home in on opportunities for investment in energy infrastructures and renewables through the platform operated by its subsidiary AVANGRID, which has eight regulated energy transmission and distribution companies in New York, Connecticut, Maine and Massachusetts, as well as being one of the country's third largest wind energy producer. The group will continue investing in transport and distribution network infrastructures and will continue with its strategy of growth of onshore wind energy and solar energy. The company is also working in the development of the offshore wind power sector, in which it has an extensive portfolio of projects, with Vineyard (800 MW³)

² International Energy Agency: *World Energy Outlook 2018, New Policies Scenario (NPS)*

³ 50% corresponding to Avangrid



- In the UK, where IBERDROLA has become the first 100% renewable utility, its commitment to renewable energy will continue to be underlined, especially that of offshore wind power via an existing platform, with the company maintaining development of the “East Anglia One” offshore wind farms in the North Sea of 714 MW, which will be fully operational by 2020. Moreover, reading renewables projects in the UK it will continue developing networks infrastructures under regulatory frameworks already approved for transmission and distribution (RIIO-T1 and RIIO-ED1).
- In Iberian Peninsula it will strengthen its leadership in networks and renewable energies. Investments will focus on networks, and more in particular in distribution. The company will also continue to develop its renewable energy portfolio through wind and solar power projects, as well as the Tâmega hydroelectric complex in Portugal, which has a total generating capacity of 1,158 MW.
- In Mexico, where work on projects currently under construction is set to finish, investment will focus on contracted power generation and renewables, analysing the opportunities that may arise.
- NEOENERGIA, one of Brazil's main power generating groups with a presence in 18 states, offers growth opportunities in both the renewable and transmission and distribution network sectors.
- In other countries in Europe, where the company has already brought its first offshore wind farm in Germany on line. The company's commercial activities have expanded into new European markets, including Portugal, France and Italy.

Operating efficiency

IBERDROLA has always been one of Europe's most efficient electricity companies, and will continue to boost its operational efficiency on the strength of technical progress in terms of the digitisation of all its businesses and processes, as well as synergies arising from process standardisation through the Group's implementation of best practices in all its businesses.

Earnings performance

The strategy, consisting in the profitable growth in mature businesses, efficient operation of ongoing assets, and the aforementioned investment plan, will lead to sustainable growth in company profits.

Shareholder remuneration

The trend forecast for the period will enable the Company to increase long-term remuneration for shareholders, in keeping with results.

Financial solvency

The Company will continue to present a solid financial position that is compatible with the investment plans and the forecasted shareholders remuneration.

This section of the directors' report of IBERDROLA contains forward-looking information, including financial projections and estimates and their underlying assumptions, statements regarding plans, objectives and expectations with respect to future operations, capital expenditure, synergies, products and services, and statements regarding future performance or directors' estimates which are in accordance with assumptions they consider reasonable.

Although IBERDROLA believes that the expectations reflected in such forward-looking statements are reasonable, investors and shareholders of IBERDROLA are cautioned that forward-looking information and statements are subject to risks and uncertainties, many of which are difficult to predict and generally beyond the control of IBERDROLA; risks that could cause actual results and developments to differ significantly from those expressed in, or implied or projected by, the forward-looking information and statements.

The forward-looking statements are not guarantees of future performance and have not been reviewed by the auditors of IBERDROLA. It is recommended that no decisions be made on the basis of the forward-looking statements, which refer only to the date they were made. All of the forward-looking statements included in this report are expressly qualified by the cautionary statement above. All forward-looking statements included in this directors' report are in accordance with the information available on the date hereof. Except as required by the applicable law, IBERDROLA undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

2. BUSINESS PERFORMANCE AND RESULTS

2.1. Highlights for the period

From 1 January 2018 results of hydroelectrical generation is presented under the scope of the Renewables business (before, they were presented within the scope of the Liberalised business). Subsequently, information regarding 2017 has been re-stated bearing in mind this circumstance.

As for the average performance of IBERDROLA's main reference currencies regarding the Euro in 2018, the main currencies depreciated: the Pound Sterling by 0.9%, the US Dollar by 4.7%, and the Brazilian Real by 19.5%.

Regarding the performance of electricity production in the period, the main areas of activity were:

- The energy balance on the Iberian Peninsula in 2018 can be characterised by a significant increase in hydroelectric production (up 74%) compared to the previous year. 2018 closed with the index of producible hydroelectric power reaching 1.3, with hydroelectric reserves at 44.1%, compared to an index of 0.5 and reserve levels at 26.3% at the close of 2017. Coal and combined cycle production fell 18% and 22% respectively in comparison to the previous year. The rest of energy production from renewable sources closed 2018 at levels that were similar to the previous year, the result of greater wind power production (up 3%), which offset the drop in solar power production (down 12%).

In terms of demand, it increased by 0.4% with respect to the same period of 2017, while in terms adjusted for work and temperature, it grew by 0.3%.

- In the United Kingdom, electricity demand peaked by 0.3% compared to 2017, while customer gas demand (not including energy used in generation) is up 5.2% compared to 2017.
- In the AVANGRID area in the East Coast of the United States, electricity demand increased by 3.2%, while gas demand increased 8.8% compared to 2017.
- In the IBERDROLA catchment area in Brazil, electricity demand rose by 2.8% compared to 2017.

2.2 Basic indicators

At the end of 2018, IBERDROLA had 44,104 MW of installed generation capacity, of which 68.2% emission-free energy while operating at a very low variable cost. The tables below show distribution by country and technology:

Power per countries (MW)	2018	2017	MW change
Spain	25,574	25,607	(33)
United Kingdom	2,086	4,616	(2,530)
United States	7,180	7,009	171
Mexico	6,663	6,242	421
Brazil	1,640	1,640	–
RoW	961	961	–
Total	44,104	46,075	(1,971)

Power per technology (MW)	2018	2017	MW change
Renewables	26,909	27,066	(157)
Onshore	15,251	15,032	219
Offshore	544	544	–
Hydroelectric	10,421	10,984	(563)
Mini Hydroelectric	301	301	–
Solar and other	392	205	187
Nuclear	3,166	3,166	–
Gas combined cycle	12,542	14,465	(1,923)
Cogeneration	613	504	109
Coal	874	874	–
Total	44,104	46,075	(1,971)

IBERDROLA Group's total production in this period grew by 8.4% to 136,737 GWh (126,198 GWh in 2017). Net production by geographical areas and technologies is the following:

Net production per country (GWh)	2018	2017	% change
Spain	56,636	50,358	12.5
United Kingdom	10,576	11,945	(11.5)
United States	19,462	17,612	10.5
Mexico	41,323	41,854	(1.3)
Brazil	6,560	3,047	115.3
RoW	2,180	1,382	57.7
Total	136,737	126,198	8.4

Power per technology (MW)	2018	2017	MW change
Renewables	53,684	42,216	27.2
Onshore	35,711	32,340	10.4
Offshore	1,642	820	100.2
Hydroelectric	15,711	8,659	81.4
Mini Hydroelectric	279	150	86.0
Solar and other	341	247	38.1
Nuclear	23,419	23,190	1.0
Gas combined cycle	55,910	55,964	(0.1)
Cogeneration	2,108	2,163	(2.5)
Coal	1,616	2,665	(39.4)
Total power (MW)	136,737	126,198	8.4

2.3. Business performance

2.3.1. Analysis of the profit and loss account

As indicated, the information for 2017 has been re-stated to show hydroelectric generation within the Renewables business (in 2017, it was shown within the Liberalised business).

The key figures for the financial year 2018 are as follows:

Millions of Euros	2018	2017	% change
Revenue	35,076	31,263	12.2
Gross margin ⁽¹⁾	15,435	13,364	15.5
EBITDA ⁽²⁾	9,349	7,319	27.7
EBIT ⁽³⁾	5,439	2,713	100.5
Net profit	3,014	2,804	7.5

(1) Gross margin: Revenue – Supplies

(2) EBITDA: Operating profit+ Depreciation/Amortisation and provisions

(3) EBIT: Operating profit

The profit for the year has exceeded the goals initially set for the performance in all countries and businesses. Operating profit (EBITDA) came to Euros 9,349 million and net profit exceeded Euros 3,000 million for the first time (Euros 3,014 million).

This improvement was underpinned by the Group's growth, particularly in Brazil, Mexico and the US and by the return to normal of margins and the small sales margins in the UK. All this in spite of currency devaluations (Pound Sterling by 0.9%, the US dollar by 4.7% the Brazilian real by 19.5%) which supposed a minor Euros 363 million off EBITDA.

The effect of the reorganisation in Brazil during the first eight months of the financial year (from September 2017 on, the bases for comparison are like-for-like) improved EBITDA by Euros 570 million, although it did not affect net profit significantly.

Net profit for the year increased by Euros 210 million or 7.5% relative to 2017, despite the recognition in 2017 of a gain of Euros 255 million on the Gamesa transaction the positive impact Euros 1,284 million of the US tax reform on net profit after restructuring and early retirement plan, as well as other positive non-recurring effects recognised in 2017, such as the exceptional positive result in the Gas business in Spain as a result of the exceptional price revision in supply contracts, which was not repeated in 2018 and therefore has a negative effect on the year-on-year comparison. On the negative side, we would point to the impact of the severe storms in the US.

From an operational point of view, outstanding positive points were the improvements in tariffs in the US and Brazil, the increase in onshore wind power production (thanks both to the greater operating capacity and the increased load factor) and in hydroelectric power, the normalisation of conditions in the liberalised business in the UK and the increased CFE tariff in Mexico.

2.3.1.1 Gross margin

The gross margin stood at Euros 15,435 million, with an increase of Euros 2,071 million, up 15.5% compared to that obtained in 2017, supported by the positive performance of all the countries and businesses and the incorporation of Neoenergía. The performance of reference currencies had a negative effect of Euros 406 million offsetting the Euros 1,505 million improvement in business performance, and the impact of the incorporation of Neoenergía in the first eight months of the year 2018, which represents Euros 972 million,.

The gross margin by business is as follows:

Millions of Euros	2018	2017	% change
Networks business	7,641	6,786	12.6
Liberalised business	4,168	3,757	10.9
Renewable business	3,611	2,791	29.4
Other businesses	58	70	(17.1)
Corporation and adjustments	(43)	(40)	(7.5)
Gross margin	15,435	13,364	15.5

– Networks business

The Networks business improved its contribution by 12.6% to reach Euros 854 million up to 7,641 million euros (Euros 6,787 million in 2017) propelled by the improvement all geographic areas.

Without taking into consideration the integration in Brazil, of Euros 784 million, and the impact of exchange rate, a lower gross margin of Euros 287 million, gross margin would rise Euros 358 million, up by 5.3%.

Thousands of Euros	2018	2017	% change
Spain	2,109	2,003	5.3
United Kingdom	1,222	1,174	4.1
United States	2,780	2,754	0.9
Brazil	1,530	856	78.7
TOTAL	7,641	6,787	12.6

As significant facts in the performance of the Networks business' gross margin, the following stand out:

- In Spain, the gross margin amounted to Euros 2,109 million, Euros 106 million more than in the previous year, mainly due to a rise in recognised earnings in Euros 105 million.
- The United Kingdom contributes Euros 1,222 million (4.1%), up by Euros 48 million compared to 2017 and impacted by the depreciation of the Pound Sterling, Euros 11 million. The increase is explained by an improvement in transmission and distribution income due to larger assets.
- The contribution of the US in the period was Euros 2,780 million, Euros 26 million more than in the previous financial year (0.9%). Without the dollar's depreciation of Euros 130 million, the margin would have grown by Euros 156 million (+5.7%), thanks to new "rate cases" (formal process to determine charges to customers for utilities) and reduced costs of energy.

- Brazil's Gross Margin amounted to Euros 1,530 million (78.7%), Euros 674 million more than in 2017, of which 784 million was the result of the corporate reorganisation in the first eight months of the financial year and a negative 145 million due to the depreciation of the Brazilian real, the remaining positive 35 million being the result of the growth of the business itself. The tariff revisions of COELBA (Bahia state electricity company) and COSERN (Companhia Energética do Rio Grande do Norte) and increased demand compensate lower inflation and higher losses.

- Renewables business

The Renewable business increased its gross margin by 29.4% to Euros 3,611 million (Euros 2,791 million in 2017), up Euros 820 million more than in 2017.

Millions of euros	2018	2017	% charge
Spain	1,580	1,174	34.6
United Kingdom	644	547	17.7
United States	835	783	6.6
Brazil	178	92	93.5
Mexico	88	71	23.9
ROW	286	124	130.6
Total	3,611	2,791	29.4

The main causes of this trend are:

- Spain: gross margin reached Euros 1,580 thousand growing by 34.6% compared to the same period of 2017. This growth was due to the increase in production, of both hydroelectric (72%) and wind power production (3.9%).
- The gross margin in the United Kingdom increased by Euros 97 million to Euros 644 million (17.7%) with the impact of the depreciation of the Pound Sterling, which accounted for Euros 6 million. The details of the impact are:
 - Improvement of Euros 41 million as a result of larger onshore wind output (13.7%) to which contribute both wind factor and a better installed power for the new wind farms in 2017.
 - Reduction of Euros 9 million due to lower offshore wind output (7.9%);
 - The improvement in wind prices represents Euros 19 million and the peak in ROC prices increases margin in Euros 21 million and 2 other minor effects million ;
 - Hydroelectrical energy contributes Euros 29 million due to better prices despite output going down by 16.2%;
- The contribution of the United States for the period totalled Euros 835 million (6.6%), Euros 52 million more compared to the previous year. The depreciation of the US Dollar had a negative impact of Euros 39 million. The improvement compared to the previous year in production (10.7%) enhanced the gross margin by Euros 95 million and was offset by the Euros 4 million in the impact of lower prices and derivatives.

- Mexico improved its contribution to the gross margin by Euros 17 million due to price increases to reach Euros 88 million in 2018 due to a larger output of 13.8%, which overcomes the depreciation of the dollar, which in turn lowers margin in Euros 4.2 million.
- Brazil improved its contribution to the gross margin by Euros 86 million, affected by the appreciation of the Brazilian Real (Euros 35 million) due to the global integration of the plants of the Neoenergia subgroup since the second half of 2017.
- The rest of the world increased Euros 162 million, due to the commissioning of Wikinger, with an installed capacity of 350 MW and an output of 887 GWh in December 2018.

- Liberalised business

The Liberalised business (Generation and Supply) increased its contribution to gross margin in Euros 411 million, to Euros 4.168 million (Euros 3,757 million in 2017).

Thousands of Euros	2018	2017	% change
Spain	2,415	2,293	5.3
United Kingdom	863	743	16.2
Mexico	756	646	17.0
Brazil	134	75	78.7
Total	4,168	3,757	10.9

- In Spain and Portugal the gross margin was Euros 2,415 million, an improvement of Euros 122 million (5.3%), basically due to:
 - the Euros 111 million improvement in the generation business, the lower production being offset by better margins;
 - Improvement of Euros 88 million in the customer business, thanks to increased sales activity, with increased sales of electricity in volume terms, as well as a greater contribution from other products and services;
 - negative impact of Euros 77 million on the Gas business due to the comparison's being affected by the exceptional revision of prices in the supply contracts portfolio in 2017.
- The UK improved its gross margin by Euros 120 million (+16.2%) to Euros 863 million. The basic reasons for this improvement compared with 2017 are the recovery in sales margins from the compression experienced in the previous financial year, Euros 109 million, and the slight improvement in generation, Euros 11 million. This improvement was affected by the 0.9% depreciation of the pound (Euros 128 million). Without this effect the margin would have improved by 17.3%, as it did in local currency.
- Mexico contributed Euros 756 million to the gross margin (+17.0%), up by Euros 110 million on its contribution in 2017. Without taking account of the dollar's depreciation, which represented Euros 35 million, the business increased its contribution by Euros 145 million, underpinned by the good progress of the IPP projects with the CFE (Mexican state-owned electric utility), Euros 30 million, the recovery of the tariff with private customers in 2018, and other minor effects – Euros 108 million and 7 million respectively.

- Brazil's gross margin increased by Euros 59 million to Euros 134 million. The effect of the incorporation of Neoenergía in the first eight months of the 2018 financial year amounted to Euros 76 million and the depreciation of the real Euros 11 million, leading the gross margin to diminish by Euros 6 million, basically explained by poorer performance of the Termopernambuco power plant due to the stoppages of 2018.

– Other businesses

The contribution of other businesses amounted to Euros 58 million, a decrease of Euros 12 million compared to 2017 (Euros 70 million in 2017), although this is due to the discontinuation of the engineering business.

2.3.1.2 Gross Operating result – EBITDA

Consolidated EBITDA increased by Euros 2,030 million, 27.7%, to Euros 9,349 million (compared to Euros 7,319 million in 2017). The devaluation of currencies and the integration of Neonergia represent Euros 252 and 570 million, respectively. Notwithstanding these effects, EBITDA would improve in 23.4% amounting to Euros 1,713 million.

All business improve: Networks by 16.2%, Renewables by 39.3%, and Liberalised (Generation and Supply) by 39.2%.

Millions of euros	2018	2017	% charge
Network business	4,915	4,228	16.2
Liberalised business	2,038	1,464	39.2
Renewable business	2,445	1,755	39.3
Other businesses	29	13	123.1
Corporation and adjustments	(78)	(141)	44.7
EBITDA	9,349	7,319	27.7

The EBITDA performance variables are explained as follows:

– Net operating expenses

Net operating expenses go down Euros 16 million (–0.4%) to Euros 4,155 million (Euros 4,171 million in 2017). The impact of exchange rate resulted in Euros 128 million and the reorganisation in Brazil in Euros 399 million for the first 8 months of the year. If we excluded these impacts, the decrease would be Euros 287 million, down 6.9%.

This variation is explained by:

- An increase of Euros 20 million due to the storms in the United States;
- A decrease of Euros 175 million as a result of the application of IFRS “Revenues from contracts with customers” due to customer acquisition costs which improve compared to previous years;
- The implementation of personnel leaving plans in 2017 amounting to Euros 203 million less in personnel expenses.

- The net result of business growth and efficiency plans represent an increase of Euros 71 million.

Millions of euros	2018	2017	% charge
Networks business	2,079	1,922	8.2
Liberalised business	1,328	1,432	(7.3)
Renewables business	698	685	1.9
Other businesses	28	52	(46.2)
Corporation and adjustments	22	80	(72.5)
Net Operating Expenses	4,155	4,171	(0.4)

– Taxes

Taxes increased by Euros 57 million to Euros 1,931 million, up 3.0% compared to 2017, due to:

- the exchange rate impact improves in Euros 25 million whereas the incorporation of Neenergia has a negative impact of Euros 3 million;
- increase in US rates in contributing Euros 13 million to the Networks Business.
- Sustainability taxes increase in Euros 65 million due to a higher water fee and the price increase (on which a 7% is charged despite having been eliminated in the last months of 2018).
- The net of appropriations and reversions of provisions increase the headings in Euros 13 million.
- Increase in Enresa rate in the amount of Euros 3 million:
- Lower taxes in the United Kingdom in Euros 24 million of which Euros 13 million are a result of the implementation of the WHD (since the end of the previous plan in March until the implementation of the new one in October) and Euros 9 of ECO (the programme ended on 30 September 2018).
- Raise in public prices and other less relevant variations result in an increase of Euros 9 million.

2.3.1.3. Net Operating result – EBIT

EBIT totalled Euros 5,439 million, 100.5% higher in comparison with 2017 (Euros 2,713 million).

Millions of euros	2018	2017	% charge
Network business	3,034	2,660	14.1
Liberalised business	1,139	704	61.8
Renewable business	1,397	352	297.0
Other businesses	20	(798)	102.5
Corporation and adjustments	(151)	(205)	26.3
EBIT	5,439	2,713	100.6

– Depreciation, amortisations and provisions

Depreciation, amortisation and provisions rose by 17.1% to Euros 3,656 million:

- Amortisation increased in the amount of Euros 401 million (12.6%) to stand at 3,587 million.

- Effect of exchange rate changes of Brazil reduces amortisation in Euros 89 million and the impact of the integration in Brazil amount to Euros 212 million.
 - Accelerated amortisation of thermal power plants whose closure is expected in 2021 increases provisions in Euros 15 million.
 - The application of IFRS 15 results in Euros 81 million due to the amortisation of customer acquisition costs as described above;
 - Larger investments in the Networks business in the United Kingdom represents an increase in amortisations of Euros 38 million.
 - Larger investments in the Networks business result in higher amortisations of Euros 88 million for Wiking and the rest of the business of Euros 37 million;
 - The sale of the gas business in the United States reduces this item in Euros 31 million;
 - The rest of the new investments, networks in Spain, the United States, Brazil and Mexico increase amortization by 49 million euros.
- The Provisions represent Euros 69 million decreasing Euros 1,154 million compared to 2017. Additionally, as well as the impact of exchange rates improves in Euros 89 million and the integration of Neenergy amounting to Euros 212 million, the main impacts explaining the variation are:
- Provision derived from the classification of the gas business in the United States and Canada as held for sale in an amount of Euros 743 million;
 - Reorganisation of the goodwill of the renewables business in the United States as a result of the tax reform amounting to Euros 450 million;
 - The remaining Euros 39 million is the net effect of several less significant provisions and reversals.

2.3.1.4. Net finance cost

The net finance cost was Euros -1,156 million, Euros 219 million higher than in 2017, 23% lower compared to 2017 mainly due to the restructuring of our business in Brazil.

Average cost stands at 2.97% (2.91% in 2017).

Miles de euros	2018	2017	charge
Debt profit	(913)	(920)	7
Impact IFRS 9	(35)	-	(35)
Differences derivatives exchange rates and other	36	68	(32)
Restructuring Brazil	(245)	(86)	(159)
Total	(1,156)	(937)	(219)

The main items that explain the variation are:

- The reduction of financing costs, as a result of optimising and diversifying sources of financing, has contributed to better debt which has more than offset the raise in average balance of Euros 1,150 million (excluding Neoenergia) due to investment effort.
- The reinterpretation of IFRS 9, which reflects the highest interest rate of financial liabilities amended but not in a material manner compared to 2017, has resulted in a loss of Euros 35 million.
- The positive profit of derivatives and others is reduced in Euros 33 million mainly due to the performance of net revenue hedges on the main currencies. Its impact is offset in operating result.
- Last, the consolidation of Neoenergia for a whole year, as a result of the restructuring in Brazil, compared to the four months in the previous year, has worsened profit in Euros 158 million.

2.3.1.5 Profit/loss of equity-accounted investees

Profit/loss of equity-accounted investees amounted to Euros 56 million, of which Euros 31 million correspond to the sale of Tirme.

2.3.1.6 Gains on disposal of non-current assets

Gains on disposal of non-current assets amounted to Euros 9 million, down Euros 270 million compared to 2017 (Euros 279 million). The Siemens-Gamesa merge and the company reorganisation in Brazil occurred in 2017 have an impact on the comparative information.

In 2018 the most significant transactions were as follows:

- The sale of the gas business in the United States and of 80% of the interest in Coyote Ridge Wind LLC resulted in gross losses of Euros 37 million.
- The sale of IBERDROLA Energía Solar de Puertollano, S.A. and of Scottish Power Generation Limited resulted in gross gains of Euros 38 million.
- The profit of intangible assets resulted in gross gains of Euros 8 million.

2.3.1.7 Net profit

Net income rose to Euros 3,014 million, Euros 210 million more than in the prior year, as a result of:

- Corporate tax costs stood at 959 million, an increase of Euros 2,357 million as a result of:
 - o Reductions to nominal rates compared to the previous year in America and companies in the Bizkaia tax system in Spain, as well as greater contribution in terms of income from the United Kingdom, where the nominal rate is below average, reduced the Group's average effective ordinary tax rate (from 26.3% in 2017 to 23.6% in 2018). The overall effect of this was an increase in corporate tax expenditure for the year of 192 million.
 - o The effect of the 2017 tax reforms in the US and the fiscal effect of the associated write-offs meant a tax revenue of 2.026 billion euros and 225 million respectively

- Other less significant effect improved corporate tax expenditure by Euros 87 million.
- Non-controlling interests stemming from the integration of NEOENERGIA, improved results in the US and increased funding through hybrid loans stood at 323 million.
- Discontinued operations saw a loss of Euros 51 million.

2.4 Operating performance of the period

2.4.1 Networks business

A. Spain

IBERDROLA has approximately 11 million managed supply points and total distributed energy 93,897 GWh, an increase of 0,7%% compared to the same period of the previous year (93,289 GWh in 2017).

The TIEPI (continuity of supply indicator) for 2018 was 44.6 minutes, an improvement of 15.37% on the previous year (52.70 minutes in 2017).

The table shows the values of the TIEPI (interruption time in minutes), the lowest in the last years, and NIEPI (number of interruptions in number) in relation to the previous year:

Year	Accumulated TIEPI	Accumulated NIEPI
2017	52.70	1.14
2018	44.6	0.91

The STAR project for the rollout of smart meters has been completed. IBERDROLA has installed more than 10.8 million digital meters and adapted the infrastructure that supports them to a smart grid, which represents a modernisation of the company's meter pool in Spain.

In July works for the first 2 MWh batteries storage system for the distribution grid in Caravaca de la Cruz commenced. This system will guarantee supply in the in case of breakdown, improve power control and facilitate the integration of distributed renewable generation.

B. United Kingdom

IBERDROLA has more than 3.5 million supply points in the United Kingdom. The volume of energy distributed during 2018 was 32,460 GWh (32,772 GWh in 2017), a decrease of 1% compared to 2017

All quality of service indicators, the average Customer Minutes Lost (CML) and the number of consumers affected by interruptions per every 100 customers (Customer Interruptions, CI) have been as follows:

	2018		2017	
	CML	CI	CML	CI
Scottish Power Distribution (SPD)	49.4	35.9	29.4	40.7
Scottish Power Manweb (SPM)	34.7	35.3	33.2	29.6

C. United States

- Distribution

In the United States IBERDROLA has 2.2 million electricity supply points. The volume of energy distributed in the year was 37,336 GWh, which represents an increase of 2.0% compared to 2017 (36.591 GWh).

The System Average Interruption Frequency Index (SAIFI) and the Customer Average Interruption Duration Index (CAIDI) are as follows:

	2018		2017	
	SAIFI	CAIDI	SAIFI	CAIDI
Central Maine Power (CMP)	* 1.24	* 2.14	* 1.61	* 1.83
NY State Electric & Gas (NYSEG)	* 0.84	* 2.07	* 1.20	–
Rochester Gas & Electric (RG&E)	* 0.54	* 1.85	* 0.55	* 1.77
United Illuminating Company (UI)	* 0.50	* 1.54	* 0.41	* 1.36

The whole area of energy distribution in US has suffered the impact from heavy storms in winter and spring that battered the east coast of North America, affecting quality indicators.

In Maine, a violent windstorm in April left tens of thousands of Central Maine Power customers without electricity, hitting supply indicators compared to 2017. CMP was praised for its extraordinary response to further heavy storms in October last year, receiving the Edison Electric Institute's EEI Emergency Recovery Award for the seventh consecutive occasion. This award recognises the great effort that companies make to restore the power supply as swiftly as possible in the face of inclement weather conditions and natural disaster.

In Connecticut, UIL's quality indicators for its distribution business were adversely affected by a grid incident which coincided with equipment renewal in the same area.

In March, the New England Clean Energy Connect project presented by Avangrid, CMP and Hydro-Québec, was chosen as the best way to supply clean energy to Massachusetts. With an investment of 950 million dollars, the project involves the construction of a 233-kilometre HVDC transmission line between Canada and New England, supplying 1,200 MW of 100% hydroelectric energy to customers in Massachusetts for twenty years. In 2018 the project sought to obtain the required permits in order to begin construction in 2019. The majority of these permits have been applied for, with only local and municipal approval still pending, meaning that construction work is expected to start on schedule.

- Gas

At the end of 2018 there are slightly more than 1 million gas users in the United States who have been supplied with 59,301 GWh, a 15.3% increase compared to the previous year (51,440 GWh).

D. Brazil

The demand of distributors in Brazil in 2018 increased by 2.3% to 56,760 GWh (55,510 GWh in 2017).

Energy distributed (GWh) 100% of business	2018	2017	% Change
COELBA	20,133	19,679	2.3
COSERN	5,704	5,623	1.4
CELPE	13,777	13,512	2.0
ELEKTRO	17,146	16,696	2.7
Total	56,760	55,510	2.3

The number of customers served by the distributors at the end of the year amounts to 13.8 million.

Number of customers (million) 100%	2018	2017
COELBA	6.0	5.9
COSERN	1.4	1.44
CELPE	3.7	3.6
ELEKTRO	2.7	2.6
Total	13.8	13.5

2.4.2 Liberalised business

A. Spain and Portugal

A.1. Generation

Installed capacity in Spain (not considering renewables) totals 10,032 MW, with no variations compared to 2017 (10.032 MW).

Power per technology (MW)	2018	2017	Change
Nuclear	3,166	3,166	–
Coal-fired thermal	5,694	5,694	–
Gas combined cycles	298	298	–
Cogeneration	874	874	–
Total	10,032	10,032	–

In 2018 net production decreased by 2.39% to 31,139 GWh. Trends in the year by technologies are as follows:

Net production (GWh)	2018	2017	% Change
Nuclear	23,419	23,190	1.0
Gas combined cycle	3,996	3,884	2.9
Cogeneration	2,108	2,163	(2.5)
Coal-fired thermal	1,616	2,665	(39.4)
Total	31,139	31,902	(2.39)

- Nuclear production stands at 23,419 GWh, up 1%.
- Thermal power stations produced 2,108 GWh, compared to 2,163 GWh in the previous year, representing a reduction of 2.5%.
- Production of combined cycles increased their production by 39.4%, to 1,616 GWh.

A.2 Supply

Supplied energy (electricity and gas) in Spain amounted to 66,836 GWh for electricity (63,083 GWh in 2017), 55,882 GWh of electricity and 10,954 GWh of gas.

Electricity sales on the free market in 2018 increased by 2.1% to GWh up to 48,448 GWh compared to 47,455 GWh supplied in the same period of 2017. Electricity supplied at the voluntary price for small consumers ("PVPC") amounted to 7,435 GWh.

Gas supplied in the free market in 2018 increased by 38.2% to GWh compared to 10,867 GWh supplied in 2017.

International retail (Portugal, Italy, France and Germany, mainly) IBERDROLA supplied 9,225 GWh during 2018, compared to the 7,587 GWh supplied in 2017, and was the second-ranking seller in the medium voltage industrial clients segment.

B. United Kingdom

B.1. Generation

Generation capacity has been sold to Drax. Therefore, at 31 December 2018 installed capacity in the UK is only renewable, although the year's output up until the moment of sale was managed by the Group. In 2018 output dropped by 23.2% to 5,453 GWh, compared to 7,100 GWh. The market share of the generation business in 2018 maintained similar levels to the previous years of 4%:

UK production (MW)	2018	2017	% change
Gas combined cycles	5,453	7,100	(23.2)
Total	5,453	7,100	(23.2)

B.2. Supply

Regarding sales, during 2018 customers were supplied with 20,008 GWh of electricity and 27,773 GWh of gas (21,591 GWh of electricity and 29,514 GWh of gas supplied during 2017). SCOTTISH POWER had 3 million electricity customers and 2 million gas customers at 31 December 2018.

C. Mexico

IBERDROLA is the leading private producer in the Mexico with installed capacity of 5,985 MW (5,832 MW in 2017). Highlights are the entry into commercial operation of Altamira (Dynasol) (57 MW) and Bajío (50 MW) cogeneration plants and the extensions of 23 MW to the California and to the MXL de Monterrey III, plants, contributing more than 21 MW extra to the plant for sale to private customers.

Currently the following cogeneration cycle plants are under construction and in the case of Topolobambo III is expected to be commissioned in 2019 and 2020:

Projects	MW
Escobedo	857
Topolobambo II	887
El Carmen	842
Topolobambo III	766
Combined cycle	3,352

The electricity supplied from the combined cycle and cogeneration plants amounted to 40,227 GWh (40,891 GWh in 2017), representing a load factor of 80%, as generation with natural gas is the basis of electricity generation in Mexico. Cumulative availability of the plants in Mexico has been 97%.

D. Brazil

Brazil's generation power corresponds to the gas combined cycles Termopernambuco is 533 MW, whose production peaked in 2018 to 3,986 GWh.

2.4.3. Renewable business

At the end of 2018, the Renewables business had an installed capacity of 26,794 MW (26,951 MW in 2017).

Renewable production increased by 8.4% to 136,737 GWh (126,198 GWh in 2017).

In the last 12 months, IBERDROLA has increased its power by 456 MW and sold the hydraulic plants in the United Kingdom (563 MW) in the transaction with Drax already commented, and the solar plant of Puertollano (50 MW).

MW installed	2018	2017	MW change
Onshore wind	15,251	15,032	219
Spain	5,526	5,508	18
UK	1,891	1,891	–
US	6,305	6,145	160
Mexico	408	367	41
Brazil	516	516	–
RoW	605	605	–
Offshore wind	544	544	–
UK	194	194	–
RoW	350	350	–
Hydroelectric	10,607	11,170	(563)
Spain	10,016	10,016	–
UK	–	563	(563)
Brazil	591	591	–
Other technologies	392	205	187
Total	26,794	26,951	(157)

A. Onshore wind energy

In the last 12 months, the performance, IBERDROLA's installed capacity by country is as follows:

- In Spain, the Chimiche II wind farm (18 MW)
- In the United States, 162 MW were added as a result of the purchase of 50% in Colorado Green, consolidated as global, and the retirement of 2MW of the Peñascal II wind farm.
- In Mexico the 39 MW of PIER II are added and 2 MW of the Santiago wind farm were commissioned.

Regarding ongoing and approved projects:

- In Mexico construction work continues on two wind farms – Santiago (105 MW in total) and Pier (220.5 MW), of which 39 MW has been handed over. In addition, approval has been granted to the building of a 105 MW onshore wind facility at Santiago, in the state of San Luis de Potosí. Work began in April 2018 and is expected to conclude sometime this year.
- In the United States, work has started on the Montague wind farm (201 MW) in Oregon, at Otter Creek (158.2 MW) in Illinois, at the Karankawa (288 MW) project in Texas, at the Tatanka (97 MW) and La Joya (166 MW) projects in South Dakota and New Mexico and at the Patriot facility in Texas (226 MW).
- In Brazil the construction of total de 15 wind-power projects totalling 472 MW has been green lighted in Paraíba state.
- Meanwhile, in Greece, approval has been given to the building of a 16 MW-onshore wind facility at Pyrgari.

B. Offshore wind energy

IBERDROLA has two offshore wind farms operating with 544 MW, West of Duddon Sands in the United Kingdom, located in the Irish Sea, with an attributable installed capacity of 194 MW and Wikinger in Germany with 350 MW.

Currently, offshore wind projects mainly in the United Kingdom, the United States, Germany and France are being developed.

- In the United Kingdom the East Anglia project in the North Sea. East Anglia 1 (714 MW) is under construction.
- In the United States with the acquisition of 50% of the company Vineyard Wind, owner of the rights to a wind farm off the coast of Massachusetts, with a generation potential of 3 GW. The wind farm will start its construction phase in 2019 and it is expected that 400 MW will come into operation by the end of 2021 and the remaining 400 MW by the second half of 2022. This way Vineyard Wind will become the first large scale US offshore wind farm.
- Also in the United States, with the award of the rights to develop another project under the name Kitty Hawk, off the coast of North Carolina, with a potential generation capacity of 2.5 GW.
- In Germany, in April 2018, IBERDROLA took part in the offshore wind tender and presented offers for its projects Baltic Eagle, Wikinger Süd and Windanker. IBERDROLA was awarded 476 MW in Baltic Eagle and 10 MW in Wikinger Süd, whose commissioning is expected in 2023.
- In France, the offshore wind farm Saint-Brieuc, of 496 MW of capacity. The project has stated its geotechnical studies which are currently under way as the first construction milestone.

The project is moving forward in order to commence the marine works in 2018, starting with the foundation works by Van Oord, and continuing with the installation of the marine substation by Seaway Heavy Lifting, and the installation of the marine cabling, for its connection with the terrestrial substation, by Nexans and DeepOcean. Siemens Gamesa will manufacture and install the 102 units of 7MW turbines, installation of which is expected to begin in mid-2019.

C. Other technologies

The Renewables business has facilities of other renewable technologies in various countries whose breakdown is presented in the following table:

MW installed	2018	2017	change
Mini-hydroelectric special regime	130	130	0
Mini-hydroelectric ordinary regime	171	171	0
Solar thermal hybrid	–	50	-50
Photovoltaic	392	155	237
US	116	106	10
Mexico	270	43	227
Greece	6	6	0
Total	693	506	187

The evolution of installed capacity in the year is as follows:

- In the United States, the solar photovoltaic plant of W'y East (10 MWn) has been commissioned in Oregon and
- In Mexico 227 MWn were commissioned with the solar photovoltaic plants of Santiago (150 MWn) in San Luis de Potosí and Hermosillo (77 MWn) in Sonora.
- In Spain the hybrid solar thermal plant of Puertollano of 50 MWn has been sold.

Among photovoltaic projects the following should be highlighted:

- In Spain, the photovoltaic plant of Núñez de Balboa with a capacity of 391 MWn in Badajoz, and
- In Mexico the construction of Hermosillo of a total 100 MWc is under way, of which 77 MWn are already in operation. Moreover, the following two photovoltaic projects have been approved: Cuyoaco, of 200 MW in the State of Puebla, and Apaxco, of 190 MW in the State of México, whose construction works are expected to start in the first half of 2019.

3. LIQUIDITY AND CAPITAL

3.1. Leverage

Gross financial debt as of 31 December 2018 increased by 1.315 billion euros to 34.199 billion euros compared to Euros 32,884 million as of 31 December 2017, mainly as a result of the integration of Neoenergía, which accounts for an increase of Euros 2,817 million, and investments made over the year. As a result, financial leverage rose to 43.7% compared to 43.5% for the previous year (see Note 24).

IBERDROLA has a varied debt maturity profile, with an average maturity of six years, mainly as a result of the active management of liabilities carried out during this financial year.

3.2. Credit rating of IBERDROLA senior debt

Agency ratings are as follows:

Agency	Long-term ⁽¹⁾	Outlook	Date
Moody's	Baa1	Stable	14/03/2018
Fitch	BBB+	Stable	08/07/2016
Standard & Poors	BBB+	Stable	22/04/2016

(1) The above ratings may be revised, suspended or withdrawn by the rating agency at any time

3.3. Debt structure

At 31 December 2018 the Company's borrowings costs stood at 2.97% compared to 2.91% in the same period of the previous year (Note 27).

The debt structure by interest rate and currency is presented in notes 4 and 27 of the consolidated annual accounts.

In accordance with the policy of minimising the financial risks of the Company, foreign currency risk has continued to be mitigated through the financing of international businesses in local currencies (Pound Sterling, Brazilian Real, US Dollar, etc.) or in their functional currencies (US dollar, in the case of Mexico).

IBERDROLA has a strong liquidity position at the end of 2016 exceeding Euros 13.012 million (Note 4).

IBERDROLA presents a comfortable profile of debt maturities, with more than six years of average debt life. IBERDROLA's debt maturity profile at the end of 2018 can be seen in note 27 of the consolidated annual accounts.

3.4. Working capital

Working capital has increased by Euros 52 million since December 2017 as a result mainly due to several different effects which partially offset one another:

- An increase in working capital as a result of an increase in inventories.
- A decrease of Euros 428 million in working capital associated with assets held for sale, in the gas business in the United States and Canada.
- Other assets of lesser amounts

Millions of Euros	31.12.2018	31.12.2017	Change
Assets held for sale	62	356	(294)
Nuclear fuel	273	332	(59)
Inventories	2,174	1,870	304
Trade and other accounts receivables	6,855	6,721	134
Current investments	572	601	(29)
Asset derivative financial instruments ⁽¹⁾	225	175	50
CURRENT ASSETS	10,160	10,055	106
Liabilities linked to assets held for sale	1	135	(134)
Provisions	580	627	(47)
Liability derivative financial instruments ⁽²⁾	209	136	73
Trade and other payables	8,476	8,422	54
Current liabilities	9,266	9,320	(54)
NETWORKING CAPITAL	894	735	52

(1) Not including cash and cash equivalents or debt derivative assets (note 20)

(2) Not including financial debt or debt derivative liabilities (note 20)

4 MAIN RISKS AND UNCERTAINTIES

4.1 Risk management system

The IBERDROLA Group is exposed to various inherent risks in the different countries, industries and markets in which it operates and through the businesses it carries out, which could prevent it from achieving its objectives and executing its strategies successfully.

The Company's board of directors, aware of the importance of this matter, has undertaken to develop its capabilities to ensure that the risks relevant to all of the Group's activities and businesses are appropriately identified, measured, managed and controlled, and has established, through the Group's general risk control and management policy, the basic mechanisms and principles necessary for the appropriate management of risk-opportunity with a level of risk that enables it to:

- attain the strategic objectives defined by the Group while controlling volatility;
- provide the maximum level of assurance to the shareholders;
- protect the results and reputation of the Group:
- defend the interests of shareholders, customers, other groups interested in the progress of the Company, and society in general, and
- ensure corporate stability and financial strength in a sustained fashion over time.

For the implementation of the aforementioned commitment, the board of directors and its Executive Committee have the cooperation of the Audit and Risk Supervision Committee, which, as a consultative body, monitors and reports on the appropriateness of the system for assessment and internal control of significant risks, acting in coordination with the audit committees existing at other companies of the Group.

All actions aimed at controlling and mitigating risks shall conform to the following basic action principles:



- a) Integrate the risk-opportunity vision into the Company's management, by defining the strategy and risk appetite and incorporating this variable into strategic and operating decisions.
- b) Segregate duties, at operating level, between risk-taking areas and areas responsible for the analysis, control and monitoring of such risks, ensuring an appropriate level of independence.
- c) Guarantee the proper use of risk-hedging instruments and the maintenance of records thereof as required by applicable legislation.
- d) Inform regulatory agencies and the principal external players, in a transparent fashion, regarding the risks to which the Group is exposed and the operation of the systems developed to monitor such risks, maintaining suitable channels to favour communication.
- e) Ensure appropriate compliance with the corporate governance rules established by the Company through its corporate governance system and the update and continuous improvement of that system within the framework of the international best practices as regards to transparency and good governance, and implement the monitoring and measurement thereof.
- f) Act at all times in compliance with the law and the Company's Corporate Governance System and, specifically, with due observance of the values and standards of conduct set forth in the Code of Ethics and the principles and best practices contained in the Corporate Fiscal Policy, under the principle of zero tolerance as regards the unlawful acts and fraud situations included in the *Prevention of Fraud and Crimes Policy*.

The *General Risk Control and Management Policy* and the basic principles underpinning it are implemented by means of a comprehensive risk control and management system, supported by the Group's Risk Committee and based upon an appropriate definition and allocation of duties and responsibilities at operating level and upon suitable procedures, methodologies and tools for the different stages and activities of the system, including the following:

- a) The establishment of a structure of policies, guidelines, and limits, as well as of the corresponding mechanisms for the approval and implementation thereof, which effectively contribute to risk management being performed in accordance with the Company's risk appetite.
- b) The ongoing identification of significant risks and threats in accordance with their possible impact on key management objectives and the annual accounts (including contingent liabilities and other off-balance risks).
- c) The analysis of such risks, in each corporate business or function and taking into account their combined effect on the Group as a whole.
- d) The measurement and control of risks, by following consistent procedures and homogeneous standards that are common to the Group as a whole.
- e) The analysis of risks associated with new investments, as an essential element of decision-making based upon risk/return.
- f) The maintenance of an internal control system to monitor compliance with policies, guidelines, and limits, by means of appropriate procedures and systems, including the contingency plans needed to mitigate the impact of the materialisation of risks.

- g) The periodic monitoring and control of risks that could have a significant impact on the income statement, in order to control the volatility of the Group's profit or loss for the year.
- h) The ongoing evaluation of the suitability and efficiency of applying the system and the best practices and recommendations as regard risks for their possible inclusion in the model.
- i) The audit by the Internal Audit Division of the comprehensive risk control and management system.

In addition, the General Risk Control and Management Policy is further developed and supplemented through the policies listed below which are also subject to approval by the Company's board of directors:

a) Corporate risk policies:

- Corporate credit risk policy.
- Corporate market risk policy.
- Operational Risk in Market Transactions Policy.
- Insurance Policy.
- Investment Policy.
- Financing and Financial Risk Policy.
- Treasury Share Policy.
- Risk Policy for Equity Interests in Listed Companies.
- Reputational Risk Framework Policy.
- Procurement Policy.
- Information Technology Policy.
- Cybersecurity Risk Policy.

b) Specific risk policies and limits for the various businesses of the Group:

- Risk policy for the Generation and Supply business of the IBERDROLA Group.
- Risk policy for the Renewables business of the IBERDROLA Group.
- Risk policy for the Networks business of the IBERDROLA Group.
- Risk Policy for the Real Estate business of the IBERDROLA Group.

The *General Risk Control and Management Policy*, as well as a *Summary of the Corporate Risk Policies* and a *Summary of the Specific Risk Policies* for the various Group businesses, are available on the corporate website (www.IBERDROLA.com).

In order to align the risk impact with the established risk appetite, the Executive Committee of the board of directors, acting at the proposal of the business or corporate divisions involved and upon a prior report from the Group's Risk Committee, annually reviews and approves specific guidelines regarding the Group's risk limits in the Corporate Risk Policies.

Subholding companies are responsible for adopting the Group's risk policies and specifying their application, approving the guidelines regarding specific risk limits, in accordance with the characteristics and unique features of the businesses in each country. They shall also implement, within their areas of activity, the control systems required for their compliance.

Listed subholding companies and those with significant minority interests, by virtue of their own special autonomy framework have their own risk policies approved by the competent bodies, aligned with those of IBERDROLA group.

The risk factors to which the Group is generally exposed are listed below:

- a) Corporate governance risks: the Company assumes the need to safeguard corporate interests and to maximise, on a sustained basis, the economic value of the Company and its long-term success, in accordance with the Group's corporate interest, culture and corporate vision, taking into consideration the legitimate public and private interests that converge in the conduct of all business activities, particularly those of the various stakeholders, communities and regions in which the Company and its employees act. A fundamental requirement for the foregoing is compliance with the Company's Corporate Governance System, made up of the *By-Laws, the Mission, Vision and Values of the IBERDROLA Group, the Code of Ethics, the Corporate Policies*, the corporate governance rules, and other internal functions and committees and compliance. Every rule has been approved by the competent decision-making bodies of the Company and is inspired by the good governance recommendations generally acknowledged in international markets.
- b) Market risks: defined as the exposure of the Group's results and equity to changes in market prices and variables, such as exchange rates, interest rates, electricity and commodity prices (gas, CO2 emission allowances, other fuel, other mechanisms to promote renewables, etc.), prices of financial assets and others.
- c) Credit risks: defined as the possibility of a counterparty failing to meet its contractual obligations, thus causing an economic or financial loss to the Group, including liquidity risks and replacement costs. Counterparties can be end customers, counterparties in financial or energy markets, partners, suppliers, or contractors.
- d) Business risks: defined as the uncertainty regarding the performance of key variables inherent in the business, such as the characteristics of demand, weather conditions, the strategies of different players.
- e) Political and regulatory risks: defined as those arising from regulatory changes made by the various regulators, such as changes in compensation for regulated activities or in the required conditions of supply, or environmental or tax regulations, including risks related to political changes that could affect legal certainty and the legal framework applicable to the Group's businesses in each jurisdiction, the nationalisation or expropriation of assets, the cancellation of operating licences and the early rescission of government contracts.



- f) Operational technological, environmental, corporate and legal risks: defined as those related to direct or indirect economic losses resulting from external events, inadequate internal procedures, technical failures, human error and/or fraud, including those associated with climate change, information technology and cybersecurity, and the risk of technological obsolescence.
- g) Reputational risks: the potential negative impact on the value of the Company resulting from conduct on the part of the Company that does not meet the expectations of the different stakeholders defined in the Stakeholder Relations Policy.

Owing to its universal and dynamic nature, the system allows for the consideration of new risks that may affect the Group as a result of changes in its operating environment or revise of objectives and strategies, as well as adjustments resulting from ongoing monitoring, verification, review and supervision activities.

The audit and risk supervision committee of the board of directors periodically monitors the trends in the Company's risks:

- It reviews the Group's quarterly risk reports, which include monitoring compliance with risk limits and indicators and updated key risk maps, submitted by the Group's director of corporate risks.
- It coordinates and reviews risk reports sent periodically, at least half-yearly, by the audit and compliance committees of the main subsidiaries of the Group, including the subholding companies of the main countries where the Group operates, which are used, together with the risk director's input, to prepare a risk report for the board of directors at least every half-year.

For further details, see section E "Risk management and control systems" of the Corporate Governance Report for 2018 and the Risks section included in the Integrated Report dated February 2019.

4.2. Credit risk

The IBERDROLA Group is exposed to credit risk arising from the possibility of counterparties (customers, suppliers, financial institutions, partners, etc.) failing to comply with contractual obligations. This exposure may arise with regard to unsettled amounts, the cost of replacing products that are not supplied, as well as, in the case of plants, that supply one customer, amounts on which depreciation is pending, for those plants.

Credit risk is managed and limited in accordance with the type of transaction and the credit worthiness of the counterparty. A specific corporate credit risk policy is in place which establishes criteria for acceptance, approval systems, authorisation levels, scoring tools, exposure measurement methodologies, etc.

With regard to credit risk on trade receivables for electricity and gas sales, the cost of defaults has remained moderate and stable at close to 1% of total turnover of this activity, despite the difficult economic environment in recent years.

4.3. Financial risk

4.3.1. Interest rate risk

The IBERDROLA Group is exposed to the risk of fluctuations in market interest rates affecting cash flows and the market value of debt in respect of items in the balance sheet (debt and derivatives). In order to adequately manage and limit this risk, the IBERDROLA Group determines the required proportion of fixed and variable debt annually and establishes the actions to be carried out throughout the year: new sources of financing (at a fixed, floating or indexed rate) and/or the use of interest rate derivatives.

The reference interest rates for floating rate borrowings are basically market rates: primarily Euribor, Libor-Pound Sterling, Libor-Dollar, and the CDI in the case of the Brazilian subsidiaries' debt.

Additionally, as of 31 December 2018 the IBERDROLA Group has arranged future funding derivatives for a notional amount of Euros 4,642,000 thousand, which help to mitigate the interest rate risk.

The Group's debt structure at 31 December 2018, after considering hedging derivatives, and sensitivity to an increase in interest rates are included in the note 4 to the consolidated annual accounts.

Bearing in mind the composition of the IBERDROLA Group's debt at the end of the financial year, between fixed and variable interest rates, and assuming it remains constant in the future, the impact on the income statement of a potential increase of 25 basis points (0.25%) in the reference rates referred to in the foregoing paragraph would be Euros 45 million (increased finance income).

4.3.2. Foreign currency risk

As the IBERDROLA Group's presentation currency is the Euro, fluctuations in the value of the currencies in which borrowings are arranged and transactions are carried out with respect to the Euro, mainly the Pound Sterling, the US Dollar and the Brazilian Real, may have an effect on the finance costs, profit and equity of the Group.

The following items could be affected by currency risk:

- Proceeds and payments for supplies, services or the acquisition of capital goods in currencies other than the local or functional currency.
- Income and expenses incurred by certain foreign subsidiaries indexed to currencies other than the local or functional currencies.
- Debt and finance cost denominated in currencies other than the local or functional currency.
- Profit or loss on consolidation of foreign subsidiaries.
- Consolidated net value of investments in foreign subsidiaries.
- Tax expense in Mexico owing to the functional currency (US Dollar) being different from the currency used to calculate corporate income tax (Mexican peso).

The IBERDROLA Group mitigates this risk by:

- Ensuring that all its economic flows are carried out in the functional currency of each Group company whenever possible and economically viable and efficient or using derivatives if not.
- Hedging the risk of transferring forecast earnings for the current year, insofar as possible, thereby limiting the ultimate impact on Group earnings
- Hedging the currency risk on corporate income tax in Mexico, insofar as possible, thereby limiting the overall impact on the earnings of Mexico and of the Group.
- Mitigating the impact on the consolidated net asset value of a hypothetical depreciation of currencies due to Group's investments in foreign subsidiaries, by maintaining an appropriate percentage of debt in foreign currency and by arranging derivatives.

The sensitivity of the consolidated profit and equity of the IBERDROLA Group to fluctuations in the US Dollar/Euro, Pound Sterling/Euro and Brazilian Real/Euro exchange rates is as presented in note 4 to the consolidated annual accounts. Detailed information on debt by currency can be seen in note 27 to the consolidated annual accounts.

In accordance with the breakdown by currency of the finance costs in 2018 and assuming it remains constant in the future, a 5% appreciation of the main currencies would have a negative impact on the income statement of Euros 2.7 million (increased consolidated finance income in euros).

4.3.3. Liquidity risk

Exposure to adverse situations in the debt or capital markets or in relation to the IBERDROLA Group's own economic-financial position may hinder or prevent the IBERDROLA Group from obtaining the financing required to properly carry on its business activities.

The IBERDROLA Group's liquidity policy is designed to ensure that it can meet its payment obligations without having to obtain financing under unfavourable terms. For this purpose, various management measures are used such as the arrangement of committed credit facilities for a sufficient amount, term and flexibility, diversification of the coverage of financing needs through access to different markets and geographical areas, and diversification of the maturities of the debt issued.

The combined balances of cash, liquid assets and available committed credit facilities are sufficient to meet the Group's forecast liquidity needs in a risk scenario for more than 18 months, without the need to source new financing.

The figures relating to changes in the Company's debt are included in notes 27 and 51 to the Consolidated annual accounts and additional information is also provided in Note 4 of the Consolidated annual accounts.

4.4. Country risk

All international activities of the IBERDROLA Group are exposed to a greater or lesser extent and depending on their characteristics, to the risks inherent to the country in which they are conducted:

- Imposition of monetary limitations and other restrictions on the movement of capital.
- Changes in the trade environment and administrative policies.

- Economic crises, political instability and social unrest affecting operations.
- Nationalisation or expropriation of assets.
- Exchange rate fluctuations.
- Cancellation of operating licences.
- Early termination of government contracts.
- Regulatory changes.

The results of our international subsidiaries, their market value and their contribution to the Group may be affected by such risks.

The IBERDROLA Group's main operations are concentrated in Spain, the United Kingdom, the United States, Brazil and Mexico, countries with low or moderate risk, whose credit ratings at 31 December 2018 are as follows:

Country	Moody's	S&P	Fitch
Spain	Baa1	A-	A-
United Kingdom	Aa2	AA	AA
United States	Aaa	AA+	AAA
Brazil	Ba2	BB-	BB-
Mexico	A3	BBB+	BBB+

Presence in countries other than those mentioned above is not significant at Group level from an economic point of view.

Note 5.c in these consolidated annual accounts include information regarding the potential impact of Brexit on IBERDROLA Group.

4.5. Activity risks

The Group has presence in the regulated businesses of electricity transmission and distribution sector in Spain, the United Kingdom, the United States (through Avangrid) and Brazil (through Neenergia). In the United States, the Group also has presence in the natural gas distribution sector.

IBERDROLA operates in the renewables industry sector carried out in Spain, the United States (through Avangrid), the United Kingdom, Mexico and Brazil (through Neenergia) and other European countries.

Last, IBERDROLA operates in the thermal generation sector in Spain, Mexico and Brazil (through Neenergia) and electricity and gas retail in Spain, the United Kingdom and to a lesser degree in Brazil (through Neenergia) and other European countries.

The activities of the different businesses conducted by the IBERDROLA Group are exposed to various risks including market, credit, operational, business, regulatory and reputational risks arising from uncertainty in the main variables by which they are affected. Section 4.6 addresses the operational risks associated to the Group's three main businesses.

4.5.1. Regulatory and political risks

Regulated and liberalised businesses in the IBERDROLA Group are subject to laws and regulations concerning tariffs and other regulatory aspects of their activities in each of the countries in which they operate. The introduction of new laws and regulations or amendments to the existing ones may have an adverse effect on our operations, annual results and the economic value of our businesses.

The following sections summarise the regulatory frameworks in force in the main markets where the Group operates, as well as the array of new regulatory measures approved in 2019 or expected to be developed in 2019.

4.5.2. Networks business risk

The regulations of each country in which the IBERDROLA Group's networks businesses operate establish regularly revised frameworks to guarantee reasonable and predictable returns for these businesses. These frameworks include incentives and penalties for efficiency, service quality and, where applicable, for default management, which have a minor, immaterial impact overall. Any significant structural changes to the aforementioned regulations may represent a risk for these businesses.

In general, the profitability of the IBERDROLA Group's networks businesses is not exposed to demand risk, except for the Brazilian subsidiaries.

The IBERDROLA Group's networks businesses in Spain and in the United Kingdom do not sell energy and are not exposed to any market risks associated with energy prices.

The Group's networks businesses in Brazil and certain networks subsidiaries of Avangrid in the USA sell energy to regulated customers at previously determined tariffs. Assuming prudent procurement management in line with each regulator's specifications, the regulatory frameworks in both countries guarantee sums will be collected in subsequent tariff readjustment reviews in the event of deviations in purchase prices with respect to those previously stipulated in the tariff.

Given the above, in the case of extraordinary events (extreme drought in Brazil, catastrophic storms in the USA, etc.), occasional temporary imbalances between payments and collections may arise with an impact on the cash flows of some of these businesses and potentially on profits recognised under IFRS.

– **Networks in Spain**

The present regulatory model is in accordance with Electricity Industry Law 24/2013 of 26 December, which stipulates six-year regulatory periods and profitability for the distribution activity calculated as the yield on government bonds plus 200 basis points.

Royal Decree 1048/2013 of 27 December establishing the methodology to calculate remuneration for electricity distribution activities defines a methodology in accordance with standard unit costs of investment and operation. Profitability was set at 6.5% for the first regulatory period, which runs until the end of 2019. Fluctuation in the financial remuneration rate used between two consecutive years may not exceed 50 basis points in absolute value.

This methodology is currently under revision:

- During November 2018 the CNMC, Spain's competition authority, published a proposed new methodology in accordance with WACC for calculating the rate of financial remuneration of transmission and distribution activities applicable to the following regulatory period (2020-2025), with a resulting rate of 5.58% at the date of its publication.
- On 11 January 2019 the Spanish government approved the new Royal Decree-law 1/2019 on urgent measures to adapt the powers of the CNMC to the requirements deriving from EU law and thus transferring to the CNMC the powers and responsibilities to determine the remuneration of the electricity and gas transmission and distribution networks to apply from the next regulatory period (2020).

- **United Kingdom Networks**

The group operates in the United Kingdom through its subsidiary Scottish Power Ltd, which manages the following licences:

- SP Distribution PLC (SPD)
- SP Manweb PLC (SPM)
- SP Transmission PLC (SPT)

The framework of remuneration for the electricity transmission and distribution activities in the UK is in accordance with a price control model using a recognised cost of capital (WACC), depreciation of assets and operating and maintenance costs plus an incentive which is obtained if management is better than the regulatory standard, and which the companies retain (in part) in the following tariff revision.

The current regulatory model for SPD and SPM is in accordance with the RIIO ED1 framework, and on the RIIO T1 framework in the case of SPT. The latest tariff review for electricity distributors (RIIO ED1), including SPD and SPM, is valid from April 2015 to April 2023. The SPT review (RIIO T1) is valid from April 2013 to April 2021. Recognised ROE after tax (in real terms) is 6% for SPD and SPM, whereas for SPT it is 7%.

The regulator (OFGEM) also establishes incentives/penalties for safety, environmental impact, consumer satisfaction, social obligations, connections and quality, which could have an effect on the income statement.

In July 2018 the OFGEM published its preliminary report included some of the hypothesis proposed for the next regulatory revision. Companies are expected to present their investment plans in the second half of 2019 and the OFGEM is expected to publish its conclusions in 2020.

- **United States Networks**

The IBERDROLA Group operates in the US through its listed subsidiary Avangrid, which in turn has the following subsidiary networks companies:

- New York State Electric & Gas (NYSEG), New York, with a 3-year rate case valid from 30 April 2016 (base ROE 9% for distribution Electricity).

- Rochester Gas and Electric (RG&E), New York, with a 3-year rate case valid from 30 April 2016 (base ROE 9% for distribution Electricity).
- Central Maine Power (CMP), Connecticut, whose annual rates are in force since 1 July 2014. They may extended for its electricity distribution businesses (base ROE 9.45%) and transmission business (base ROE 10.57%).

Last October, CMP, following the instructions provided by Maine's utilities regulatory commission, started a rate case review.

- United Illuminating (UI), Connecticut, with rates in force since 1 January 2017 for its electricity distribution business (base ROE 9.1%) and transmission business (base ROE 10.57%).
- As well as the following natural gas distribution companies: Maine Natural Gas Corporation (MNG), Connecticut Natural Gas (CNG), Southern Connecticut Gas (SCG) and Berkshire Gas (BG).

Companies that carry out regulated business in the US are exposed to risks associated with the regulations of a number of federal regulatory bodies (FERC, CFTC, DEC) and the different state commissions, responsible for defining the regulatory frameworks of the companies regulated (tariffs and other conditions).

The distributors' tariff plans have been designed to reduce the level of risk to which the business is exposed through mechanisms for deferral, reconciliation and provisions for costs. Regulated distributors pass on the costs of gas and electricity to end customers, thereby mitigating any impacts of fluctuations in demand.

– **Brazilian Networks:**

The IBERDROLA Group operates in Brazil through its listed subsidiary Neoenergía, which in turn has the following subsidiary networks companies:

- Elektro Redes, S.A., operating in the states of Sao Paulo and Mato Grosso do Sul. Rates in force until August 2019 and WACC of 8.09%;
- Companhia de Eletricidade do Estado do Bahia (Coelba), operating in the state of Bahía. rates in force until April 2023 and WACC of 8.09%;
- Celpe Energetica de Pernambuco S.A. (Celpe), operating in the state of Pernambuco. rates in force until April 2021 and WACC of 8.09%; rates in force until April 2021 and WACC of 8.09%;
- Companhia Energética do Rio Grande do Norte (Cosern), operating in the state of Rio Grande do Norte. rates in force until April 2023 and WACC of 8.09%;
- Several transmission assets with their specific regulation.

The Brazilian regulatory framework is in accordance with a price cap system that is revised every four or five years, depending on each company's concession contract and is updated annually by the regulator. Coelba and Cosern have a five-year term and Celpe and Elektro have a four-year term.

Brazilian legislation applicable to regulated electricity distribution business establishes two types of costs: i) "Plot A", which includes the costs of energy, transmission and other obligations and regulatory charges, which can be recovered through tariffs ("pass through") as part of the conditions and limits imposed by ANEEL, and ii) "Plot B", which includes remuneration for investment and the costs of operation and maintenance (calculated using a reference model that compares all distribution companies in the country and determines efficient cost levels, which generates either an incentive or a risk for the investor).

ANEEL also allows for other smaller incentives to minimise default and impairment of quality and customer satisfaction, which could affect the income statement.

Pursuant to current legislation, electricity distribution companies transfer the cost of supplying electricity to the end customer through the regulated tariff, provided the energy contracted is between 100% and 105% of the demand required.

4.5.3. Renewables business

Since 2018 all Group's hydroelectric generation activity has been included in the Renewables business.

The regulations of each country in which the Group operates establish regulatory frameworks aimed at promoting the development of renewable energies in accordance with formulas which may include feed-in tariffs, green certificates, tax deductions or regulated tariffs, which allow investors to obtain a sufficient and reasonable return. Any significant structural changes to the aforementioned regulations could represent a risk for that business.

In addition to the aforementioned regulatory risk, the Group's renewable energy businesses may be exposed to a greater or lesser extent, to Hydraulic wind resource risk and market risk:

- In the medium to long term, years with lower than average water and/or wind resources are offset by years with above-average overall resources.
- The risk of water resources in a given year basically affects the Renewables business in Spain, and to a lesser extent Brazil.
- The risk of wind resources in any given year affects the Renewable Energy Businesses of all countries in which the Group operates. The Group considers that the wind resource risk is mitigated by the large number of wind farms available and their geographical diversification.
- Management of market risk of the Renewables Businesses in Spain, the UK, Brazil and Mexico is transferred to the Generation and Retail Businesses of those countries so that it can be integrated into a single risk position. Management of market risk of the Renewables Business in the US is integrated within the business itself.

- **Renewables Spain**

The Group currently has an installed capacity of renewable energy in Spain of: 5,570 MW through wind power, 9,715 MW through hydroelectric plants and 303 through mini hydroelectric plants. Additional, it is worth mentioning that the 391 MW photovoltaic plant Nuñez de Balboa in Cáceres is under development and that in the north of Portugal the Alto Tamega hydraulic project, with a total capacity of 1,158 MW is being built and that its estimated commissioning date is 2021-2023 (depending on the stage).

Subsequent to the approval of the new regulatory framework (Royal Decree-Law 9/2013 of 12 July 2013, Law 24/2013 of 26 December 2013, Royal Decree 413/2014 of 6 June 2014, Ministerial Order IET/1045/2014 of 16 June 2014 and Ministerial Order ETU/130/2017 of 17 February 2017), all renewable energy generated since 2004 is remunerated at market price plus a feed-in tariff per MW. This guarantees a reasonable regulated return in accordance with a recognised standard investment.

- The reasonable rate of return is calculated on the basis of the yield on 10-year government bonds plus a differential, initially fixed at 300 basic points (equivalent to 7.4% for the initial period of 6 years that ends at the end of 2019);
- At the middle of each 3-year regulatory period different parameters are revised, among them price estimates, and the asset value pending of recovery in accordance with prices observed in the previous 3 years is updated following certain tranches:
- The facilities that began operating in 2003 or before have a null premium, and therefore are fully exposed to market risks.
- On 30 October last the CNMC published a proposed methodology for calculating the rate of financial remuneration for energy generated from renewable sources, co-generation and waste for the second regulatory period 2020-2025, in accordance with the commonly accepted WACC methodology, the resulting value with the information available at that time being 7.09%.
- At the end of December 2018 the Ministry for Ecological Transition published on its website a proposed draft bill which among other things proposed that for renewable installations prior to Royal Decree law 9/2013 the current remuneration of (7.4%) be maintained for the next two six-year regulatory periods.

Large hydroelectric plants generation is not subject to the above mentioned regulation and is exposed to market risk. The lesser or greater availability of hydro resources has an impact on the marginal hour prices of the Spanish electricity system.

Despite having a large water storage capacity Spain, IBERDROLA Group's annual results depend significantly on the rainfall contributions. The changes in output from a dry year to a wet year with respect to the average value can be up to -4,000 GWh in a dry year and +5,000 GWh respectively in Spain, and the variability would be between an estimated Euros -170 and Euros +210 million. In the mid and long-term dry years are offset by wet years.

Lastly, we should highlight Royal Decree law 15/2018, ratified in October by the Spanish Parliament, which includes a set of measures, prominent among which is, in addition to the promotion of renewable energy and greater protection for vulnerable customers, the temporary suspension of the 7% tax on generation. The package also included a reference to a possible future revision of the wholesale generation market.

– **Renewables United Kingdom**

The Group currently has an installed capacity of renewable energy in the UK of 1,906 MW in onshore wind farms and 194 MW in offshore wind farms, operational under current “Renewables Obligation” legislation. Under such legislation, revenues are partially exposed to the risk of the market price for electricity in the UK, as the revenues obtained reflect the price of the energy produced and the sale of Renewables Obligation Certificates (ROCs).

UK regulations impose minimum ROC requirements per MWh sold on electricity suppliers, 10% more than the system envisages producing, and determine the price at which the rest must buy, which in practice amounts to a floor price equal to the price of the ROCs.

Renewable technology plants implemented from 1 April 2017 (those implemented as of 12 May 2016 in the case of onshore wind farms) may avail of the new "Contract for Difference" (CfD) remuneration scheme, which eliminates market risk for 15 years. Such is the case of the East Anglia 1,714 MW offshore plant, currently under construction. Its commissioning date is expected throughout 2019 and 2020 (depending on the stage).

The fixed prices for these projects are established under CfD on a project-by-project basis through public tenders. The counterparty guaranteeing this price, "The Low Carbon Contracts Company", finances its potential payments by imposing a levy on suppliers in accordance with their market share, and therefore credit risk vis-à-vis the counterparty is practically zero.

Additionally, the Group has a 15 MW onshore wind farm in the Republic of Ireland selling at market prices.

– **Renewables United States**

The IBERDROLA Group conducts its renewables business in the US through its listed company Avangrid, which has an installed capacity of 6,466 MW in onshore wind farms, and 129 MW in operational photovoltaic plants and 115 MW in hydroelectric plants.

Approximately 70% of the energy produced is sold on fixed-price long-term contracts with third parties. If hedges of some type are considered, this percentage rises up to 80%. The remaining 20% of the energy produced is sold to the market in more or less short terms.

With electricity prices around USD 30/MWh, a 5% change in prices could give rise to an impact of Euros ±6 million on operating results.

Avangrid is building 988 MW of wind power and is also developing the Vineyard offshore wind farm in the coasts of Massachusetts, in the United States, under a 50% joint venture with a financial partner. The facility will consist of 800 MW and it is expected to be brought into operation in 2021. MHI Vestas Offshore Wind has been selected as preferential supplier for the turbines.

– **Renewables Mexico**

In Mexico the business currently has an installed capacity of 409 MW in wind farms and 270 MW in solar plants, with two sale schemes: a) fixed-price sale to the CFE under a long-term contract and b) sale to third parties with a discount on the official price published by the CFE. In addition, facilities for 326 MW of wind power and is developing several solar projects.

Mexican legislation requires electricity retailers in the free market to present Certificates of Clean Energy (CEL in the Spanish abbreviation) at the end of each year for a percentage which increases over time of their energy sales for the year. The Group's renewable production for the market in Mexico gives rise to these certificates.

– **Renewables Brazil**

In Brazil the business currently has an installed capacity of 516 MW in onshore wind farms, all operating under long-term contracts (PPAs) with a fixed price for the country's distributors. Surpluses and shortfalls in the production contracted with the distributors are settled over periods of four years, and surpluses must be offered and shortfalls purchased at market prices. In addition, 472 MW of wind power are being under development.

Furthermore, in Brazil the Group has 2,419 MW in hydroelectric plants, of which 60% is sold to electricity distribution companies under long term contracts (PPA).

In order to incentivise the execution of new renewable energy projects, Brazilian legislation establishes that free market energy retailers must supply those of their free market customers that consume less than 3 MW entirely with energy from renewable sources ("energía incentivada").

– **Renewables in other countries**

Germany: Wiking offshore wind farm of 350 MW operating since the end of 2017. Pursuant to German regulations, Wiking plant will have a fixed price for the energy it produces over the first 15 years of operation on a CfD contract, similar to the aforementioned setup for East Anglia 1.

Other European countries: the IBERDROLA Group currently has an onshore installed capacity of 605 MW in wind farms and 6 MW in photovoltaic facilities. Regulations in these countries make a distinction between two energy sale schemes: sales at the tariff (Portugal, Greece, Cyprus and Hungary), or sales at market price (Romania).

The Group has been selected, and is already taking part in them, for several significant offshore wind farm projects in Europe, which are expected to be brought into operation throughout 2023-2024.

- Germany: Wiking Süd and Baltic Eagle projects, with a combined capacity of 486 MW.
- France: Saint Brieuc project, with an expected total capacity of 496 MR, in which the Group has a 70% stake in the promoting company.

4.5.4. Generation and Supply businesses

The IBERDROLA Group has a wide array of thermal generation plants in Spain and Mexico, a single thermal plant in Brazil and another in the US. A significant number of the plants in Mexico and the Brazilian plant have long-term PPAs (power purchase agreements) with the CFE (Mexican state electricity company) and the electricity distributors Coelba and Cosern in Brazil respectively.

Management of the risk of the energy produced for the market by the Group's thermal and renewable plants and surplus production of plants with PPAs is transferred to the Energy Management unit of each country where the Group operates, taking as a reference the wholesale market prices.

The various Energy Management units supply electricity and gas to the Retail Business at wholesale market prices (hourly or forward) in accordance with the usual practices of each of the countries in which the Group operates, and manage the sale and purchase of surpluses and shortfalls.

The Retail Businesses sell energy to end customers at fixed or indexed prices, together with other services, at such terms as may be customary in the retail markets of the countries in which they operate.

Main risks:

- Market prices for electricity, both wholesale and retail, are closely correlated with prices of fuel (oil and gas) and of the emission allowances needed to produce electricity.
- Spot prices in the wholesale electricity market exhibit marked volatility as a result of: 1) the volatility of spot prices of fuels and emission allowances, 2) fluctuating demand, 3) availability of wind or water and 4) possible operational problems in networks or power plants.
- Forward electricity prices are further influenced by projections of new generation plants coming on stream and of increases or decreases in future reserve capacity.
- In general terms: 1) margins of the generation business (thermal and renewable to market) are subject to the risk of the differential between the wholesale spot price and the cost of production, and 2) margins of the retail business are subject to i) the risk of the price differential between the wholesale spot market and forward retail prices, ii) the degree of competition among retailers and iii) the risk of possible regulatory intervention in the form of regulated tariffs, taxes or other obligations.

The offsetting of risk positions between the generation business (thermal and renewable) and the retail business largely reduces the Group's market risk. The sensitivities shown below cover the exposures of both activities.

- **Generation and Supply businesses in Spain**

In Spain the Group has 10,099 MW of installed capacity in conventional generation, of which 3,177 MW nuclear, 5,695 MW combined cycle, 353 MW co-generation and 874 MW coal.

Sales of the free-market retail electricity business in Spain amounted to nearly 48 TWh in 2018. Additionally, the Last Resort Tariff retail subsidiary supplied just over 7 TWh in 2018.

We would highlight the various measures contemplated by Royal Decree law 15/2018, ratified by the Spanish Parliament in October, as noted in section 4.5.2.

Commodity price risk

Given current market conditions, the production price at coal-fired power plants defines, to a large extent, the price of electricity in Spain since coal is the marginal technology necessary to cover electricity demand. Consequently, the price of coal conditions revenues from the other less expensive technologies which are used to cover demand. With coal prices around USD 89 per tonne, a 5% change in prices could give rise to an impact of Euros ± 9 million on operating results.

The price of CO₂ influences the cost of production at coal-fired thermal power plants. With coal prices around Euros 23 per tonne, a 5% change in prices could give rise to an impact of more or less Euros ± 6 million on operating results.

Payment of the majority of gas supplied in Spain is indexed to the price of oil by means of complex formulas. The IBERDROLA Group has another type of fixed-price supply agreement in place with prices not indexed to the market price of oil. These agreements are used for electricity generation, end customer consumption and for sales to other intermediaries. Inasmuch as the electricity generation margin is covered by the contracting schemes vis-à-vis the system operator, sales to end customers and third parties only entail residual risk. The risk assumed is minimal and depends on the correlation between the price of oil and European and international gas prices. According to the expected performance of said indexes, the maximum impact on the operating result would be approximately Euros ± 5 million.

Demand risk

Given the current market condition, where price is primarily determined by the generation cost at coal-fired plants, which make up around 15% of the generation mix, demand fluctuations are not deemed to impact on marginal technology in the market. The impact on the market price of a 1% change in demand is therefore minimal, amounting to approximately Euros 0.25 per MWh.

A moderate drop in demand in Spain does not affect the scheduled output of the Group's nuclear, hydroelectric and wind power plants, since there is a mandatory electricity market in Spain guaranteeing the efficient dispatch of output from all technologies.

Nevertheless, there could be an impact if a drop in electricity demand entails an equivalent reduction in the Group's supply sales and consequent narrowing of the margin. This is mitigated to some extent by increasing sales of own energy on the wholesale market. This same effect of loss of margin on retail sales is seen in demand for gas.

Taking both effects into account, it is estimated that a 1% fluctuation in demand would have an impact of around Euros ± 11.5 million overall.

Operational risk and nuclear plants risk

From the perspective of its impact on business results, the main risk arises from unscheduled outages at nuclear power plants (partially covered by a loss of profits insurance policy over and above an excess).

Nuclear power plants are also exposed to specific risks derived from the operation, storage and manipulation of radioactive materials.

- Constitutional Spanish law caps the liability of nuclear power plant operators in the event of a nuclear accident at Euros 700 million. This liability for a nuclear accident must be compulsorily insured by the operator of Spanish nuclear power plants. The IBERDROLA Group meets this obligation by taking out Nuclear Civil Liability insurance policies for each plant. However, Law 12/2011, of 27 May 2011, concerning civil liability for nuclear damage or damage caused by radioactive materials, will increase the operator's liability ceiling and the consequent ceiling on mandatory insurance to Euros 1,200 million for nuclear power plants. The law will enter into force when all signatories of the Paris and Brussels Agreements ratify the 2004 Amendment Protocols, as established in these agreements.
- Last, there is a debate currently going in the Spanish society regarding when nuclear plants should be closed.

– **Liberalised and Supply businesses in MEXICO**

The Group has 6,446 MW in combined cycles and 346 MW in cogeneration plants in Mexico. Additionally, 2,572 MW of combined cycles are being built.

Approval of the Energy Regulatory Commission's Agreement A/058/2017, which defines the methodology to determine the calculation and adjustment of the final tariff and the operations tariffs that will apply to the subsidiary production company CFE Suministrador de Servicios Básicos from 1 December 2017 to 31 December 2018.

Commodity price risk

Electricity generation at IBERDROLA Generación México is gas-intensive. Gas prices are therefore an essential component of this risk. In 2018, approximately 80% of the electricity generated in Mexico was sold under long-term sales agreements (to CFE and, to a lesser extent, other major industrial customers), whereby the risk associated with the price of gas used in generating this electricity is passed on.

The remaining energy is sold to customers (either under self-provision or the free market) at a price linked to the official tariffs published by CFE. The Group's competitiveness in this case relies on its obtaining a better input price for gas than the cost used to define the CFE's basic supply tariff. In the event of an adverse scenario (high cost of gas relative to other energy commodities), the impact would be below Euros 11.5 million in the 95 percentile.

Demand risk

The structure of the agreements IBERDROLA has entered into in Mexico shields business results from electricity demand fluctuations. Revenues come mainly from plant availability and only the sales indexed to the official Mexican tariff are exposed to a certain extent to fluctuations in demand. Nonetheless, most of the plants have committed sales exceeding their production capacity and therefore a shift in demand would not have an impact on their operations or results as the electricity generated would be sold to another customer. Changes in electricity demand in Mexico therefore have no effect on results.

Operational risk

From the perspective of its impact on business results, the main risk arises from the combined cycle power plants outages (partially covered by a loss of profits insurance policy over and above an excess). In the case of the contracts with the CFE, non-availability leads to a penalty, whereas the contracts with private sector customers in Mexico would oblige the Group to acquire the missing energy in the market.

– **Generation and Supply businesses in UK**

Sales of the IBERDROLA Group's retail business in 2018 amounted to 20 TWh of electricity and 29 TWh of gas.

In November 2018, following the entry into force of the Domestic Gas and Electricity Tariff Act 2018, OFGEM published the new maximum prices that suppliers may charge to end customers under the "Standard Variable Tariff" during the first quarter of 2019. From 1 April 2019 this figure will be updated every six months. The desirability of maintaining this system of price caps will be reviewed in 2020; it may be extended to 2023.

As noted previously, last October we announced the sale of the generation business in the UK.

– **Generation and Supply businesses in Brazil**

The Generation Business had a 533 MW combined cycle plant in Brazil at the end of 2018, with long-term PPAs with Coelba and Cosern.

Renewable energy with no PPA and surpluses from thermal generation are sold through the Group's retail sales company in the free market. With market prices in the area of 175 R\$/MWh, a price fluctuation of 30% would affect the results by some Euros 1 million.

— **Gas supply operations**

The IBERDROLA Group maintains an adequate balance in the global mix, both in terms of the number of supplier countries and the type of supply (gas via pipelines or LNG).

In the case of Spain, gas supply is guaranteed through long-term agreements. This mix of agreements comprises 23% at a fixed price while the remainder is indexed to the prices of various fuels on international markets.

Gas supply in Mexico is either secured through i) long-term agreements with PEMEX and CFE at a price indexed to international natural gas prices in the US, or ii) is contracted in the United States, and therefore at a price that depends on the market price of gas in that country.

– **Unhedged energy transactions (discretionary trading)**

Discretionary trading of electricity, gas, emissions allowances and other fuels and associated products performed by some of the Group's businesses is residual and the overall risk thereof is mitigated using individual stop-loss limits, the aggregate sum of which may never exceed 2% of consolidated net profit forecast for the period, pursuant to the market risk policy approved by IBERDROLA, S.A.'s board of directors.

IBERDROLA has reduced discretionary trading in recent years in line with the widespread move away from market speculation. At the end of December 2018, the notional value of derivatives used in speculative trading (calculated in accordance with the criteria set forth in the European Market Infrastructure Regulation (EMIR)) was Euros 63 million for commodity derivatives and Euros 8 million for equity derivatives. In both cases, these values are much lower than the Euros 3,000 million and Euros 1,000 million thresholds set for non-financial companies in the European regulation (EMIR).

4.6 Other operational risks

Any of the IBERDROLA Group's activities, may give rise to direct or indirect losses as a result of inadequate internal procedures, technical failures, human error or external factors.

The IBERDROLA Group is exposed to the following operational risks, inter alia:

- Risk of malfunctions, explosions, fire, toxic spillages or polluting emissions in gas and electricity distribution networks and in both traditional and renewable generation plants.
- Force majeure

- Risk of sabotage and/or terrorism.
- Cybersecurity risks
- Operational risk of operations in treasury and energy markets.

Any of these risks could cause damage or destruction to the IBERDROLA Group's facilities, as well as injuries to third parties or damage to the environment, along with the ensuing lawsuits, especially in the event of power outages caused by accidents at our distribution networks and possible penalties imposed by the authorities.

Although many of these risks are unpredictable, the IBERDROLA Group mitigates them by making the necessary investments, implementing operation and maintenance procedures and programmes (supported by quality control systems), planning appropriate employee training, and taking out the required insurance to cover both material damage and civil liability.

In relation to insurance cover, IBERDROLA has international insurance programmes to cover equity (insurance for material damage, machinery breakdowns, loss of profits, damage due to natural disasters and risks arising from construction work) and third-party liabilities (general public liability, liability for environmental risks, professional public liability, etc.).

However, this insurance does not completely eliminate operational risk, since it is not always possible or in the Group's economic interest to pass all such risk on to insurance companies. In addition, cover is always subject to certain limitations and/or excesses.

- **Operational risk of market transactions**

In addition, market trading conducted by the Group's various energy trading desks and treasury dealers is also exposed to operational risk.

This risk is mitigated by following the operational risk policy when trading on the market in accordance with a robust risk control culture, an appropriate segregation of duties, the publication of clear processes and policies and availability of secure and flexible information systems. This policy sets specific thresholds and guidelines applicable to all trades performed in accordance with the principle of proportionality.

- **Cybersecurity risks**

The IBERDROLA Group companies may be affected by threats and vulnerabilities in connection with information, control systems or information and communications systems used by the Group, or by any consequences of unauthorised access to or the use, disclosure, degradation, interruption, modification or destruction of information or information systems, including the consequences of acts of terrorism.

These risks are managed in accordance with the basic principles of the lays down the necessary measures to promote secure usage of information and communications systems and other cyber-assets, bolstering detection, prevention, defence and response capacities with respect to counter cyberattacks.

The IBERDROLA Group currently has specific insurance protection against cyber risks under the terms allowed by the insurance market, and which will be regularly reviewed in view of the rapid evolution and extensive variety of cyber risks.

4.7 Climate change risks

IBERDROLA has a Policy against climate change (available from www.iberdrola.com) and is clearly committed to the investor community's growing interest in the risks of climate change, which is why we are working to implement the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) initiative of the Financial Stability Board.

Climate change compromises several long-term risks which, to a greater or lesser extent are not new to the sector. Risks may be grouped in the following categories:

- Physical risks due to potential material impact on facilities due to the effects resulting from climate change (raise in temperatures, rise of sea level, variations in rainfall, increase both in frequency and intensity of extreme meteorological phenomena, etc.).
- Transition risks, linked to risks arising from global decarbonisation, such as regulatory, market price, technological, reputational, and demand changes, penalties and variations in demand, inter alia).
- Other risks, i.e. Credit impairment of counterparties (suppliers, banks, etc.), social phenomena (humanitarian crises, impact on crops and fishing, refugee crises, epidemics, etc.) and larger competition for financial resources.

It is worth mentioning that the impact of climate change, despite being perceivable already in the short-term (i.e. Higher intensity and frequency of climate events in certain geographical areas), are progressive and act over relatively long periods of time. This mainly implies that it will be the Group's future assets and not current assets the ones more severely impacted, since assets are progressively renewed when they reach the end of their useful life. The design and specification of new equipment will bear in mind more severe climate conditions and technological improvements to come will allow obtaining more financial value from projects.

Regulated business

Given the geographical spread of our networks assets in Spain, the United Kingdom, the United States and Brazil, and in accordance with already existing studies, the potential increase in sea level in coast areas will have a reduced impact on the regulatory conditions of our Group's assets.

Increases in temperature and greater frequency of extreme weather events will imply a very moderate gradual increase in O&M costs (associated with various phenomena such as bigger technical losses and reduced useful life of assets) and in annual capital expenditure, although in perfectly manageable amounts given the multi-annual tariff revisions of these regulated businesses. Additionally, the investment and response plans already in force, accumulated experience and the design of networks (meshed) would act as mitigating factors.

In terms of risks of transition we would highlight that of large-scale development of distributed generation, the impact of which would be partly offset by the growing electrification of the economy (electric vehicles for example) and investment in smart grids.

Renewables Business

The main risk is potential negative future performance of hydraulic and wind resources, the key elements having a financial impact on this activity at present. Added to the uncertainty associated with long-term global climate projections is the need to specify the impact on the geographical regions where our generating assets are located, whether hydroelectric or wind-based, the latter to a lesser extent since they are more widely spread. Nowadays there are no conclusive reports by third parties enabling reasonable predictions on the potential positive or negative variation of said resources either at global or regional level.

In the case of hydraulic resources, a potential decrease in annual rainfall average could lead to a negative impact on the output of hydraulic plants, especially visible in flow plants. Additionally, climate change could affect seasonal rainfall.

- In Spain, for illustrative purposes, a drop of 5% in production would have an estimated mid-term impact on gross margin (net of taxes and rights) of approximately Euros 20 million.
- In Spain, for example, a drop of 5% in production would have an estimated impact for the Group of Euros 10 million (as a result of its stake in Neenergia).

In terms of transition risks, potential cuts to remuneration to renewable energies and a drop in wholesale marginal market prices due to a higher renewable production should be noted. To face this risks, potential technology improvements which would predictably improve the performance of facilities in the future, the inclusion of climate change risks in the assessment of new investments and alternative ways to market sale (such as PPAs or tariff agreements) should be highlighted.

Generation and Supply businesses

The long-term impact of climate change on the thermal generation business is not expected to be material, since the Group's assets in this area will be substantially reduced in the next few decades as they reach the end of their useful life, and will essentially be concentrated in Mexico.

The impact on the pure retail business is considered minor, since any possible negative impacts deriving from efficiency measures and changes in temperature could be offset by the increased growth that the electrification of the economy is expected to produce.

By way of conclusion, and in accordance with the forecast effects alluded to and the mitigating factors to hand, we estimate that the physical risks of climate change will not have a disastrous or lasting impact on the Group's consolidated figures, the Group being resilient overall, and in any case the opportunities deriving from the decarbonisation of the global economy (growth in renewables, investment in integrating smart grids, electrification of transport, etc.) outweigh the risks. In terms of transitional risks, the Group's current positioning, as a result of its focus as an investor on energy from renewable sources and networks, places it in a position of leadership to face these risks.

Apart from this we should highlight the fact that the Group continues to make progress with in-depth climate analysis with a view to improving its forecasting and establishing the most appropriate measures in order to adapt.

For further information on this risk, please refer to the Integrated Report of February 2019, as well as the "Climate Change Risk Management" section and the TCFD of the Sustainability Report for 2018.

4.8 Legal risks

The IBERDROLA Group companies are part of a certain in-court and out-of-court disputes within the ordinary course of their activities, the final result of which, in general, is uncertain. An adverse result, or an out-of-court resolution thereof or other proceedings in the future could have a material adverse effect on our business, financial situation, operating results and cash flows. However, the Group's legal advisers consider that the outcome of the aforementioned disputes will not have a significant effect.

Notes 5.b. and 44 of the consolidated annual accounts contains a more detailed description of the most significant matters.

4.9. Risks materialised during the year

For further details, see the section E “Control systems and risk management” of the Corporate Governance Report 2018.

5. SIGNIFICANT SUBSEQUENT EVENTS TO YEAR END

Events after the reporting period are described in note 51 to the annual accounts.

6. RESEARCH AND DEVELOPMENT ACTIVITIES

IBERDROLA is now a leading multinational group which has become the utility of the future thanks to its innovative strategy, which encompasses all its business units and areas of activity. Through its constant commitment to innovation, IBERDROLA ranks as the most innovative utility in Spain and the third in Europe in the European Commission's classification.

In 2018, IBERDROLA spent more than Euros 266 million on R&D&i activities, 8% more than in the previous year. These resources were basically directed at our business areas: more renewables, more structured smart grids, and more solutions for customers and digital transformation. Plus, continuing the digital transformation, applying more intelligence to it, has been crucial.

Looking ahead, new technologies, innovation and people will be the pillars on which we will build our energy model:

- **Disruptive technologies** that are increasingly efficient, sustainable and respectful of the environment, enabling the functioning of facilities and processes to be optimised.
- **Digitisation and automation**: The IBERDROLA Group plans of investing Euros 4,800 million in digital transformation between 2018 and 2022 and will focus its investment efforts in improving operation and performance of assets and in increasing the availability of generation plants, thanks to on new technologies such as blockchain, big data, the Internet of Things, virtual reality, artificial intelligence, etc. at all levels of the company.

- **Innovation with start-ups, entrepreneurs and suppliers** with the aim of developing new disruptive business models, promoting the exchange of know-how and exerting a pull effect on their collaborators. Among these initiatives, the International startup programme stands out.
- **Culture of innovation and talent:** IBERDROLA promotes a culture of innovation by means of knowledge transfer, attracting talent and promoting the entrepreneurial spirit: Within the University Programme, IBERDROLA collaborates with five first-class universities: the University of Salamanca, Universidad Pontificia de Comillas, Massachusetts Institute of Technology (MIT), Instituto Tecnológico de Monterrey and the University of Strathclyde. Various initiatives are developed with them: chairs, R&D projects, training of students, in-house training and young entrepreneurs. This past year also saw the launch of the Renewables Accelerator Programme, Networks 2.0 and Accelerator for Customer initiatives and of the IBERDROLA Renewables, IBERDROLA Distribution and Liberalised Businesses, with the aim of meeting the new demands both of the market and of the business itself.

The following are some of the most notable innovative initiatives classified by broad area.

6.1 Renewable energies

In 2018, Innovation activities in Renewables, similarly to previous years, have focused primarily on:

- **Efficiency improvement at wind farms, photovoltaic plants and hydroelectric power stations.** In this area the *Doctor PV* project stood out. It seeks to reduce costs of photovoltaic plants by means of predictive maintenance strategies, as well as the possible use of drones. We also continued to work on the European *ROMEO* project, coordinated by IBERDROLA, and the *ASPA* project, which seek to develop models and tools for the early detection of problems in accordance with artificial intelligence/big data techniques. We would highlight the launch of the “Renewables Digital Evolution Plan (2018 – 2022)”, and the “Renewables Accelerator” project for the promotion of new ideas that contribute to an increase in efficiency and overall competitiveness of Renewables. In Brazil, we are developing various projects for the installation of solar energy. In Mexico, IBERDROLA constructed the photovoltaic installations of Santiago in San Luis Potosí and Hermosillo in Sonora. In the area of hydroelectric power, we would highlight the *HIDRODEMAND* project aimed at implementing operational savings and *HIDROSMART* for the development of 2 new technologies to be operated by the Basin Operation Centres.
- As regards **improving the integration of energy from renewable sources**, several initiatives have been carried out in the area of energy storage. In 2018 Avangrid Renewables registered as an independent Balancing Authority (BA), taking on the responsibility for balancing production and demand in real time. To do so, it will incorporate a 10MW/20MWh lithium-ion battery. We are also studying projects in the US for hybrid energy storage in batteries with photovoltaic solar power.
- As regards innovation in offshore wind projects, during 2018 the Wiking offshore wind farm was inaugurated, and a start was made on construction of the East Anglia One offshore wind farm in the UK, with an innovative foundations based on 3-leg jackets and connection cables between 66kV arrays. In addition, activities have continued to analyze the effect of undermining on offshore foundations: HasPRO and Sodercan-SPJ.

6.2. Clean generation technologies

During 2018, efforts in the area of generation focused on flexibility, operating efficiency and environmental protection, and the improvement of plant safety.

In the field of nuclear, notable projects include *OFF-GAS*, *RESHAND* and *FILTRABRIS*, which were developed collaboratively with *GDEST4S* in the context of IBERDROLA's Innovation Programme with Suppliers, and all of them are aimed at operational efficiency and nuclear safety.

In the area of thermal generation, and as a continuation of the *GT-CONTROLFLEX* project, the *OCTAVE* project pursues the development of diagnostic and control technologies for the combustion process to make our power stations more flexible. Both projects are key to ensuring the robustness and security of the Spanish electricity system, allowing the integration of renewables.

6.3. Retail Area - New projects and services

Innovation is essential in commercial activity, in order to offer customers the products and services best suited to their needs. Thus in 2018 IBERDROLA worked on the following:

- New initiatives to enhance the customer experience:

Throughout 2018 we continued to launch innovative campaigns and projects focused on greater personalisation of content and offerings, a new customer app in Spain, France and Portugal and a new website. Furthermore, it is now possible to sign up for and buy products online, without first having to register.

- New products and functionalities: Energy Wallet, Smart Home, Smart Solar and Smart Mobility.

By means of the *Energy Wallet* app in Spain and the *PowerUp* app in the UK, customers can buy power by the month at a set price, choose how to pay and share it among all their houses. All this is 100% digital (website and app), easy and quick.

This past year we launched new *Smart Home* packs combining energy, products and services, and devices for improving energy management in the home free of charge. We also improved the functionalities of *Smart Solar*, so that an "online offer" can now be obtained on the public website thanks to an analysis of consumption curves, expected hours of sunshine and the location and orientation of the installation. The web tool allows the production of the installation to be monitored, with details of consumption, possible storage in batteries and demand from the grid.

Within *Smart Mobility*, we would highlight the launch of the new IBERDROLA Public Charging app which allows users to book and use the charging points in IBERDROLA's network, and also the launch of the *Smart Mobility Home* app designed to control charging of domestic appliances.

In Brazil, Neenergia has made a mobile app available to customers allowing them to check their consumption, access their bills and manage their payments; and in the US, Avangrid has launched *NYSEG Smart*, an online store where customers can seek out, compare and securely buy energy-efficient products (smart thermostats, LED lighting, EV chargers, etc.).

6.4. Smart grids

In 2018, IBERDROLA Distribution has continued dedicating efforts to several R+D+i initiatives both at Spanish and European level:

- In Europe, we continue to take part in the *ASSURED* project, the objective of which is to develop quick charge solutions for heavy electric vehicles, and in the *INTENSIS4EU* project, which seeks a new approach in the field of smart grids and energy storage. As for the *STAR+* project, it will enable us to continue to digitise the network so as to improve efficiency and prepare IBERDROLA Distribution as a future distribution system operator (DSO).
- In Spain, IBERDROLA will continue to drive the digital transformation of the electricity distribution network of the Basque Country thanks to the *Bidelek 4.0* project. Work continues on the *LAYCA* project, which seeks to develop a system for locating breakdowns and characterising faults in medium-voltage networks. Work has started on the *ALOIS* project to develop a control and protection system for stable and sustainable island operation of distribution feeders. The *mGRIDSTORAGE* project is developing an advanced micro-grid model with storage for distribution networks. The *Caravaca BESS* project has been launched, with the aim of achieving the integration of a working battery energy storage system (BESS). We also continue to work in new analytical models for detecting non-technical losses. Lastly, the *CARTOLIDAR* project has improved the power-line inventory and mapped a cartography of the vegetation around power lines.
- In the UK, work continues on the *Fusion* and *LV Engine* projects, both targeted at optimising low-voltage grids which represent some of the major opportunities and challenges in the drive towards a more flexible system.
- In Brazil, we highlight the *BID MONITOR* project which is pursuing the development of a support system for decision-making in electricity sales, and the *Smart City* project for implementing innovative solutions for the automation and operation of the electricity grid. Projects on isolated micro-grids are also being developed. The *TITAM-BT* project seeks to develop equipment to help reduce fraud and ensure correct billing of customers. Lastly, we would highlight the *Qliente* project, which seeks to improve customer service by increasing efficiency and flexibility in the call centre and reducing times for restoration of service and resolving complaints.
- In the US, the outstanding project is the *Woodbridge Microgrid* in Woodbridge, Connecticut, a microgrid with a fuel cell which will be operated in island mode in the event of critical loads with the aim of backing up the grid in extreme weather conditions. The initiatives included in the *Energy Smart Community* (ESC) programme have also continued, such as the *ADMS* (advanced distribution management system). Apart from this, use has been made of drones to carry out pilot inspections of Transmission and Substation assets, with excellent result.
- 2018 saw the inauguration of '*IBERDROLA Innovation Middle East*', a technological centre aimed at rescinding to the challenges involved in digitising the energy system, from which the company will develop new innovation and technological advisory services, centring on three key areas: smart grids, integration of renewables and energy efficiency. Located in the unique Qatar Science & Technology Park, it aims to create new products and services for digital utility companies, working at the point where information and communication technologies intersect with those of energy.

6.5 IBERDROLA Ventures – PERSEO

IBERDROLA Ventures – PERSEO is IBERDROLA's Euros 70 million start-up programme created ten years ago with the aim of promoting the creation and development of a dynamic ecosystem of start-ups and entrepreneurs in the electricity sector. The programme focuses on technologies and business models that improve the sustainability of the energy model by means of greater electrification and decarbonisation of the economy. Since its creation in 2008, more than Euros 50 million have been invested through the programme in start-ups in the energy sector worldwide:

The most notable achievements in 2018 included:

- Recognition by the European Commission in the framework of the Start-up Europe Partnership initiative, IBERDROLA being named for the second year in a row among the 12 European companies doing the best work with start-ups. IBERDROLA was the only Spanish energy company selected for its model of innovation with start-ups, also receiving the special “Start-up Procurement Award”.
- More than ten pilot projects with start-ups in technological areas such as Artificial Intelligence, “Big Data”, IoT and blockchain, with the aim of improving both planning and management of assets and optimising their operation and maintenance.
- In the area of investment, we would point to the investment in Atten2, a company dedicated to the development of solutions for the online monitoring of critical assets to improve their operation and maintenance. This investment represents a very significant contribution to the digitisation of assets with the aim of prolonging their useful life by means of predictive maintenance and improved operation.

7. ACQUISITION AND DISPOSAL OF TREASURY SHARES

The Group's treasury share policy establishes the following:

Treasury share transactions are considered those transactions carried out by the Company, whether directly or through any of the Group companies, the object of which are Company shares, as well as financial instruments or agreements of any type, whether or not they are traded on the stock market or other organised secondary markets, which grant the right to acquire, or the underlying security of which are, Company shares.

Treasury share transactions will always have legitimate purposes, such as, among others, to provide investors with liquidity and sufficient depth in the trading of Company shares, to execute treasury share purchase programmes approved by the board of directors or General Shareholders' Meeting resolutions, to fulfil legitimate commitments undertaken previously or any other acceptable purposes in accordance with applicable regulations. Under no circumstances shall the purpose of treasury share transactions be to interfere with the free establishment of prices. In particular, any conduct referred to in article 83.ter.1 of the Securities Market Law and article 2 of Royal Decree 1333/2005, of 11 November 2005, implementing the Securities Market Law related as regards matters of market abuse, must be avoided.

The Group's treasury share transactions shall under any circumstances be carried out on the basis of insider information.



Treasury shares are to be managed providing with absolute transparency as regards relationships with market supervisors and regulatory organisations.

Note 20 of the consolidated annual accounts presents the movements of IBERDROLA's shares in the Group companies' portfolios in recent years. Likewise, other information on transactions in 2018 and 2017 is presented in the following table:

Treasury shares	No. of shares	Thousands of Euros Nominal value (thousands of Euros)	Thousands of Euros Treasury shares	Average price (Euros)	Total shares	% Capital
Balance at 01.01.2017	151,224,777	113,419	868,936	5.75	6,362,079,000	2.38
Additions	154,508,438	115,881	1,002,731	6.49	—	—
Depreciation	(219,990,000)	(164,993)	(1,280,176)	5.82	—	—
IBERDROLA scrip dividend ⁽¹⁾	1,896,638	1,422	—	—	—	—
IBERDROLA scrip dividend ⁽²⁾	—	—	(9,379)	—	—	—
Disposals	(11,929,704)	(8,947)	(74,937)	6.28	—	—
31.12.2017	75,710,149	56,782	507,175	6.70	6,317,515,000	1.20
Additions	266,442,793	199,832	1,672,087	6.28	—	—
Depreciation	(198,374,000)	(148,781)	(1,245,420)	6.28	—	—
IBERDROLA scrip dividend ⁽¹⁾	5,117	4	(11,044)	—	—	—
IBERDROLA scrip dividend ⁽²⁾	—	—	(11,044)	—	—	—
Disposals	(7,798,715)	(5,849)	(49,733)	6.38	—	—
Balance at 31.12.2018	135,985,344	101,988	873,065	6.42	6,397,629,000	2.13

Treasury shares ScottishPower	No. of shares	Thousands of Euros Nominal value (thousands of Euros)	Thousands of Euros Treasury shares	Average price (Euros)	Total shares	% Capital
01.01.2017	1,374,405	1,031	9,580	6.97	6,362,079,000	0.02
Additions	318,172	239	2,159	6.79	—	—
IBERDROLA scrip dividend	95,524	72	—	—	—	—
Disposals	(631,238)	(473)	(3,322)	5.26	—	—
31.12.2017	1,156,863	869	8,417	7.28	6,317,515,000	0.02
Additions	362,108	272	2,393	6.61	—	—
IBERDROLA flexible remuneration	144,747	109	—	—	—	—
Disposals	(613,079)	(460)	(2,734)	4.46	—	—
31.12.2018	1,050,639	790	8,076	7.69	6,397,629,000	0.02

During 2018 and 2017, treasury shares held by the IBERDROLA Group were below the legal limit at all times.

Lastly, the conditions and deadlines for the current mandate of the board of directors to acquire or transfer treasury shares are detailed below.



- The General Shareholders' Meeting, at its meeting of April 13, 2018, agreed to expressly authorize the Board of Directors, with the power to substitute, in accordance with the provisions of article 146 of the Spanish Companies Act, for the derivative acquisition. of shares of Iberdrola, SA in the following conditions: Acquisitions may be made directly by Company or indirectly through its subsidiaries under the same terms and conditions as this agreement. The subsidiary companies which develop regulated activities as prescribed in Law 24/2013 of 26 December on the Electricity Sector and Law 34/1988 of 7 October on the Hydrocarbon Sector are excluded from this authorization.
- Acquisitions may be made by purchase transactions, swaps or any other form permitted by law.
- Acquisitions may be made up, at all times, to the maximum legal threshold.
- Such acquisitions may not be made at a price higher than the market price or lower than the par value of the shares.
- This authorization is granted for a maximum period of five years since the adoption of the agreement.
- As a result of the acquisition of shares, including those in which the Company or the person acted on its own name and behalf but on behalf of the Company it had previously required and already had in stock, resulting net equity could not be reduced under its share capital plus unavailable legal or statutory reserved, as provided in section 146.1.b) of the Spanish Companies Act.

The agreement expressly states that the shares acquired as a result of this authorization may be used for their disposal or amortization as well as for the application of the remuneration systems contemplated in the third paragraph of letter a) of article 146.1 of the Companies Law Capital, as well as the development of programs that encourage participation in the capital of the Company, such as, for example, dividend reinvestment plans, loyalty bonds or other similar instruments.

- Stock market data

		2018	2017
Stock market capitalisation ⁽¹⁾	Millions of Euros	44,899	40,811
Earnings per share continuing operations	Euros	* 0.475	* 0.458
P.E.R. (share price at year end/profit per share)	Times	* 14.77	* 14.10
Price / Carrying amount (capitalisation on carrying amount at year end) ⁽²⁾	Times	* 1.227	* 1.14

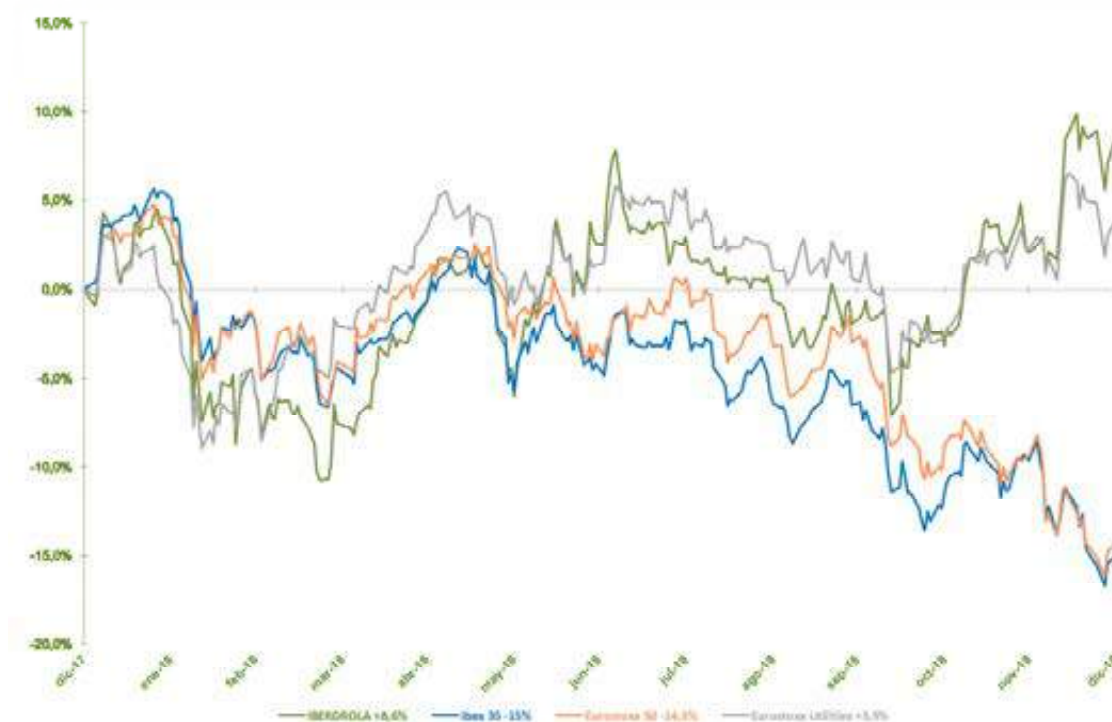
(1) 6,397,629,000 and 6,317,515,000 shares as of 31 December 2018 and 2017, respectively.

(2) Capitalisation at 31 December 2018 (44,899) / equity of parent company (36,582). Capitalisation at 31 December 2017 (40,811) / Equity of parent company (35,509).



- The IBERDROLA share

Stock market performance of IBERDROLA compared to the indexes:



	2018	2017
Number of shares outstanding	6,397,629,000	6,317,515,000
Share price at period end	* 7.02	* 6.46
Average share price for the period	* 6.43	* 6.62
Average daily volume	* 18,167,584	* 20,870,406
Maximum volume (19/01/2018 - 06/04/2017)	* 62,436,659	* 122,920,322
Minimum volume (24/12/2018 - 28/08/2017)	* 4,680,119	* 4,636,525
Remuneration to shareholders (Euros)	* 0.331	* 0.317
- Gross interim dividend (29/01/2018 - 23/01/2017) ⁽¹⁾	* 0.140	* 0.135
- Gross complementary dividend (24/07/2018 - 07/07 and 21/07/2017) ⁽²⁾	* 0.186	* 0.177
Attendance bonus	* 0.005	* 0.005
Yield shareholder ⁽³⁾	4.72%	4.91%

(1) Purchase price of rights guaranteed by IBERDROLA equivalent to interim dividend in accordance with "IBERDROLA scrip dividend".

(2) Complementary dividend in cash (24/07/2018 0.186; 07/07/2017 = Euros 0.03 and purchase price of rights guaranteed by IBERDROLA: = 21/07/2017 =0.147)

(3) Interim dividend, complementary dividend and attendance bonus for attending the General Shareholders' Meeting/share price at period end.

8 FURTHER RELEVANT INFORMATION

8.1. Non financial information and diversity

The information required by Law 11/2018 on Non-financial information and diversity is described in the non-financial information and diversity section in this consolidated directors' report.

8.2. IBERDROLA Foundation

In 2018, the Group allocated Euros 10,277 thousand to financing the various Group foundations.

The main recipient of the funding was the IBERDROLA Foundation, which received Euros 6,604 thousand. Information on its goals and activities is available at: www.fundacioniberdrola.org. The IBERDROLA Foundation is a private, non-profit, cultural foundation, founded by the Company. Its mission is to develop initiatives which effectively contribute to improving the quality of life of people in the regions and countries in which the Group operates, especially in the areas of energy sustainability, art and culture, as well as solidarity and social initiatives. The Foundation may act independently to achieve its goals and is fully functional and autonomous. Without prejudice to its collaboration with other entities, the IBERDROLA Foundation coordinates and executes the Group's corporate social responsibility strategy, insofar as this is consistent with the purpose for which it was created and has been assigned there to it by the board of directors.

The IBERDROLA Foundation coordinates its welfare work in the United Kingdom through the Scottish Power Foundation, which was granted Euros 1,323 thousand. In the United States, this work is carried out through the Avangrid Foundation with a budget of Euros 2,211 thousand, and in Brazil through the Instituto IBERDROLA Brasil, which received Euros 140 thousand.

In 2016, the Group intends to follow a policy aimed at financing activities of interest to the general public in line with that followed in 2018 as regards amount and allocation.



ANNUAL CORPORATE GOVERNANCE REPORT 2018



ANNUAL CORPORATE GOVERNANCE REPORT OF LISTED COMPANIES

ISSUER IDENTIFICATION

YEAR-END DATE: 31/12/2018

Tax Identification No. (C.I.F.) A-48010615

Company Name: IBERDROLA, S.A.

Registered Office: Plaza Euskadi número 5
48009 Bilbao - Biscay - Spain

ANNUAL CORPORATE GOVERNANCE REPORT OF LISTED COMPANIES

A CAPITAL STRUCTURE

A.1 Complete the table below with details of the share capital of the company:

Date of last change	Share capital (Euros)	Number of shares	Number of voting rights
25/07/2018	4,798,221,750.00	6,397,629,000	6,397,629,000

Remarks
On 30 January 2019, the share capital was increased to 4,890,342,750 euros divided into 6,520,457,000 shares.

Please state whether there are different classes of shares with different associated rights:

Yes ☐ No ☒

Class	Number of shares	Par value	Number of votes	Associated rights

Remarks
All shares are of the same class and carry the same rights.

A.2 Please provide details of the company's significant direct and indirect shareholders at year end, excluding any directors:

Name of shareholder	% of shares carrying voting rights		% of voting rights through financial instruments		% of total voting rights
	Direct	Indirect	Direct	Indirect	
QATAR INVESTMENT AUTHORITY	0.00	8.65	0.00	0.00	8.65
BLACKROCK, INC,	0.00	5.07	0.00	0.06	5.13
NORGES					



BANK	3.03	0.00	0.30	0.00	3.33
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Remarks
Data at 31/12/2018

Breakdown of the indirect holding:

Name of indirect shareholder	Name of direct shareholder	% of shares carrying voting rights	% of voting rights through financial instruments	% of total voting rights
QATAR INVESTMENT AUTHORITY	QATAR HOLDING LUXEMBURG II, S.A.R.L.	8.65	0.00	8.65
BLACKROCK INC	BLACKROCK GROUP	5.07	0.06	5.13

Remarks
<p>According to available information, the approximate breakdown of the interests in the share capital by type of shareholder is as follows:</p> <ul style="list-style-type: none"> - Foreign investors 66.27% - Domestic entities 10.25% - Domestic retail investors 23.48%

State the most significant shareholder structure changes during the year:

Name of shareholder	Date of transaction	Description of transaction
CAPITAL RESEARCH AND MANAGEMENT COMPANY	12/01/2018	Increase to above 5% of share capital
CAPITAL RESEARCH AND MANAGEMENT COMPANY	29/03/2018	Decrease to below 5% of share capital
CAPITAL RESEARCH AND MANAGEMENT COMPANY	21/05/2018	Decrease to below 3% of share capital
BLACKROCK, INC	08/02/2018	Increase to above 5% of share capital
BLACKROCK, INC	14/02/2018	Decrease to below 5% of share capital
BLACKROCK, INC	15/02/2018	Reached 5% of share capital
BLACKROCK, INC	21/02/2018	Decrease to below 5% of share capital
BLACKROCK, INC	27/02/2018	Increase to above 5% of



		share capital
BLACKROCK, INC	27/03/2018	Decrease to below 5% of share capital
BLACKROCK, INC	02/07/2018	Increase to above 5% of share capital
BLACKROCK, INC	09/07/2018	Decrease to below 5% of share capital
BLACKROCK, INC	18/07/2018	Increase to above 5% of share capital
BLACKROCK, INC	03/08/2018	Decrease to below 5% of share capital
BLACKROCK, INC	13/09/2018	Increase to above 5% of share capital
BLACKROCK, INC	14/09/2018	Decrease to below 5% of share capital
BLACKROCK, INC	15/10/2018	The percentage of total voting rights (shares plus financial instruments) has exceeded 5% of share capital
BLACKROCK, INC	22/10/2018	The percentage of voting rights attributed to the shares has exceeded 5% of share capital
NORGES BANK	10/01/2018	Decrease to below 3% of share capital
NORGES BANK	22/01/2018	Increase to above 3% of share capital
NORGES BANK	26/01/2018	Decrease to below 3% of share capital
NORGES BANK	06/02/2018	Increase to above 3% of share capital
NORGES BANK	05/04/2018	Decrease to below 3% of share capital
NORGES BANK	12/04/2018	Increase to above 3% of share capital
NORGES BANK	28/11/2018	Decrease to below 3% of share capital
NORGES BANK	03/12/2018	Increase to above 3% of share capital

Most significant movements
<p>The sources of the information provided are the notices sent by the shareholders to the CNMV and to the Company itself, the information contained in their respective annual reports and press releases, and the information that the Company obtains from Iberclear.</p> <p>Pursuant to the provisions of section 23.1 of Royal Decree</p>

1362/2007 of 19 October, further developing Law 24/1988 of 28 July on the Securities Market, in connection with the transparency requirements relating to the information on issuers whose securities have been admitted to trading on an official secondary market or other regulated market in the European Union, it is deemed that significant shareholders are the holders of at least 3% of voting rights.

On 10 January 2019, Norges Bank reported that its interest in the share capital of Iberdrola decreased to below 3%.

A.3 In the following tables, list the members of the Board of Directors (hereinafter “directors”) with voting rights in the company:

Name of director	% of shares carrying voting rights		% of voting rights through financial instruments		% of total voting rights	% of total voting rights <u>that can be transmitted</u> through financial instruments	
	Direct	Indirect	Direct	Indirect		Direct	Indirect
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	0.10	0.06	0.04	0.00	0.15	0.04	0.00
MS INÉS MACHO STADLER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR IÑIGO VÍCTOR DE ORIOI IBARRA	0.02	0.00	0.00	0.00	0.02	0.00	0.00
MS SAMANTHA BARBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MS MARÍA HELENA ANTOLÍN RAYBAUD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR ÁNGEL JESÚS ACEBES PANIAGUA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MS GEORGINA KESSEL	0.00	0.00	0.00	0.00	0.00	0.00	0.00



MARTÍNEZ							
MS DENISE HOLT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR JOSÉ W. FERNÁNDEZ	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR MANUEL MOREU MUNAIZ	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR XABIER SAGREDO ORMAZA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR JUAN MANUEL GONZÁLEZ SERNA	0.00	0.01	0.00	0.00	0.00	0.00	0.00
MR FRANCISCO MARTÍNEZ CÓRCOLES	0.01	0.00	0.01	0.00	0.01	0.01	0.00
MR ANTHONY L. GARDNER	0.00	0.00	0.00	0.00	0.000	0.00	0.00

Total percentage of voting rights held by the Board of Directors	0.19
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Remarks
<p>The data reflected in this section is at 19/02/2019, the date of approval of this report.</p> <p>For the chairman & CEO, there is a deferral of the third delivery of shares from the 2014-2016 Strategic Bonus approved by the shareholders at the General Shareholders' Meeting in 2014 (510,596 shares). Each of the deliveries of shares is subject to confirmation by the Board of Directors, after a report from the Remuneration Committee, that the circumstances on which the performance evaluation was based remain in effect.</p> <p>Furthermore, pursuant to the provisions of the 2017-2019 Strategic Bonus approved at the General Shareholders' Meeting, the chairman & CEO may receive up to a maximum of 1,900,000 shares based on the performance evaluation for the 2017-2019 period, which, if awarded will be paid in three equal parts in 2020, 2021 and 2022.</p> <p>For the Business CEO, there is a deferral of the third delivery of shares from the 2014-2016 Strategic Bonus approved by the shareholders at the General Shareholders' Meeting in 2014 (120,931 shares). Each of the deliveries of shares is subject to confirmation by the Board of Directors, after a report from the Remuneration Committee, that the circumstances on which the performance evaluation was based remain in effect.</p>

Furthermore, pursuant to the provisions of the 2017-2019 Strategic Bonus, the Business CEO may receive up to a maximum of 300,000 shares based on the performance evaluation for the 2017-2019 period, which, if awarded will be paid in three equal parts in 2020, 2021 and 2022.

Breakdown of the indirect holding:

Name of director	Name of direct shareholder	% of shares carrying voting rights	% of voting rights through financial instruments	% of total voting rights	% of total voting rights that can be transmitted through financial instruments
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	Royal Park 2000 SL	0.06	0.04	0.10	0.00
MR MANUEL MOREU MUNAIZ	María del Carmen Gamazo Trueba	0.00	0.00	0.00	0.00
MR JUAN MANUEL GONZÁLEZ SERNA	Grupo Sico Corporativo SL	0.01	0.00	0.01	0.00

Remarks

A.4 If applicable, state any family, commercial, contractual or corporate relationships that exist among significant shareholders to the extent that they are known to the company, unless they are insignificant or arise in the ordinary course of business, except those that are reported in Section A.6:

Name of related party	Nature of relationship	Brief description

A.5 If applicable, state any commercial, contractual or corporate relationships that exist between significant shareholders and the company and/or group, unless they are insignificant or arise in the ordinary course of business:



Name of related party	Nature of relationship	Brief description

A.6 Describe the relationships, unless insignificant for the two parties, that exist between significant shareholders or shareholders represented on the Board and directors, or their representatives in the case of legal-person directors.

Explain, as the case may be, how the significant shareholders are represented. Specifically, state those directors appointed to represent significant shareholders, those whose appointment was proposed by significant shareholders and/or companies in its group, specifying the nature of such relationships or ties. In particular, mention the existence, identity and post of directors, or their representatives, as the case may be, of the listed company, who are, in turn, members of the Board of Directors or their representatives of companies that hold significant shareholdings in the listed company or in group companies of these significant shareholders.

Name or company name of related director or representative	Name or company name of related significant shareholder	Company name of the group company of the significant shareholder	Description of relationship/post

Remarks
There are no directors appointed on behalf of significant shareholders or directors connected thereto or proposed by them for appointment.

A.7 State whether the company has been notified of any shareholders' agreements that may affect it, in accordance with Articles 530 and 531 of the Ley de Sociedades de Capital ("Corporate Enterprises Act" or "LSC"). If so, describe these agreements and list the party shareholders:

Yes ☐

No ☒

Parties to the shareholders' agreement	Percentage of affected shares	Brief description of the agreement	Date of termination of agreement, if applicable

Remarks



State whether the company is aware of any concerted actions among its shareholders. If so, provide a brief description:

Yes ☐

No ☒

Parties to the concerted action	Percentage of affected shares	Brief description of the agreement	Date of termination of agreement, if applicable

Remarks

If any of the aforementioned agreements or concerted actions have been modified or terminated during the year, please specify expressly:

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A.8 State whether any individual or company exercises or may exercise control over the company in accordance with Article 5 of the Ley de Mercados de Valores (“Spanish Securities Market Act” or “LMV”). If so, please identify them:

Yes ☐

No ☒

Name

Remarks

A.9 Complete the following table with details of the company’s treasury shares:

At the close of the year:

Number of direct shares	Number of indirect shares (*)	Total percentage of share capital
135,985,344		2.13

Remarks



(*) through:

Name of direct shareholder	Number of direct shares
Total:	

Remarks

Explain any significant changes during the year:

Explain significant changes
<p>The Company sent to the CNMV three updates to its treasury share position in 2018 as a result of a change in the number of voting rights arising from corporate transactions:</p> <ul style="list-style-type: none"> • Notices of direct acquisitions of a total of 3,391,573 shares (0.053%) were provided on 2 February, coinciding with the increase in capital resulting from the "Iberdrola Flexible Dividend" programme. • Notices of direct acquisitions of a total of 61,453,601 shares (0.985%) were provided on 3 July, coinciding with the reduction in capital; and • Notices of direct acquisitions of a total of 4,322,023 shares (0.068%) were provided on 1 August, coinciding with the increase in capital resulting from the "Iberdrola Flexible Remuneration" programme. <p>During financial year 2018 the Company also provided three more notices arising from consecutive direct acquisitions of own shares due to said acquisitions exceeding 1% of voting rights since the preceding notice:</p> <ul style="list-style-type: none"> • Notices of direct acquisitions of a total of 63,704,610 shares (1.008%) were provided on 12 January. • Notices of direct acquisitions of a total of 64,747,653 shares (1.006%) were provided on 26 March; and • Notices of direct acquisitions of a total of 132,533,252 shares (2.072%) were provided on 28 December.

A.10 Provide a detailed description of the conditions and terms of the authority given to the Board of Directors to issue, repurchase, or dispose of treasury shares.

The shareholders acting at the General Shareholders' Meeting held on 13 April 2018 resolved to expressly authorise the Board of Directors, with the power of substitution, pursuant to the Companies Act (*Ley de Sociedades de Capital*), to carry out the derivative acquisition of shares of Iberdrola on the following terms:

- a) Purchases may be made by Iberdrola directly, or indirectly through its subsidiaries. Subsidiaries carrying out regulated activities are excluded pursuant to the provisions of the Electricity Industry Act (*Ley del Sector Eléctrico*) and the Hydrocarbons Act (*Ley de Hidrocarburos*).
- b) Purchases shall be made by means of a purchase and sale agreement, a swap arrangement, or any other transaction permitted by law.
- c) Purchases may be made up to the maximum sum permitted by law (i.e. 10% of the share capital).
- d) Purchases may not be made at a higher price than that quoted on the Stock Exchange or at a price lower than the share's nominal value.
- e) The authorisation was granted for a period not to exceed five years as from the approval of the resolution.
- f) The acquiring company shall establish a restricted reserve in shareholders' equity equal to the amount of the shares of the controlling company recorded under assets. Such reserve shall be maintained for so long as the shares are not transferred or retired, in compliance with the provisions of the Companies Act.

The shares, if any, purchased as a result of the aforementioned authorisation could be used for either transfer or retirement or could be applied to the remuneration systems provided for in the Companies Act; added to the foregoing alternatives was the possible development of programmes fostering the acquisition of interests in the Company, such as, for example, dividend reinvestment plans, loyalty bonuses or similar instruments. Furthermore, at the General Shareholders' Meeting held on 8 April 2016, the shareholders resolved to authorise the Board of Directors to increase share capital upon the terms and within the limits set forth in section 297.1.b) of the Companies Act, with the power to exclude preemptive rights, limited to a maximum nominal amount of 20% of the share capital.

A.11 Estimated working capital:

	%
Estimated working capital	88.88

Remarks

A.12 State whether there are any restrictions (article of associations, legislative or of any other nature) placed on the transfer of shares and/or any restrictions on voting rights. In particular, state the existence of any type of restriction that may inhibit a takeover attempt of the company through acquisition of its shares on the market, and those regimes for the prior authorisation or notification that may be applicable, under sector regulations, to acquisitions or transfers of the company's financial instruments.

Yes X

No ☐



Description of restrictions
<p>Those having an interest equal to or greater than 3% of the capital or voting rights of two or more companies that have the status of Principal Operator in certain markets or sectors (including the generation and supply of electricity) may not exercise rights in excess of such percentage in more than one entity. Article 29.2 of the By-Laws provides that no shareholder may cast a number of votes greater than those corresponding to shares representing 10% of the share capital.</p> <p>According to article 28, a shareholder may not exercise their right to vote at the General Shareholders' Meeting if the resolution to be approved is intended to: (a) relieve the shareholder of an obligation or grant the shareholder a right; (b) provide the shareholder with any kind of financial assistance, including the provision of guarantees in favour thereof; or (c) release the shareholder, if a director, from obligations arising from the duty of loyalty as provided by law.</p> <p>Article 50 of the By-Laws provides that the by-law restrictions against the exercise of voting rights by shareholders affected by conflicts of interest established in article 28 above and the limitation on the maximum number of votes that may be cast by a single shareholder contained in sections 2 and 4 of article 29 above shall be deprived of effect upon the occurrence of certain circumstances in the case of a takeover bid.</p> <p>Furthermore, section 527 of the Companies Act provides that at listed companies (<i>sociedades anónimas cotizadas</i>), the by-law provisions that directly or indirectly set, as a general rule, the maximum number of votes that may be cast by a single shareholder, by the companies belonging to the same group or by those acting in concert with the foregoing shall be of no effect when, following a takeover bid, the bidder has reached a percentage that is equal to or greater than 70% of the voting share capital, unless such bidder is not subject to equivalent breakthrough measures or has not adopted them.</p> <p>Pursuant to U.S. law, due to the business carried out by Avangrid, Inc. (a company belonging to the Iberdrola group) in that country, the acquisition of an interest giving rise to the holding of 10% or more of the share capital of Iberdrola will be subject to the prior approval of certain U.S. regulatory authorities.</p>

A.13 State if the shareholders have resolved at a meeting to adopt measures to neutralise a take-over bid pursuant to the provisions of Act 6/2007.

Yes ☐

No ☒

If so, please explain the measures approved and the terms under which such limitations would cease to apply:

Explain the measures approved and the terms under which such limitations would cease to apply:

A.14 State if the company has issued shares that are not traded on a regulated EU market.

Yes ☐

No ☒

If so, please list each type of share and the rights and obligations conferred on each.

List each type of share

B GENERAL SHAREHOLDERS' MEETING

B.1 State whether there are any differences between the quorum established by the LSC for General Shareholders' Meetings and those set by the company and if so, describe them in detail:

Yes ☒

No ☐

	% quorum different from that contained in Article 193 LSC for general matters	% quorum different from that contained in Article 194 LSC for special resolutions
Quorum required at 1st call	0.00	66.67
Quorum required at 2nd call	0.00	60.00

Description of differences
As the only exception to the rules provided for in the Companies Act, article 21.2 of the By-Laws increases the quorum required to hold a valid meeting "in order to adopt resolutions regarding a change in the object of the Company, transformation, total split-off, dissolution of the Company, and the amendment of this section 2", in which case "shareholders representing two-thirds (2/3) of subscribed share capital with voting rights must be in attendance at the first call to the General Shareholders' Meeting, and shareholders representing sixty (60%) per cent of such share capital must be in attendance at the second call".

B.2 State whether there are any differences in the company's manner of adopting corporate resolutions and the manner for adopting corporate resolutions described by the LSC and, if so, explain:

Yes ☒

No ☐

Describe how it is different from that contained in the LSC.

	Qualified majority different from that established in Article 201.2 LSC for Article 194.1 LSC matters	Other matters requiring a qualified majority
% established by the company for adoption of resolutions	75.00	75.00

Describe the differences
Article 52 of the By-Laws provides that all resolutions intended to eliminate or amend the provisions contained in title IV (breakthrough of restrictions in the event of takeover bids), in article 28 (conflicts of interest), and in sections 2 to 4 of article 29 (limitation upon the maximum number of votes that a shareholder may cast) shall require the affirmative vote of three-fourths (3/4) of the share capital present in person or by proxy at a General Shareholders' Meeting.

B.3. State the rules for amending the company's Articles of Association. In particular, state the majorities required for amendment of the Articles of Association and any provisions in place to protect shareholders' rights in the event of amendments to the Articles of Association.

In addition to the provisions of section 285 *et seq.* of the Companies Act, the By-Laws of Iberdrola contain articles 21.2 (qualified quorum) and 52 (qualified majority) mentioned in sections B.1 and B.2 above.

B.4 Give details of attendance at General Shareholders' Meetings held during the year of this report and the two previous years:

Date of General Meeting	Attendance data				
	% physically present	% present by proxy	% distance voting		Total
			Electronic voting	Other	
13/04/2018	0.33	71.44	0.27	4.05	76.09
Of which, free float:	0.23	62.90	0.27	4.05	67.45
31/03/2017	0.39	71.92	0.17	4.71	77.19
Of which, free float:	0.32	60.43	0.17	4.71	65.63
08/04/2016	1.40	69.68	0.15	6.69	77.92
Of which, free float:	1.31	56.53	0.15	6.69	64.68

Remarks
<p>Absentee votes cast by the shareholders through their depositaries (without direct communication from the shareholders to the Company), which in prior reports were included in the "in person" percentage, are now included in the "Other" column, which reflects the percentage of share capital of all absentee votes issued at each Meeting through depositaries and custodians, cards received at shareholder information desks, cards received by post and the telephone channel (started in 2018). Adding all votes and proxies received through the corporate website, electronic participation reached a percentage of share capital equal to 0.52% in 2016, 0.82% in 2017 and 1.03% in 2018.</p> <p>Free float percentages have been calculated by dividing the shares represented in person and by proxy less those belonging to significant shareholders and directors participating at each Meeting, according to the information available in the list of attendees, by the total shares outstanding as at the date of the Meeting. For these purposes, significant interests deposited in omnibus accounts (not opened in the name of the owners of such interests) are not subtracted from the shares present in person or by proxy, except in cases in which the significant shareholder notified the Company of the shareholder's participation in the Meeting.</p>

B.5 State whether any point on the agenda of the General Shareholders' Meetings during the year has not been approved by the shareholders for any reason.

Yes ☐

No ☒

Points on agenda not approved	% votes against (*)

(*) If the non-approval of the point is for a reason other than the votes against, this will be explained in the text part and "N/A" will be placed in the "% votes against" column.

B.6 State if the Articles of Association contain any restrictions requiring a minimum number of shares to attend General Shareholders' Meetings, or on distance voting:

Yes ☐

No ☒

Number of shares required to attend General Meetings	
Number of shares required for distance voting	

Remarks

B.7 State whether it has been established that certain decisions other than those established by law exist that entail an acquisition, disposal or contribution to another company of essential assets or other similar corporate transactions that must be subject to the approval of the General Shareholders' Meeting.



Yes ☒

No ☐

Explain the decisions that must be subject to the General Shareholders' Meeting, other than those established by law

Sections s), t) and u) of article 17 of the By-Laws provide that the shareholders acting at a General Shareholders' Meeting will decide the following issues, among others:

s) The transfer to controlled entities of core activities that were previously carried out by the Company itself, while maintaining full control thereof.

t) The acquisition, transfer, or contribution of key assets from or to another company.

u) The approval of transactions having an effect equivalent to liquidation of the Company.

B.8 State the address and manner of access to the page on the company website where one may find information on corporate governance and other information regarding General Shareholders' Meetings that must be made available to shareholders through the company website.

www.iberdrola.com / corporate governance



COMPANY ADMINISTRATIVE STRUCTURE

C.1 Board of Directors

C.1.1 Maximum and minimum number of directors established in the Articles of Association and the number set by the general meeting:

Maximum number of directors	14
Minimum number of directors	9
Number of directors set by the general meeting	14

Remarks

C.1.2 Please complete the following table on directors:

Name of director	Representative	Director category	Position on the Board	Date first appointed to Board	Last re-election date	Method of selection to Board	Date of birth
Mr José Ignacio Sánchez Galán		Executive	Chairman & CEO	21/05/2001	27/03/2015	Resolution of General Shareholders' Meeting	
Ms Inés Macho Stadler		Other external	Vice Chair	07/06/2006	08/04/2016	Resolution of General Shareholders' Meeting	
Mr Iñigo Victor de Oriol Ibarra		Other external	Director	26/04/2006	08/04/2016	Resolution of General Shareholders' Meeting	
Ms Samantha Barber		Independent	Director	31/07/2008	08/04/2016	Resolution of General Shareholders' Meeting	
Ms María Helena Antolín Raybaud		Independent	Director	26/03/2010	27/03/2015	Resolution of General Shareholders' Meeting	
Mr Ángel Jesús Acebes Paniagua		Independent	Director	24/04/2012	27/03/2015	Resolution of General Shareholders' Meeting	
Ms Georgina Kessel Martínez		Independent	Director	23/04/2013	13/04/2018	Resolution of General Shareholders' Meeting	
Ms Denise Holt		Independent	Director	24/06/2014	27/03/2015	Resolution of General Shareholders' Meeting	
Mr José W. Fernández		Independent	Director	17/02/2015	27/03/2015	Resolution of General Shareholders' Meeting	
Mr Manuel Moreu Munaiz		Independent	Director	17/02/2015	27/03/2015	Resolution of General Shareholders' Meeting	
Mr Xabier Sagredo Ormaza		Other external	Director	08/04/2016	08/04/2016	Resolution of General Shareholders' Meeting	

Mr Juan Manuel González Serna		Independent	Lead Independent Director	31/03/2017	31/03/2017	Resolution of General Shareholders' Meeting	
Mr Francisco Martínez Corcoles		Executive	Director	31/03/2017	31/03/2017	Resolution of General Shareholders' Meeting	
Mr Anthony L. Gardner		Independent	Director	13/04/2018	13/04/2018	Resolution of General Shareholders' Meeting	

Total number of directors	14
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State if any directors, whether through resignation, dismissal or any other reason, have left the Board during the period subject to this report:

Name of director	Director type at time of leaving	Date of last appointment	Date director left	Specialised committees of which he/she was a member	Indicate whether the director left before the end of the term
Mr Braulio Medel Cámara	Independent	08/04/2016	13/04/2018	Corporate Social Responsibility Committee	Yes
Reason for leaving and other remarks					
For personal reasons and in compliance with the provisions of the aforementioned succession plan set forth in Annex I to the General Corporate Governance Policy. (Self-organisation Rules of the Board of Directors).					

C.1.3 Complete the following tables regarding the members of the Board and their categories:

EXECUTIVE DIRECTORS



Name of director	Post in organisational chart of the company	Profile
Mr José Ignacio Sánchez Galán	Chairman & CEO	<p>Salamanca, Spain, 1950</p> <p>He is the chairman of the boards of directors of the country subholding companies of the Iberdrola Group in the United Kingdom (Scottish Power Limited), the United States of America (Avangrid, Inc., a NYSE-listed company) and Brazil (Neoenergia, S.A.).</p> <p>He is a member of the group of top utility executives of the World Economic Forum (Davos), which he has chaired, and of the Steering Committee of the European Round Table of Industrialists.</p> <p>Personal profile and academic training</p> <p>He graduated as an Industrial Engineer from the Engineering School (ICAI) of Universidad Pontificia Comillas (Madrid).</p> <p>He has received honorary doctorate degrees from the universities of Salamanca, Edinburgh, and Strathclyde (Glasgow). He has been on the faculty of Escuela Técnica Superior de Ingeniería (ICAI), and is currently a visiting professor at the University of Strathclyde, chairman of the Social Council of the University of Salamanca and a member of the Dean's Advisory Council of the Massachusetts Institute of Technology (MIT).</p> <p>In 2017 he was named Best Chief Executive Officer (CEO) within the utilities category (for the eleventh time) according to the prestigious Institutional Investor Research Group; in 2011 he was named Best CEO of European utilities and of Spanish listed companies in investors relations, according to the Thomson Extel Survey; and he has received the Award for Best CEO in Investor Relations by IR Magazine on three successive occasions (2003-2005). Furthermore, in 2017 he received the Vocento Award for Business Leadership and in 2014 he received the international Responsible Capitalism award in London. He has recently been appointed as a</p>



		<p>member of the J.P. Morgan International Council.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>In the industrial engineering sector, he has served as chief operating officer of Industria de Turbo Propulsores, S.A. (ITP) and as chairman of the European aerospace consortium Eurojet. He has also held various management positions at Sociedad Española del Acumulador Tudor, S.A. (now, Exide Group), engaged in the manufacture and sale of batteries.</p> <p>Noteworthy experience in other industries</p> <p>He has been chief executive officer of Airtel Móvil, S.A. (now, Vodafone España, S.A.U.) and a member of the Supervisory Board of Nutreco Holding N.V., a listed company in The Netherlands, active in the food industry. He was also founding partner and director of the Matarromera group, dedicated to viticulture and the production of wine and oil.</p> <p>Other information</p> <p>In addition to the awards mentioned, in 2018 he was named Universal Spaniard by Fundación Independiente, given the Silver Cross of Merit of the Guardia Civil (2018), and appointed as an Honorary Member of the Spanish Institute of Engineering; in 2016 he received the Medal of Honour of the Royal National Academy of Medicine; in 2014 he was distinguished by Queen Elizabeth II with the title Commander of the Most Excellent Order of the British Empire; in 2013 he was awarded the Gold Medal of the City of Salamanca; in 2011 he received the title of Lagun Onari (Friend of the Basques) bestowed by the Basque Government; in 2010 he was appointed as a member of GlobalScot, an international Scottish government network of business leaders who are most keenly committed to the economic development of Scotland; in 2009 he was awarded the Gold Medal of the Province of Salamanca and was named Consul of Bilbao by the Bilbao Chamber of Commerce, Industry and Shipping; and in 2007 he was awarded the</p>
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		Police Merit medal.
Mr Francisco Martínez Corcoles	Business CEO	<p>Alicante, Spain, 1956</p> <p>He is currently the Business CEO (<i>consejero-director general de los negocios</i>) of the Iberdrola group, chair of Iberdrola España, S.A. and a member of the board of the country subholding company in Mexico, Iberdrola México, S.A. de C.V.</p> <p>He is also a member of Merit of the National Association of Engineers of the Escuela Técnica Superior de Ingeniería (ICAI).</p> <p>Academic training</p> <p>Industrial Engineer specialising in Electricity from the ICAI (Universidad Pontificia Comillas, Madrid) and Master in Business Management from IESE Business School (Universidad de Navarra).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He worked at Compañía Sevillana de Electricidad, S.A. before joining Hidroeléctrica Española, S.A. and (after the merger with Iberduero, S.A.) Iberdrola, S.A., where he has been director of the Production Market, director of the Wholesale Energy Markets Business Unit, and general director of the Liberalised Energy Business of the Group, with overall responsibility for all of the Wholesale, Retail and Energy Management businesses of the Iberdrola group.</p> <p>In June 2014 he was appointed Business CEO of the Iberdrola group, with overall responsibility for all of the group's businesses throughout the world.</p> <p>He has also held the position of chair of Elektro Holding, S.A., of Iberdrola Generación, S.A., of Iberdrola Generación México, S.A. de C.V. and of Scottish Power Generation Holdings Ltd. and has been a member of the board of Compañía Operadora del Mercado Eléctrico Español, S.A., Elcogas, S.A. and Iberdrola Ingeniería y Construcción, S.A.</p>



		<p>He was also a member of the Board of Directors of the Spanish Electric Industry Association (<i>Asociación Española de la Industria Eléctrica</i>) (UNESA).</p> <p>Noteworthy experience in other industries</p> <p>He began his professional career at the Systems Division of Arthur Andersen.</p> <p>He has been a member of the advisory board of the International University of Bremen (Germany) and vice president of the Energy and Natural Resources Committee of the Spanish Institute of Engineering.</p> <p>Other information</p> <p>He was awarded the Javier Benjumea Prize of the Association of Engineers of ICAI in its XVII edition and the Gold Medal of the Spanish Nuclear Society.</p>
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Total number of executive directors	2
Percentage of the Board	14.29

Remarks

1.1.1.1 PROPRIETARY DIRECTORS

Name of director	Name or company name of the significant shareholder represented or that has proposed their appointment	Profile

Total number of proprietary directors	0
Percentage of the Board	0

Remarks

INDEPENDENT DIRECTORS

Name of director	Profile
Ms Samantha Barber	<p>Dunfermline, Scotland, 1969</p> <p>She is chair of Scottish Ensemble, vice-chair of Scotland's 2020 Climate Group, and member of the Board of Scottish Water and its Remuneration Committee, of the GlobalScot Network and of the Advisory Board for the Imperial College London MBA. She also performs advisory and business coaching work.</p> <p>Academic training</p> <p>Bachelor of Arts in Applied Foreign Languages and European Politics from the University of Northumbria, Newcastle (England, United Kingdom) and Post-Graduate degree in EU Law from the University of Nancy (France).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has been a member of the Advisory Council of Scottish Power following the integration of the Scottish company into the Iberdrola Group.</p> <p>Noteworthy experience in other industries</p> <p>She has been a consultant within the European Parliament, where she provided support to the Economic and Monetary Affairs Committee, a board member of Business for Scotland, and the chief executive of Scottish Business in the Community.</p> <p>She has also been a member of the Advisory Board of Breakthrough Breast Cancer and of the Board of Directors of Right Track Scotland, an organisation dedicated to advancing educational, training, and employment opportunities for youths at risk of social exclusion.</p> <p>She was chosen as one of the "Top 100 Women to Watch" according to the FTSE list and Cranfield University, and was a finalist and earned second place in the annual Director of the Year Awards 2012 of IoD Scotland NED.</p>
Ms María Helena Antolín Raybaud	<p>Toulon, France, 1966</p> <p>She is vice-chair of the Board of Directors and member of the Management Committee of Grupo Antolin Irausa, S.A. She is also the president of the Spanish Association of Automotive Equipment and Component Manufacturers (<i>Asociación Española de Fabricantes de Equipos y Componentes para Automoción</i>) (Sernauto), vice president of the Excellence in Management Club (<i>Club de Excelencia en la Gestión</i>), and a board member of France Foreign Trade (<i>Comercio Exterior de Francia</i>), Spain section.</p> <p>Academic training</p>



	<p>Degree in International Business and Business Administration from Eckerd College, St. Petersburg, Florida (United States of America), and a Master of Business Administration from Anglia University, Cambridge (United Kingdom) and from Escuela Politécnica de Valencia (Spain).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has served as an external independent director of Iberdrola Renovables, S.A. and a member of its Related-Party Transactions Committee.</p> <p>She has been in charge of the corporate Industrial and Strategy Divisions of Grupo Antolin Irausa, S.A., where she has also been a director of Human Resources and the head of Total Quality for the Group.</p>
Mr Ángel Jesús Acebes Paniagua	<p>Ávila, Spain, 1958</p> <p>He is chairman and founding partner of Grupo MA Abogados Estudio Jurídico, S.L., as well as sole director and professional partner of Doble A Estudios y Análisis, S.L.P. He is also a trustee of Fundación para el Análisis y Estudios Sociales (FAES) and of Fundación Universitaria de Ávila, UCAV.</p> <p>Academic training</p> <p>Degree in Law from Universidad de Salamanca.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>As a lawyer, he has advised companies in the energy and technological/industrial sectors, among others. He also has significant knowledge of the regulatory area due to his work as a member of the Council of Ministers of the Government of Spain, a senator and a national deputy.</p> <p>Noteworthy experience in other industries</p> <p>He has served on the board of Caja Madrid Cibeles, S.A., which manages the investments of Grupo Caja Madrid in other companies with activities in the financial and insurance sectors (like Mapfre Internacional, S.A.) as well as the retail banking sector outside of Spain. After the public listing of Bankia, S.A., he was a member of the board of Banco Financiero y de Ahorros, S.A. ("BFA"), chairing its Audit and Compliance Committee.</p> <p>In the institutional arena, he has been Minister for Public Administrations, Minister of Justice and Minister of the Interior of the Spanish Government.</p>
Ms Georgina Kessel Martínez	<p>Mexico City, Mexico, 1950</p> <p>She is an independent director of Fresnillo plc and of Grupo Financiero Scotiabank Inverlat, as well as the chair of the latter's Audit Committee, a partner of Spectron E&I and a member of the Business Board of Universidad de las Américas Puebla (UDLAP).</p> <p>Academic training</p> <p>Holder of a degree in Economics from Instituto Tecnológico Autónomo de México and of a Master's and Doctor's degree</p>



	<p>in Economics from Columbia University (New York). Noteworthy experience in the energy and industrial engineering sector She has been chair of the Energy Regulatory Commission (<i>Comisión Reguladora de Energía</i>) and Energy Secretary of the Government of Mexico. She has also been chair of the Board of Directors of Pemex (Petróleos Mexicanos) and of the Board of Directors of the Federal Electricity Commission (<i>Comisión Federal de Electricidad</i>) (CFE). She has participated in the Energy Council of the World Economic Forum and in the United Nations Organization Secretary General's advisory group (Sustainable Energy for All). Noteworthy experience in other industries She has been an adviser to the chair of the Federal Competition Commission (<i>Comisión Federal de Competencia</i>), head of the Quasi-Autonomous Non-Governmental Organisations Investment and Divestment Unit (<i>Unidad de Inversiones y Desincorporación de Entidades Paraestatales</i>) of the Office of the Secretary of Finance and Public Credit of Mexico, general manager of the National Mint of Mexico (<i>Casa de Moneda de México</i>), member of the boards of Nacional Financiera (Nafinsa) and of Banco Nacional de Comercio Exterior (Bancomext), and general manager of Banco Nacional de Obras y Servicios Públicos. In the academic field, she has been a professor in the Economics Department of Instituto Tecnológico Autónomo de México, deputy chair of the course towards a Degree in Economics, and chair of the Alumni Association. She has also been holder of the Quintana Chair for Research in International Trade and is the author of many papers and specialised articles.</p>
Ms Denise Holt	<p>Vienna, Austria, 1949 She is an independent director and member of the Audit Committee of HSBC UK Bank plc, chair and independent director of M&S Financial Services Ltd., member of the Board of the University of Sussex and President of Cañada Blanch Centre for Contemporary Studies of the London School of Economics and Political Science (LSE). Academic training Degrees in Spanish Philology, French Philology, and Political Sciences from the University of Bristol and Doctor of Laws from the same university (England, United Kingdom). Noteworthy experience in the energy and industrial engineering sector She has been a director of Scottish Power Renewable Energy Ltd. and of Scottish Power Energy Networks Holdings Ltd. Noteworthy experience in other industries</p>



	<p>In her diplomatic career, she has been first secretary of the Embassy of the United Kingdom in Brazil, director of Human Resources, of Migration and of the Overseas Territories at the UK Foreign and Commonwealth Office, and ambassador of the United Kingdom to Mexico, Spain and Andorra. For her contribution to the British diplomatic service, she was elevated to Dame Commander of the Order of St Michael and St George (DCMG).</p> <p>She has also been a member of the Risk Committee of HSBC Bank plc, an independent director and member of the Quality and Safety and Remuneration Committees of the Board of Directors of Nuffield Health, chair of the Anglo-Spanish Society and of the Institute of Latin American Studies at the University of London, and has chaired the Nominations Committee of the Alzheimer's Society.</p>
Mr José W. Fernández	<p>Cienfuegos, Cuba, 1955</p> <p>He is a partner of Gibson, Dunn & Crutcher and a member of the board of directors of the Council of the Americas and the Center for American Progress.</p> <p>Academic training</p> <p>Degree in History from Dartmouth College (New Hampshire, United States of America), and Juris Doctor from Columbia University (New York, United States of America).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been Assistant Secretary of State for Economic, Energy and Business Affairs for the United States of America. He has also been an independent director of Iberdrola USA, Inc.</p> <p>Noteworthy experience in other industries</p> <p>He has served on the boards of Dartmouth College, NPR Station WBGO-FM, the Middle East Institute, and Ballet Hispanico of New York and of non-governmental institutions such as Acción Internacional. He has also been the State Department's representative on the Committee on Foreign Investment in the United States.</p> <p>In addition, he was named one of the "World's Leading Lawyers" by Chambers Global for his M&A work, an "Expert" by the International Financial Law Review, one of the "World's Leading Privatization Lawyers" by Euromoney, and "Embajador de la Marca España" (Ambassador of the Spain Brand).</p>
Mr Manuel Moreu Munaiz	<p>Pontevedra, Spain, 1953</p> <p>He is president of the Seaplace, S.L., sole director of H.I. de Iberia Ingeniería y Proyectos, S.L. and of Howard Ingeniería y Desarrollo, S.L., a director of Tubacex, S.A. and a member of the Spanish Committee of Lloyd's Register EMEA. He is also a professor of the Master's Programme in Oil at Universidad Politécnica de Madrid (ETSIM), of the Maritime Master's Programme of Instituto Marítimo Español and of Universidad Pontificia Comillas.</p>



	<p>Academic training</p> <p>Doctorate in naval engineering from Escuela Técnica Superior de Ingenieros Navales (ETSIN) of the Universidad Politécnica de Madrid, and Master's degree in Oceanic Engineering from the Massachusetts Institute of Technology (MIT).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been a member of the Corporate Social Responsibility Committee of Iberdrola, S.A., of the Board of Directors of Iberdrola Renovables, S.A., and a director and member of the Audit and Compliance Committee of Gamesa Corporación Tecnológica, S.A.</p> <p>Noteworthy experience in other industries</p> <p>He has been a member of the board of Metalships and Docks, S.A., Neumáticas de Vigo, S.A. and Rodman Polyships, S.A., dean of the Colegio Oficial de Ingenieros Navales y Oceánicos de Madrid y de España, president of the Spanish Institute of Engineering, and a professor of the Escuela Técnica Superior de Ingenieros Navales of the Universidad Politécnica de Madrid and for the Repsol's Masters programme in oil.</p>
Mr Juan Manuel González Serna	<p>Madrid, Spain, 1955</p> <p>He is the chairman of Cerealto SIRO Foods, a business group in the food sector, and a member of the Governing Board of the Spanish Commercial Coding Association (<i>Asociación Española de Codificación Comercial</i>) (AECOC).</p> <p>He is also a founding trustee and chairman of the Grupo SIRO Foundation.</p> <p>Academic training</p> <p>Degree in Law, Economics and Business Studies from the Instituto Católico de Administración y Dirección de Empresas (ICADE) of Universidad Pontificia Comillas (Madrid) and Masters in Business Administration (MBA) from the Escuela de Dirección del Instituto de Estudios Superiores de la Empresa de la Universidad de Navarra (IESE Business School) in Barcelona.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been an independent director of Iberdrola España, S.A.U. and of Iberdrola Renovables, S.A., as well as chair of the Appointments and Remuneration Committee of the latter company.</p> <p>Noteworthy experience in other industries</p> <p>Apart from the food sector, he also has extensive experience in the finance, venture capital and health sectors: he is a member of the advisory board of Rabobank in Spain and Europe and has been a member of the board of Banco Urquijo Sabadell Banca Privada, S.A. and of Sociedad para el Desarrollo Industrial de Castilla y León, Sociedad de Capital Riesgo, S.A. (SODICAL, now Ade Capital Social,</p>



	<p>Sociedad de Capital Riesgo de Régimen Común, S.A.). He is also a member of the board of directors of the HM Hospitales Group.</p>
Mr Anthony L. Gardner	<p>Washington D.C., United States of America, 1963</p> <p>He is a member of the board of directors of Brookfield Business Partners LP, senior adviser at the consulting firm Brunswick Group, LLP and senior counsel in the law firm Sidley Austin LLP, where he works in the International Trade and Privacy and Cybersecurity areas. He is also an adviser to the Bill and Melinda Gates Foundation and a member of the advisory boards of the Centre for European Reform, the German Marshall Fund and the European Policy Centre.</p> <p>Academic training</p> <p>He studied Government at Harvard University and International Relations at the University of Oxford. He holds a Juris Doctor degree from Columbia Law School and a Masters in Finance from London Business School.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He was an independent director of Scottish Power, Ltd and a member of that company's Audit and Compliance Committee.</p> <p>Noteworthy experience in other industries</p> <p>He was the US ambassador to the European Union from 2014 to 2017. Prior to that appointment, for six years he was the managing director at Palamon Capital Partners, a private equity firm based in London. He was also the director of one of the finance departments of Bank of America and of GE Capital, as well as director in the international acquisitions group of GE International. He has also worked as an attorney at international law firms in London, Paris, New York and Brussels.</p> <p>He has dedicated more than twenty years of his career to US-European affairs, as a government official, lawyer and investor. As Director for European Affairs on the National Security Council (1994-1995), he worked closely with the US Mission to the European Union to launch the Transatlantic Free Trade Agreement.</p> <p>He had previously worked with the Treuhandanstalt (German Privatisation Ministry) in Berlin, with the Stock Exchange Operations Committee in Paris and as secondee for the European Commission in Brussels. He is the author of "A New Era in US-EU Relations? The Clinton Administration and the New Transatlantic Agenda" and numerous articles on EU affairs.</p>

Number of independent directors	9
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Percentage of the Board	64.29
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Remarks

State whether any independent director receives from the company or any company in the group any amount or benefit other than compensation as a director, or has or has had a business relationship with the company or any company in the group during the past year, whether in his or her own name or as a significant shareholder, director or senior executive of a company that has or has had such a relationship.

In this case, include a statement by the Board explaining why it believes that the director in question can perform his or her duties as an independent director.

Name of director	Description of the relationship	Statement of the Board

1.1.1.2 OTHER EXTERNAL DIRECTORS

Name of director	Reason	Company, director or shareholder to whom the director is related	Profile
Ms Inés Macho Stadler	More than 12 years have passed since appointment.		<p>Bilbao, Spain, 1959</p> <p>She is a professor of Economics in the Economics and Economic History Department of Universidad Autónoma de Barcelona and a professor of the Barcelona Graduate School of Economics. She is also an honorary member of the European Economic Association and of the Spanish Economic Association (<i>Asociación Española de Economía</i>) as well as a member-elect of The Academy of Europe.</p> <p>Academic training</p> <p>Degree in Economics from Universidad del País Vasco, Master in Economics from l'École des Hautes Études en Sciences Sociales, and Doctor in Economics (Ph.D.) from the same academic institution and from l'École</p>



			<p>Nationale de la Statistique et de l'Administration Économique (ENSAE) (Paris, France).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has served as lead independent director (<i>consejera coordinadora</i>) of Iberdrola, S.A. and chair of its Remuneration Committee.</p> <p>Noteworthy experience in the energy and industrial economy sector</p> <p>She has been a member of the International Scientific Advisory Committee of the Basque Centre for Climate Change (bc3) and has served as chair of the Scientific Committee of the 2011 Conference of the Spanish Association for Energy Economics (<i>Asociación Española para la Economía Energética</i>).</p> <p>Noteworthy experience in other industries</p> <p>She has been president of the Spanish Economic Association, coordinator of the National Agency for Quality Evaluation and Accreditation (<i>Agencia Nacional de Evaluación y Prospectiva</i>), and representative at the European Science Foundation, as well as a member-elect of the Council of the European Economic Association and a member of the Executive Committee of the European Association for Research in Industrial Economics. She has been a member of the Advisory Board of the Research Service of Caja de Ahorros y Pensiones de Barcelona, "la Caixa".</p> <p>She has taught at universities in Germany, Belgium, Brazil, Denmark, France, Portugal and Spain.</p>
Mr Iñigo Victor de Oriol Ibarra	More than 12 years have passed since appointment.	IBERDROLA	<p>Madrid, Spain, 1962</p> <p>He is a member of the board of Empresa de Alumbrado Eléctrico de Ceuta, S.A.</p> <p>Academic training</p> <p>Bachelor of Arts in International Business from Schiller International University (Madrid), a graduate of the Executive Corporate Management Programme of IESE Business School, and Certified European Financial Analyst (CEFA) from Instituto Español de Analistas Financieros.</p> <p>Noteworthy experience in the energy</p>



			<p>and industrial engineering sector</p> <p>He has been chair of Electricidad de La Paz, S.A. (Bolivia), of Empresa de Luz y Fuerza Eléctrica de Oruro, S.A. (Bolivia), and of Iberoamericana de Energía Ibener, S.A. (Chile), as well as a member of the board of Neoenergia, S.A. (Brazil) and of Empresa Eléctrica de Guatemala, S.A.</p> <p>He has also been a member of the Remuneration Committee of Iberdrola, S.A., director of Corporate Governance for the Americas of Iberdrola, S.A., director of Management Control at Amara, S.A., and a financial analyst in the Financial Division and the International Division of Iberdrola, S.A. Noteworthy experience in other industries</p> <p>He has been chair of Empresa de Servicios Sanitarios de Los Lagos, S.A. (ESSAL) in Chile.</p>
Mr Xabier Sagredo Ormaza	He is chair of the Board of Trustees of Bilbao Bizkaia Kutxa Fundación Bancaria, the principal shareholder of Kutxabank, S.A.	KUTXABANK	<p>Portugalete, Spain, 1972</p> <p>He is chair of the Board of Trustees of Bilbao Bizkaia Kutxa Fundación Bancaria-Bilbao Bizkaia Kutxa Banku Fundazioa, of BBK Fundazioa and of Fundación Eragintza. He is also a trustee of Biocruces Sanitary Research Institute, of the Bilbao Museum of Fines Arts and of the Guggenheim Foundation, at which he also serves as member of the Executive Committee. In addition, he is a member of the Orkestra Basque Institute of Competitiveness and of the Board of Directors of the Management Council of Universidad de Deusto, and is a visiting professor at various institutions.</p> <p>Academic training</p> <p>Degree in Economics and Business from Universidad del País Vasco, with a major in Finance, and holder of postgraduate degrees in various areas. Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been a director of Iberdrola Generación, S.A. and a member of its Audit and Compliance Committee.</p> <p>He has also been a director of Iberdrola Distribución Eléctrica, S.A., at which he has held the position of chair of the Audit and Compliance Committee.</p>

			<p>Noteworthy experience in other industries</p> <p>He has been the director of the Expansion and Assets area of the credit institution Ipar Kutxa, managing director of the concessionaire Transitia, and a member of the Board of the Bilbao Port Authority.</p> <p>In addition, he has been chair and vice-chair of the Board of Directors of Caja de Ahorros Bilbao Bizkaia Kutxa, Aurrezki Kutxa eta Bahitetxea (BBK), and chair of its Audit Committee.</p>
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Total number of other external directors	3
Percentage of the Board	21.43

Remarks

State any changes in status that have occurred during the period for each director:

Name of director	Date of change	Previous Status	Current status
Ms Inés Macho Stadler	07/06/2018	Independent	Other external

Remarks
Twelve years have passed since appointment.

C.1.4 Complete the following table with information relating to the number of female directors at the close of the past 4 years, as well as the category of each:

	Number of female directors				% of directors for each category			
	Year t	Year t-1	Year t-2	Year t-3	Year t	Year t-1	Year t-2	Year t-3
Executive	-	-	-	-	-	-	-	-
Proprietary	-	-	-	-	-	-	-	-
Independent	4	5	5	5	44	50	50	50
Other external	1				6			
Total:	5	5	5	5	35.71	35.71	35.71	35.71



Remarks
The Board of Directors has proposed to the shareholders at the General Shareholders' Meeting to be held on 29 March 2019 the appointment of Sara de la Rica Goiricelaya in order to fill the vacancy occurring due to the end of the term of Ángel Jesús Acebes Paniagua. If such proposal is approved, the percentage of women on the Board of Directors will increase to 50% of the external directors.

C.1.5 State whether the company has diversity policies in relation to the Board of Directors of the company on such questions as age, gender, disability and training and professional experience. Small and medium-sized enterprises, in accordance with the definition set out in the Accounts Audit Act, will have to report at least the policy they have implemented in relation to gender diversity.

(i) Yes ☒ No ☐ Partial policies ☐

Should this be the case, describe these diversity policies, their objectives, the measures and way in which they have been applied and their results over the year. Also state the specific measures adopted by the Board of Directors and the appointments and remuneration committee to achieve a balanced and diverse presence of directors.

In the event that the company does not apply a diversity policy, explain the reasons why.

Description of policies, objectives, measures and how they have been implemented, including results achieved
<p>The Company's Corporate Governance System, and particularly the Board of Directors Diversity and Director Candidate Selection Policy, entrusts the Appointments Committee with the duty to ensure that when new vacancies are filled or new directors are appointed, the selection procedures are free from any implied bias entailing any kind of discrimination and, in particular, that such procedures do not hinder the selection of female directors. The goals thereof include ensuring that female directors continue to account for at least 30% of the Board of Directors by the year 2020.</p> <p>Five of the fourteen members of the Board of Directors are currently women. One of them holds the position of vice chair of the Board of Directors and another three chair three of the four consultative committees.</p> <p>On 7 June 2006, the Board of Directors appointed Ms Inés Macho Stadler as independent director on an interim basis to fill a vacancy; such appointment was ratified by the shareholders at the General Shareholders' Meeting held on 29 March 2007, where the shareholders</p>

also approved her re-election for a five-year period. On 22 September 2009, Ms Inés Macho Stadler was appointed as lead independent director (*consejera coordinadora*), in which position she was replaced by Mr Juan Manuel González Serna. On 21 June 2018 Ms Inés Macho Stadler was appointed vice chair of the Board of Directors.

At its meeting of 31 July 2008, the Board of Directors resolved to appoint Ms Samantha Barber as an independent director on an interim basis to fill a vacancy; such appointment was ratified by the shareholders at the General Shareholders' Meeting held on 20 March 2009. Ms Barber has also chaired the Sustainable Development Committee since 24 April 2012.

The shareholders at the General Shareholders' Meeting held on 26 March 2010 approved the proposed appointment of Ms María Helena Antolín Raybaud, with the classification of external independent director.

On 23 April 2013, Iberdrola's Board of Directors approved the interim appointment of Ms Georgina Kessel Martinez as an external independent director, which appointment was subsequently ratified by the shareholders at the General Shareholders' Meeting held on 28 March 2014. Furthermore, Ms Kessel Martínez was appointed chair of the Audit and Risk Supervision Committee on 17 February 2015.

On 24 June 2014, the Board of Directors approved the interim appointment of Ms Denise Holt as an external independent director. This appointment was ratified by the shareholders at the General Shareholders' Meeting held on 27 March 2015.

The Appointments and Remuneration Committee was split into two separate committees on 27 March 2015. The appointment of Ms María Helena Antolín Raybaud and of Ms Inés Macho Stadler as chairs of the Appointments Committee and the Remuneration Committee, respectively, was approved for these purposes.

The Board of Directors has proposed to the shareholders at the General Shareholders' Meeting to be held on 29 March 2019 the appointment of Sara de la Rica Goiricelaya in order to fill the vacancy occurring due to the end of the term of Ángel Jesús Acebes Paniagua. If such proposal is approved, the percentage of women on the Board of Directors will increase to 50% of the external directors.

It should also be noted that the Board of Directors, at its meeting held on 19 December 2017, approved a Board of Directors Diversity and Director Candidate Selection Policy, the new name of the former Director Candidate Selection Policy, which is intended to cause the composition of the Board of Directors to reflect a maximum diversity of skills and viewpoints with special emphasis on issues such as age, gender, disability, training and professional experience. This Policy is available on the corporate website (www.iberdrola.com) where the Activities Report of the Board and of the Committees thereof can also be found. Among other issues, this Report details the professional skills



and experience of the directors and is a good example of the application of the Policy.

C.1.6 Describe the means, if any, agreed upon by the appointments committee to ensure that selection procedures do not contain hidden biases which impede the selection of female directors and that the company deliberately seeks and includes women who meet the target professional profile among potential candidates and which makes it possible to achieve a balance between men and women:

Explanation of means
<p>The <i>Board of Directors Diversity and Director Candidate Selection Policy</i> ensures that the proposed appointments of directors are based on a prior analysis of the needs of the Board of Directors. In particular, the candidates must be respectable and qualified persons, widely recognised for their expertise, competence, experience, qualifications, training, availability and commitment to their duties. They must be irreproachable professionals, whose professional conduct and background is aligned with the principles set forth in the Directors' Code of Ethics and the corporate values contained in the Mission, Vision and Values of the Iberdrola group.</p> <p>In the selection of candidates, it also endeavours to ensure a diverse and balanced composition of the Board of Directors overall, such that decision-making is enriched and multiple viewpoints are contributed to the discussion of the matters within its purview. To this end, the selection process shall promote a search for candidates with knowledge and experience in the main countries and sectors in which the group does or will do business. The directors must also have sufficient knowledge of the Spanish and English languages to be able to perform their duties.</p> <p>In turn, the Board has entrusted to the Appointments Committee the responsibility of ensuring that when new vacancies are filled or new directors are appointed, the selection procedures are free from any implied bias entailing any kind of discrimination and, in particular, from any bias that might hinder the selection of female directors.</p>

In the event that there are few or no female directors in spite of any measures adopted, please explain the reasons that justify such a situation:

Explanation of reasons
Not applicable

C.1.7 Describe the conclusions of the appointments committee regarding verification of compliance with the selection policy for directors; in particular, as it relates to the goal of ensuring that the number of

female directors represents at least 30% of the total membership of the Board of Directors by the year 2020.

The Remuneration Committee believes that IBERDROLA is developing the Diversity Policy in a fully consistent manner and that the objectives for 2020 were met significantly in advance, as shown in section C.1.4 of this Report.

C.1.8 If applicable, please explain the reasons for the appointment of any proprietary directors at the request of shareholders with less than a 3% equity interest:

Name of shareholder	Reason

State whether the Board has failed to meet any formal requests for membership from shareholders whose equity interest is equal to or higher than that of others at whose request proprietary directors have been appointed. If this is the case, please explain why the aforementioned requests were not met:

Yes ☐

No ☒

Name of shareholder	Explanation

C.1.9 State the powers delegated by the Board of Directors, as the case may be, to directors or Board committees:

Name of director or committee	Brief description
Mr José Ignacio Sánchez Galán	The chairman & CEO, as an individual decision-making body, has all the powers that may be delegated under the law and the By-Laws.
Executive Committee	All the powers inherent to the Board of Directors, except for those powers that may not be delegated pursuant to law or the Corporate Governance System.

C.1.10 Identify any members of the Board who are also directors, representatives of directors or officers in other companies in the group of which the listed company is a member:

Name of director	Name of group member	Position		Does the director have executive powers?
Mr José Ignacio Sánchez Galán	SCOTTISH POWER LTD.	Chair		No
Mr José Ignacio Sánchez Galán	AVANGRID, INC.	Chair		No
Mr José Ignacio Sánchez Galán	NEOENERGIA, S.A.	Chair		No
Mr Francisco Martínez Córcoles	IBERDROLA ESPAÑA, S.A.	Chair		No
Mr Francisco Martínez Córcoles	IBERDROLA MÉXICO, S.A. DE C.V.	Director		No

Remarks

C.1.11 List any directors or representatives of legal person-directors of your company who are members of the Board of Directors of other companies listed on official securities markets other than group companies, and have communicated that status to the Company:

Name of director	Name of listed company	Position
MS GEORGINA KESSEL MARTÍNEZ	GRUPO FINANCIERO SCOTIABANK INVERLAT, S.A. DE C.V.	Director
MS GEORGINA KESSEL MARTÍNEZ	FRESNILLO, PLC	Director
MR MANUEL MOREU MUNAIZ	TUBACEX, S.A.	Director

Remarks

C.1.12 State whether the company has established rules on the number of boards on which its directors may hold seats, providing details if applicable, identifying, where appropriate, where this is regulated:

Yes ☒ X

No ☐

Explanation of the rules and identification of the document where this is regulated
Pursuant to the Regulations of the Board of Directors, individuals or legal entities serving as directors in more than five companies, of which no more than three may have shares trading on domestic or foreign stock exchanges, may not be appointed as directors. Positions within holding companies are excluded from the calculation. Furthermore, companies belonging to the same group shall be deemed to be a single company.

C.1.13 State total remuneration received by the Board of Directors:

Board remuneration in financial year (thousand euros)	16,987
Amount of vested pension interests for current members (thousand euros)	0
Amount of vested pension interests for former members (thousand euros)	0

Remarks
This amount includes the remuneration received (5,434 thousand euros) by all of their directors for their performance as such during financial year 2018 (fixed remuneration, attendance fees and other items) as well as salaries, annual variable remuneration and the shares received by the executive directors in payment of the second period of the 2014-2016 Strategic Bonus, all of which is duly described in the Annual Director Remuneration Report.

C.1.14 Identify senior management staff who are not executive directors and their total remuneration accrued during the year:

Name	Position
Mr José Sainz Armada	CFO
Mr Juan Carlos Rebollo Liceaga	Administration and Control Director
Mr Pedro Azagra Blázquez	Corporate Development Director
Mr Santiago Martínez Garrido	Director of Legal Services
Ms Sonsoles Rubio Reinoso	Director of Internal Audit

Total senior management remuneration (thousand euros)	10,344
Remarks	
The amount of the fixed and variable remuneration of the directors of the Iberdrola group (150 people) is 47,310 thousand euros. This figure does not include the total of the shares delivered in payment of the long-term incentives.	

C.1.15 State whether the Board rules were amended during the year:

Yes ☒ x

No ☐ □

Description of changes
<p>A new Title I has been introduced regarding the principles that should govern the conduct of the Board of Directors, in order to include within the guidelines for their conduct the effective engagement of shareholders and other stakeholders, satisfaction of the corporate interest, commitment to the social dividend and conformance of the work of the Board of Directors and all of its members to the Company's Code of Ethics. In particular, the Board of Directors' commitment to the Sustainable Development Goals (SDGs) approved by the United Nations and to the fight against climate change has been made explicit.</p> <p>There has also been an update of references to the Corporate Social Responsibility Committee, which in October 2018 became the Sustainable Development Committee, and other technical improvements have been made in order to clarify the powers of the Board of Directors and of the lead independent director, as well as to simplify and improve the consistency of the regulation of the committees.</p>

C.1.16 Specify the procedures for selection, appointment, re-election and removal of directors: the competent bodies, steps to follow and criteria applied in each procedure.

1. APPOINTMENT AND RE-ELECTION OF DIRECTORS

The appointment, re-election, and removal of directors is within the purview of the shareholders at the General Shareholders' Meeting.



Vacancies that occur may be filled by the Board of Directors on an interim basis until the next General Shareholders' Meeting.

The Appointments Committee must advise the Board of Directors regarding the most appropriate configuration thereof and of its committees as regards size and equilibrium among the various classes of directors existing at any time. This is in any event based on the conditions that candidates for director must meet pursuant to the Board of Directors Diversity and Director Candidate Selection Policy.

The following may not be appointed as directors or as individuals representing a corporate director:

- a) Domestic or foreign companies competing with the Company in the energy industry or other industries, or the directors or senior officers thereof, or such persons, if any, as are proposed by them in their capacity as shareholders.
- b) Individuals or legal entities serving as directors in more than five companies, of which no more than three may have shares trading on domestic or foreign stock exchanges.
- c) For purposes of the provisions of the preceding paragraph, positions within holding companies are excluded from the calculation. Furthermore, companies belonging to the same group shall be deemed to be a single company.
- d) Persons who, during the two years prior to their appointment, have occupied high-level positions in Spanish government administrations that are incompatible with the simultaneous performance of the duties of a director of a listed company under Spanish national or autonomous community law, or positions of responsibility with entities regulating the energy industry, the securities markets, or other industries in which the Group operates.

Individuals or legal entities that are under any other circumstance of disqualification or prohibition governed by provisions of a general nature, including those that have interests in any way opposed to those of the Company or the Group.

The Board of Directors and the Appointments Committee, within the scope of their powers, shall endeavour to ensure that the candidates proposed are respectable and qualified persons, widely recognised for their expertise, competence, experience, qualifications, training, availability, and commitment to their duties.

It falls upon the Appointments Committee to propose the independent directors, as well as to report upon the proposals relating to the other classes of directors.

If the Board of Directors deviates from the proposals and reports of the Appointments Committee, it shall give reasons for so acting and shall record such reasons in the minutes.

2. EVALUATION OF DIRECTORS

The Board of Directors annually evaluates: (i) its operation and the quality of its



work; (ii) the performance of their duties by the chairman of the Board of Directors & CEO and by the Business CEO, based on the report submitted thereto by the Appointments Committee; and (iii) the operation of its committees, in view of the report submitted thereto by such committees. For such purpose, the chairman of the Board of Directors shall organise and coordinate the aforementioned evaluation process with the chair of each committee. The following section reports on the evaluation process during financial year 2018.

3. REMOVAL OF DIRECTORS

Directors shall serve in their position for a term of four (4) years, so long as the shareholders acting at the General Shareholders' Meeting do not resolve to remove them and they do not resign from their position.

The Appointments Committee shall inform the Board of Directors regarding proposed removals due to breach of the duties inherent to the position of director or due to a director becoming affected by supervening circumstances of mandatory resignation or withdrawal. In addition, the Committee may propose the removal of directors in the event of disqualification, structural conflict of interest, or any other reason for resignation or withdrawal, pursuant to law or the Company's Corporate Governance System.

The Board of Directors may propose the removal of an independent director before the passage of the period provided for in the By-Laws only upon sufficient grounds, evaluated by the Board of Directors after a report from the Appointments Committee, or as a consequence of takeover bids, mergers, or other similar corporate transactions resulting in a significant change in the structure of the Company's share capital, as recommended by the Good Governance Code of Listed Companies.

C.1.17 Explain how the annual evaluation of the Board has given rise to significant changes in its internal organisation and to procedures applicable to its activities:

Description of changes
<p>The Iberdrola group has an on-going commitment to the development of its corporate governance. Along these lines, Iberdrola evaluates the operation of its governance bodies on an annual basis, and based on the conclusions obtained, identifies the principal areas of work for the coming year.</p> <p>More than 98% of the work areas defined in the evaluation process from the prior year were met during 2018. Specifically, significant advancements were made in the following areas:</p> <p>Composition of the governance bodies:</p> <ul style="list-style-type: none"> - Appointment of Mr Juan Manuel González Serna as lead independent director (<i>consejero coordinador</i>). - Appointment of Ms Inés Macho Stadler as vice-chair of the Board of Directors. - Staggered renewal of the Board of Directors, with the appointment of Mr Anthony L. Gardner, who has a profile aligned with the



needs specified in the renewal planning matrix for the Board of Directors.

- Strengthening of the checks-and-balances system with the appointment of CEOs at the country subholding companies.

Operation:

- Preparation of an orientation programme for new directors.
- Implementation within the Audit and Risk Supervision Committee of the recommendations contained in Technical Guide 3/2017 on audit committees at public-interest entities.
- Allocation of new talent management and promotion powers to the Appointments Committee.
- Approval of a new *Director Remuneration Policy* at the 2018 General Shareholders' Meeting.
- Preparation of a comparative analysis of the remuneration of the executive directors with the support of an external adviser.
- Inclusion of the SDGs approved by the UN in more than 30 corporate policies and rules of the Corporate Governance System.

Stakeholder engagement:

- Contact by the lead independent director with shareholders of the Company.
- Continuous analysis of the main issues raised by the shareholders and other stakeholders.
- Expansion of the information published regarding shareholder engagement, describing the main issues discussed with the shareholders at the corporate governance roadshows.
- Iberdrola's joining the *Task force on Climate Related Financial Disclosure* initiative.

Describe the evaluation process and the areas evaluated by the Board of Directors with the help, if any, of external advisors, regarding the function and composition of the board and its committees and any other area or aspect that has been evaluated.

Description of the evaluation process and evaluated areas

The Board of Directors evaluates its performance on an annual basis. The evaluation of the chairman & CEO was led by the lead independent director. The process concluded at the meeting of the Board of Directors held on 19 February 2019, which approved the results of the evaluation of financial year 2018 and the Continuous Improvement Plan for financial year 2019.

In order to align the Company with best international practices, it was decided to hire PricewaterhouseCoopers Asesores de Negocios, S.L. ("PwC") as an external adviser in the evaluation process.

The evaluation process verifies compliance with legal provisions and the Company's Corporate Governance System. It also includes a comparative analysis covering more than 20 domestic and international companies and monitors the most advanced corporate governance trends. In addition, it evaluates the achievement of the areas of work identified in the evaluation from the prior year.

The evaluation also serves as an instrument to perfect corporate governance practices, as it allows for identification of opportunities for



improvement that are specified in the Continuous Improvement Plan. The conclusions of the evaluation process reflect compliance with the indicators relating to mandatory legal rules and regulations and an alignment of more than 95% with the comparative analysis, with the latest international trends and with the implementation of the areas for improvement identified during prior years.

The Continuous Improvement Plan 2019 deriving from the evaluation process focuses on continuing to advance in three areas, principally:

- Strengthening supervision in critical areas, like the monitoring of factors that could eventually involve major changes in strategy, performance or the environment in which the Company competes.
- Continuing to adopt best international practices on the operation of consultative committees.
- Reviewing new developments arising from the CNMV's draft Technical Guide on Nomination and Remuneration Committees and identifying actions for greater implementation thereof.

C.1.18 Describe, in those years in which the external advisor has participated, the business relationships that the external advisor or any group company maintains with the company or any company in its group.

Iberdrola has been assisted by an outside consultant for the last 9 years. In 2017 and 2018, business relations with PwC came to an aggregate of 10.7 million euros and 11.2 million euros, respectively. The amount of billing by PwC for advising the Board of Directors and the Office of the Secretary thereof in 2018 was 500,000 euros.

C.1.19 State the situations in which directors are required to resign.

Directors must submit their resignation from the position and formally resign from their position upon the occurrence of any of the instances of disqualification from or prohibition against performing the duties of director provided by law or by Iberdrola's Corporate Governance System.

In this connection, the Regulations of the Board of Directors provide that the directors must submit their resignation to the Board of Directors in the following cases:

- a) When, due to supervening circumstances, they are involved in any circumstance of disqualification or prohibition provided by law or the Corporate Governance System.
 - b) When, as a result of any acts or conduct attributable to the director, serious damage is caused to the value or reputation of the Company or there is a risk of criminal liability for the Company or any of the companies of the group.
 - c) When they cease to deserve the respectability or to have the capability, expertise, competence, availability or commitment to their duties required to be a director of the Company.
- In particular, when the activities carried out by the director, or the companies directly or indirectly controlled by the director, or the individuals or legal entities that are shareholders of or related to any of them, or the individual representing a corporate director, may



- compromise the competence of the director.
- d) When they are seriously reprimanded by the Board of Directors because they have breached any of their duties as directors, by resolution adopted by a two-thirds majority of the directors.
 - e) When their continuance in office on the Board of Directors may for any reason, either directly, indirectly, or through persons related thereto, jeopardise the faithful and diligent performance of their duties in furtherance of the corporate interest.
 - f) When the reasons why the director was appointed cease to exist and, in particular, in the case of proprietary directors, when the shareholder or shareholders who proposed, requested, or decided the appointment thereof totally or partially sell or transfer their equity interest, with the result that such equity interest ceases to be significant or sufficient to justify the appointment.
 - g) When an independent director unexpectedly falls under supervening circumstances that prevent the director from being considered as such pursuant to the provisions of law.

The resignation provisions set forth under f) and g) above shall not apply when, after a report from the Appointments Committee, the Board of Directors believes that there are reasons that justify the director's continuance in office, without prejudice to the effect that the new supervening circumstances may have on the classification of the director.

C.1.20 Are qualified majorities other than those established by law required for any specific decision?

Yes ☒ X

No ☐

If so, please describe any differences.

Description of differences
<p>The Regulations of the Board of Directors require a majority of at least two-thirds of the directors present at the meeting in person or by proxy to approve the amendment thereof.</p> <p>The serious reprimand of a director for having breached any of the duties entrusted thereto as director under the Regulations of the Board of Directors requires a majority of two-thirds of the directors.</p>

C.1.21 Explain whether there are any specific requirements, other than those relating to directors, to be appointed as chairman of the Board of Directors.

Yes ☐

No ☒ X

Description of requirements

C.1.22 State whether the Articles of Association or the Board Rules establish any limit as to the age of directors:

Yes ☐

No ☒

	Age limit
Chairman	
CEO	
Directors	

Remarks
Each of the non-executive directors has undertaken to tender their resignation to the Board of Directors at the first meeting it holds after they reach seventy years of age or twelve years as a director of the Company.

C.1.23 State whether the Articles of Association or the Board Rules establish any term limits for independent directors or other more stringent requirements in addition to those established by law:

Yes ☐

No ☒

Additional requirements and/or maximum number of term limits	
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C.1.24 State whether the Articles of Association or Board Rules establish specific rules for granting proxies to other directors at Board meetings, how they are to be delegated and, in particular, the maximum number of proxies that a director may have, as well as if there is any limit regarding the category of director to whom a proxy may be granted beyond the limitations imposed by law. If so, please briefly describe the rules.

Pursuant to the By-Laws, all of the directors may cast their vote and give their proxy in favour of another director, provided, however, that non-executive directors may only do so in favour of another non-executive director. The Regulations of the Board of Directors require that directors attend the meetings of the Board of Directors. When directors are unable to attend in person for well-founded reasons, they shall endeavour to give a proxy to another director, to whom they shall give any appropriate instructions, but may not grant a proxy in connection with matters in respect of which they are involved in a conflict of interest.

The proxy granted shall be a special proxy for the Board meeting in question and may be communicated by any means allowing for the receipt thereof.

There is no maximum number of proxies provided per director.

C.1.25 State the number of meetings held by the Board of Directors during the year, and if applicable, the number of times the Board met without the chairman present. Meetings where the chairman sent specific proxy instructions are to be counted as attended.

Number of Board meetings	8
Number of Board meetings without the chairman	

Remarks

State the number of meetings held by the coordinating director with the other directors, where there was neither attendance nor representation of any executive director:

Number of meetings	1
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Remarks
Pursuant to the provisions of art. 45 of the By-Laws, the lead independent director coordinates, meets with and reflects the concerns of the non-executive directors, and also directs the periodic evaluation of the chairman of the Board of Directors and leads any process for the succession thereof. In the exercise of these powers, the lead independent director has had meetings with the non-executive directors and, in particular, contacted all of the independent directors, who unanimously resolved to propose the re-election of the chairman & CEO.

Please specify the number of meetings held by each committee of the Board during the year:

Number of meetings held by the Executive Committee	15
Number of meetings held by the Audit and Risk Supervision Committee	12
Number of meetings held by the Appointments Committee	6
Number of meetings held by the Remuneration Committee	6
Number of meetings held by the Sustainable Development Committee	7

Remarks
The Appointments Committee adopted resolutions in writing and without a meeting on three occasions. The Remuneration Committee adopted resolutions in writing and without a meeting on two occasions.

C.1.26 State the number of meetings held by the Board of Directors during the year and information regarding the attendance of its members:

Number of meetings with the attendance of at least 80% of the directors	8
% personal attendance of total votes during the year	100.00
Number of meetings with all directors attending in person or by proxy with specific instructions	8
% of votes cast in person and by proxy with specific instructions of all votes cast during the year	100.00

Remarks
The attendance of each and every one of the directors at the meetings of the Board of Directors and its committees during financial year 2018 is detailed in the Annex to this Report.

C.1.27 State if the individual and consolidated financial statements submitted to the Board for preparation were previously certified:

Yes ☒ No ☐

Identify, if applicable, the person/s who certified the individual and consolidated financial statements of the company for preparation by the Board:

Name	Position
Mr José Ignacio Sánchez Galán	Chairman & CEO
Mr Juan Carlos Rebollo Liceaga	Administration and Control Director

Remarks
The Iberdrola Group has established a certification process by which those responsible for financial information in the different areas of the Company certify that: (i) the financial information they deliver to Iberdrola for purposes of consolidation does not contain any material errors or omissions and provides a fair view of the results and the financial condition within their area of responsibility, and (ii) they are responsible for establishing the ICFRS within their area of responsibility and have found, upon evaluation, that the system is effective. The text of these

certifications is inspired by the form of certification established in section 302 of the U.S. Sarbanes-Oxley Act.

The culmination of the process is a joint certification that the chairman & CEO and the director of Administration and Control submit to the Board of Directors.

The process is carried out by means of electronic signature in a software application which manages the areas of responsibility and time periods and which serves as a repository of all the documentation generated, allowing for periodic review by the supervision and control bodies of the Group.

C.1.28 Explain any measures established by the Board of Directors to prevent the individual and consolidated financial statements prepared by the Board from being submitted to the General Shareholders' Meeting with a qualified audit opinion.

The Regulations of the Audit and Risk Supervision Committee provide that it shall have the following duties, among others:

- Supervise the process of preparing and presenting regulated financial information relating to the Company, both individual and consolidated with its subsidiaries, reviewing compliance with legal requirements, the proper delimitation of the scope of consolidation and the correct application of accounting standards, and submit recommendations or proposals to the Board of Directors to safeguard the integrity thereof.
- Establish appropriate relationships with the statutory auditor to receive information regarding matters that might entail a threat to the independence thereof, for examination by the Committee, and any other information related to the development of the audit procedure, as well as such other communications as are provided for in the laws on statutory audit and in other legal provisions on auditing. The Committee must receive written confirmation from the statutory auditors on an annual basis of their independence in relation to the Company or entities directly or indirectly related thereto, as well as a detailed breakdown of information on additional services of any kind provided to and the corresponding fees received from such entities by such statutory auditors or by persons or entities related thereto, pursuant to the legal provisions governing the auditing of accounts.
- On an annual basis, prior to the audit report, issue a report that will express an opinion on whether the independence of the statutory auditors is compromised, which shall be made available to the shareholders upon the terms set forth in the Regulations for the General Shareholders' Meeting. This report shall contain a reasoned assessment of the provision of each and every one of the additional services other than the legal audit referred to in the preceding point, considered individually and as a whole, and in relation to the rules on independence or the legal provisions regarding the statutory audit.
- Report in advance to the Board of Directors regarding the financial information that the Company must disclose on a regular basis because of its status as a listed company; the Committee shall make sure that the interim accounts are prepared in accordance with the same accounting standards as the annual accounts and, for such purpose, it shall consider the appropriateness of a limited review by the statutory auditor.
- Review the contents of the audit reports on the accounts and of the

<p>reports on the limited review of interim accounts, if any, as well as other mandatory reports to be prepared by the statutory auditor, prior to the issuance thereof, in order to avoid qualified reports.</p> <ul style="list-style-type: none"> - Evaluate the results of each audit of accounts and supervise the responses of the senior officers to the recommendations thereof. - Act as a channel of communication between the Board of Directors and the statutory auditors, causing them to hold an annual meeting with the Board of Directors to report thereto on the work performed and the accounting status and risks of the Company. <p>In turn, the Regulations of the Board of Directors provide that:</p> <ul style="list-style-type: none"> - The Board of Directors shall meet with the statutory auditors at least once per year in order to receive information regarding the work performed and regarding the accounting status and risks of the Company. - The Board of Directors shall use its best efforts to definitively prepare the accounts such that there is no room for qualifications by the statutory auditors. However, if the Board of Directors believes that its opinion must prevail, it shall provide a public explanation of the content and scope of the discrepancy. <p>Pursuant to the above-cited rules, the Audit and Risk Supervision Committee reports on the economic/financial information of the Company throughout the financial year and prior to the approval thereof by the Board of Directors and its submission to the National Securities Market Commission (<i>Comisión Nacional del Mercado de Valores</i>). The reports of the Committee, which the chair thereof presents to the full Board of Directors, are mainly intended to disclose such aspects, if any, as may give rise to qualifications in the audit report of Iberdrola and its consolidated group, making the appropriate recommendations to avoid any such qualifications.</p> <p>Accordingly, the Committee submitted to the Board of Directors the following reports regarding the annual and half-yearly financial reports and the interim management statements of the Company for financial year 2018:</p> <ul style="list-style-type: none"> - Report dated 23 April 2018 on the Interim Management Statement for the first quarter of 2018. - Report dated 23 July 2018 on the economic/financial information for the first half of 2018. - Report dated 22 October 2018 on the Interim Management Statement for the third quarter of 2018. - Report dated 18 February 2019 regarding the annual accounts of Iberdrola and its consolidated group for financial year 2018. <p>As disclosed in the information about Iberdrola posted on the website of the National Securities Market Commission (www.cnmv.es), the audit reports on the individual and consolidated annual accounts prepared by the Board of Directors have historically been issued without qualifications.</p>	
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C.1.29 Is the secretary of the Board also a director?

Yes ☐

No ☒

If the secretary is not a director, please complete the following table:

Name of the secretary	Representative
Mr Julián Martínez-Simancas	



Remarks

C.1.30 State, if any, the concrete measures established by the entity to ensure the independence of its external auditors, financial analysts, investment banks, and rating agencies, including how legal provisions have been implemented in practice.

MECHANISMS TO PRESERVE THE INDEPENDENCE OF THE AUDITOR.

The Regulations of the Audit and Risk Supervision Committee and the Statutory Auditor Contracting and Relations Policy, contained within the Company's Corporate Governance System, provide that:

- The relations of the Committee with the statutory auditor of the Company shall respect the independence thereof, in accordance with the provisions of the Corporate Governance System.
- The Audit and Risk Supervision Committee must discuss with the statutory auditor any circumstance that might give rise to a threat to the independence thereof and evaluate the effectiveness of the protective measures adopted, as well as understand and evaluate the set of relationships between the Iberdrola group and the statutory auditor and its network that entail the provision of non-audit services or any other type of relationship.
- The Committee shall ask the statutory auditor to provide an annual certification of independence of the firm as a whole and of the members of the team participating in the process of auditing the annual accounts of the Iberdrola group from the Company or entities directly or indirectly connected thereto, as well as a detailed breakdown of information regarding additional services (other than auditing) of any kind provided by the statutory auditor or by persons connected thereto, pursuant to the law on statutory audit. In addition, the statutory auditor shall include in such certification a statement in which it reports on compliance with the application of the internal procedures of quality assurance and protection of independence that have been implemented.
- The statutory auditor shall provide to the Committee annual information regarding the profiles and the track record of the persons making up the audit teams of the Company and of the Iberdrola group, stating the changes in the composition of such teams compared to the immediately preceding financial year.
- On an annual basis and prior to the issuance of the audit report, the Committee shall issue a report setting forth an opinion on the independence of the statutory auditor. This report must contain an assessment of the possible impact on the independence of the statutory auditor of each and every one of the additional services (other than the legal

audit) of any kind provided by the statutory auditor or by persons connected thereto, considered individually and as a whole.

- The Committee shall monitor the quality assurance and independence safeguarding internal procedures implemented by the statutory auditor.
- The Committee shall not submit a proposal to the Board of Directors, and the Board of Directors shall not submit a proposal to the shareholders at the General Shareholders' Meeting, for appointment as statutory auditor of firms for which it has evidence that they are affected by any circumstance of lack of independence, prohibition or disqualification pursuant to the legal provisions governing the audit of accounts, and in any event if the fees that the Company intends to pay it for any and all services are greater than five percent of its total domestic income during the last financial year.
- The Committee shall receive information on the hiring by any of the companies of the Iberdrola group of professionals coming from the statutory auditor.

The Audit and Risk Supervision Committee has also established a restrictive policy on the services provided by the statutory auditor to the Iberdrola group that are susceptible to being authorised. As regards 2018:

- Iberdrola's statutory auditor, "KPMG Auditores, S.L" ("KPMG") appeared on fifteen occasions before the Audit and Risk Supervision Committee and on one occasion before the Board of Directors to report on various matters relating to the audit process. During these appearances, the statutory auditor did not report issues that might put its independence at risk.
- On 19 February 2018 KPMG sent to the Committee written confirmation of its independence with regard to the audit of the economic/financial information for financial year 2017.
- On 19 July 2018 KPMG sent to the Committee written confirmation of its independence with regard to the limited review of the economic/financial information until 30 June 2018.
- On 18 February 2019 KPMG sent to the Committee written confirmation of its independence with regard to the audit of the economic/financial information for financial year 2018.
- In the letters described above, the statutory auditor represents that it has implemented internal policies and procedures designed to reasonably ensure that KPMG and its personnel maintain their independence when so required by applicable legal provisions.
- The hiring of the statutory auditor for services other than auditing is approved in advance by the Committee. Furthermore, prior to approval thereof, the director of the Audit Area, and if necessary the audit committee and internal audit division of the group company receiving the services, must state that the provision thereof does not generate threats to the independence of the statutory



auditor. In requests for services directed by the Committee, the statutory auditor must confirm that there are no restrictions on independence for the performance of the work in question.

- In its statement of independence of 18 February 2019, KPMG reported that it had no evidence that any member of the teams participating in the audit of the financial statements for financial year 2018 had joined as an employee of Iberdrola or of its related companies.
- On 18 February 2019 the Committee submitted its report to the Board of Directors regarding the independence of the Company's statutory auditor. The Committee concluded that the statutory auditor performed its audit work with independence from Iberdrola or entities related thereto.

MECHANISMS TO PRESERVE THE INDEPENDENCE OF FINANCIAL ANALYSTS, INVESTMENT BANKS, AND RATING AGENCIES.

The principles which form the basis of the relations of the Company with financial analysts, investment banks, and rating agencies are contained in the Policy regarding Communication and Contacts with Shareholders, Institutional Investors, and Proxy Advisors and are transparency, non-discrimination, truthfulness, and trustworthiness of the information supplied. The Finance and Resource Division, through the Investor Relations Division, manages their requests for information and requests submitted by institutional or retail investors (in the case of retail investors, through the Office of the Shareholder). The Finance and Resource Division gives mandates to investment banks. The Development Division gives the appropriate advisory mandates to investment banks within the scope of its activities, in coordination with the Finance and Resource Division.

The independence of financial analysts is protected by the Investor Relations Division, which ensures the objective, fair, and non-discriminatory treatment thereof.

To actualise the principles of transparency and non-discrimination, always in strict compliance with regulations regarding the Securities Market, the Company has a number of communication channels:

- Personalised assistance for analysts, investors, and rating agencies.
- Publication of the information relating to quarterly results and other specific events, such as those relating to the submission of the Business Prospects or to corporate transactions.
- E-mail through the corporate website (accionistas@iberdrola.com) and a toll-free line for shareholders (+34 900 100 019).
- In-person and broadcasted presentations.
- Release of announcements and news.
- Visits to Company facilities.



C.1.31 State whether the company changed its external auditor during the year. If so, please identify the incoming and outgoing auditor:

(ii) Yes ☐
No ☒

Outgoing auditor	Incoming auditor

Remarks

If there were any disagreements with the outgoing auditor, please provide an explanation:

Yes ☐ No ☒

Explanation of disagreements

C.1.32 State whether the audit firm provides any non-audit services to the company and/or its Group and, if so, the fees paid and the corresponding percentage of total fees invoiced to the company and/or Group:

Yes ☐ No ☒

	Company	Group Companies	Total
Amount invoiced for non-audit services (thousand euros)			
Amount invoiced for non-audit services/Amount for audit work (in %)			

Remarks



C.1.33 State whether the auditors' report on the financial statements for the preceding year contains a qualified opinion or reservations. If so, please explain the reasons given to the shareholders at the General Meeting by the chairman of the audit committee to explain the content and extent of the aforementioned qualified opinion or reservations.

Yes ☐

No ☒

Explanation of reasons

C.1.34 State the number of consecutive years the current audit firm has been auditing the financial statements of the company and/or group. Furthermore, state the number of years audited by the current audit firm as a percentage of the total number of years that the financial statements have been audited:

	Individual	Consolidated
Number of consecutive years	2	2

	Individual	Consolidated
Number of years audited by the current audit firm/number of fiscal years the company or its group has been audited (by %)	7.69%	7.69%

Remarks

C.1.35 State whether there is a procedure whereby directors have the information necessary to prepare the meetings of the governing bodies with sufficient time and provide details if applicable:

Yes ☒

No ☐

Explanation of procedure
Section 16 of the General Corporate Governance Policy provides that "the Company has a programme to provide directors with information and updates in response to the need for



professionalisation, diversification and qualification of the Board of Directors.

In order to improve their knowledge of the group, presentations are made to the directors regarding the businesses thereof. In addition, a portion of each meeting of the Board of Directors tends to be dedicated to a presentation on economic, legal or political/social issues of importance to the group.

The directors have access to a specific application, the directors' website, that facilitates performance of their duties and the exercise of their right to receive information. This website includes information deemed appropriate for preparation of the meetings of the Board of Directors and the committees thereof in accordance with the agenda, as well as training materials intended for the directors and presentations made to the Board of Directors.

In addition, the directors shall be given access through the directors' website to the minutes of the meetings of the Board of Directors and the committees thereof, as well as to any other information that the Board of Directors decides to include".

Pursuant to the Regulations of the Board of Directors, there shall be an inclusion on the directors' website of such information as is deemed appropriate for preparation of the meetings of the Board of Directors and the committees thereof, in accordance with the agenda included in the calls to meeting, as well as access to materials relating to director training programmes.

In addition, the Regulations of the Board of Directors provide that a director is specifically required to "properly prepare the meetings of the Board of Directors and, if applicable, the meetings of the Executive Committee or of the committees of which the director is a member, for which purposes the director must diligently become apprised of the running of the Company and the matters to be discussed at such meetings".

C.1.36 State whether the company has established rules whereby directors must provide information regarding and, if applicable, resign, in circumstances that may damage the company's standing and reputation. If so, provide details:

Yes ☒ x

No ☐ □

Explain the rules

The General Corporate Governance Policy sets out the obligations and duties of the directors, including, as a statement of the duty of loyalty, the duty to submit their resignation to the Board of Directors in the event of supervening disqualification, lack of competence, prohibition against holding office as a director, and other instances



provided for in the Company's Corporate Governance System.

As provided by the Regulations of the Board of Directors, the director must inform the Company of any judicial, administrative or other proceedings instituted against the director which, because of their significance or characteristics, may seriously reflect upon the reputation of the Company. In particular, if a director is subject to investigation or an order for further criminal prosecution upon indictment, or if an order for the commencement of an oral trial will be issued against the director for the commission of any of the crimes contemplated in section 213 of the Companies Act, such director shall give notice thereof to the Company, through the chairman of the Board of Directors. In such instance, the Board of Directors shall review this circumstance as soon as practicable and, following a report of the Appointments Committee, shall adopt the decisions it deems fit taking into account the interests of the Company.

In addition, the director must inform the Company of any fact or event that may be relevant to the holding of office as a director.

Directors must also submit their resignation to the Board of Directors and formally resign from their position in the events set forth in the Regulations of this body, particularly:

- a) When, due to supervening circumstances, they are involved in any circumstance of disqualification or prohibition provided by law or the Corporate Governance System.
- b) When, as a result of any acts or conduct attributable to the director, serious damage is caused to the value or reputation of the Company or there is a risk of criminal liability for the Company or any of the companies of the Group.
- c) When they cease to deserve the respectability or to have the capability, expertise, competence, availability, or commitment to their duties required to be a director of the Company.
- d) In particular, when the activities carried out by the director, or the companies directly or indirectly controlled by the director, or the individuals or legal entities that are shareholders of or related to any of them, or the individual representing a corporate director, may compromise the competence of the director.
- e) When they are seriously reprimanded by the Board of Directors because they have breached any of their duties as directors, by resolution adopted by a two-thirds majority of the directors.
- f) When their continuance in office on the Board of Directors may for any reason, either directly, indirectly, or through persons related thereto, jeopardise the faithful and diligent performance of their duties in furtherance of the corporate interest.
- g) When the reasons why the director was appointed cease to exist and, in particular, in the case of proprietary directors, when the shareholder or shareholders who proposed,

requested, or decided the appointment thereof totally or partially sell or transfer their equity interest, with the result that such equity interest ceases to be significant or sufficient to justify the appointment.

- h) When an independent director unexpectedly falls under supervening circumstances that prevent the director from being considered as such pursuant to the provisions of law.

In any of the aforementioned instances, the Board of Directors shall request the director to resign from such position and, if applicable, shall propose the director's removal from office to the shareholders at the General Shareholders' Meeting.

By way of exception, the resignation provisions set forth in letters f) and g) above shall not apply if the Board of Directors believes that there are reasons that justify the director's continuance in office, after a report of the Appointments Committee, without prejudice to the effect that the new supervening circumstances may have on the classification of the director.

C.1.37 State whether any member of the Board of Directors has notified the company that he or she has been tried or notified that legal proceedings have been filed against him or her, for any offences described in Article 213 of the LSC:

Yes ☒

No ☐

Name of director	Criminal charge	Remarks
Mr Ángel Jesús Acebes Paniagua	Alleged crime of false accounting as an independent director of Bankia, S.A.	Commencement of oral criminal trial ordered against various directors of Bankia, S.A., including Mr Acebes Paniagua, on 17 November 2017 by Central Investigative Court (<i>Juzgado Central de Instrucción</i>) number 4 of the National High Court (<i>Audiencia Nacional</i>).

State whether the Board of Directors has examined the case. If so, explain in detail the decision taken as to whether the director in question should continue in his or her post or, if applicable, describe any actions taken by the Board up to the date of this report, or which it intends to take.

(iii) Yes ☒ X
No ☐

Decision/Action taken	Explanation
It was considered that Mr Ángel Acebes met the criteria set out in the Regulations of the Board of Directors to continue holding the position of director.	Both the Office of the Public Prosecutor (<i>Ministerio Fiscal</i>) and the Fund for the Orderly Restructuring of the Banking Sector (<i>Fondo de Reestructuración Ordenada Bancaria</i>) (FROB) requested dismissal of the case against him.

C.1.38 Detail any material agreements entered into by the company that come into force, are modified or are terminated in the event of a change in control of the company following a public takeover bid, and their effects.

Not applicable

C.1.39 Identify individually for directors, and generally in other cases, and provide detail of any agreements made between the company and its directors, officers or employees providing severance payments or golden parachutes in the event of resignation or unfair dismissal or termination of employment due to a takeover bid or any other type of transaction.

Number of beneficiaries	31
Type of beneficiary	Executive directors and officers
Description of agreement	<p>1. EXECUTIVE DIRECTORS</p> <p>Pursuant to the provisions of his contract, the chairman & CEO has the right to receive a severance payment in the event of termination of his relationship with the Company, provided that such termination is not the consequence of a breach attributable thereto or exclusively due to his own decision to withdraw. The amount of the severance payment is three times annual salary. In the case of the Business CEO, the severance is two times annual salary.</p> <p>Furthermore, in consideration for the executive directors' non-compete commitment for a period of between one and two years, they shall be entitled to severance pay equal to the remuneration for such period.</p>



	<p>2. OFFICERS</p> <p>Some employment contracts with officers of Iberdrola include specific severance clauses. The purpose of such clauses is to obtain an effective and sufficient level of loyalty for the management of the Company and thus avoid a loss of experience and knowledge that might jeopardise the achievement of strategic objectives, more so for positions deemed to decisively contribute to the creation of value due to the responsibilities entailed thereby. The amount of the severance pay is determined based on length of service and the reasons for the officer's withdrawal from office, up to a maximum of five times annual salary.</p> <p>Notwithstanding the foregoing, the Senior Officer Remuneration Policy provides since 2011 that the limit on the amount of the severance pay under new contracts with senior officers shall be two times their annual salary.</p>
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State if these contracts have been communicated to and/or approved by management bodies of the company or of the Group. If they have, specify the procedures, events and nature of the bodies responsible for their approval or for communicating this:

	Board of Directors	General Shareholders' Meeting
Body authorising the severance clauses	X	

	YES	NO
Are these clauses notified to the General Shareholders' Meeting?	X	

Remarks

C.2 Committees of the Board of Directors

C.2.1 Provide details of all committees of the Board of Directors, their membership, and the proportion of executive, proprietary, independent and other external directors that comprise them:

EXECUTIVE COMMITTEE

Name	Position	Category
Mr José Ignacio Sánchez Galán	Chair	Executive
Ms Inés Macho Stadler	Member	Other external
Mr Ángel Jesús Acebes Paniagua	Member	Independent
Mr Manuel Moreu Munaiz	Member	Independent
Ms Samantha Barber	Member	Independent

% of executive directors	20
% of independent directors	60
% of other external directors	20
Remarks	

Explain the duties exercised by this committee, other than those that have already been described in Section C.1.10, and describe the rules and procedures it follows for its organisation and function. For each one of these functions, briefly describe its most important actions during the year and how it has exercised in practice each of the functions attributed thereto by law, the Articles of Association or other corporate resolutions.

The Executive Committee is assigned all the powers of the Board of Directors, except for those powers that may not be delegated pursuant to legal or by-law restrictions. The chairman of the Board of Directors and the chief executive officer, if any, are members in all cases. The secretary of the Board of Directors acts as secretary of the Committee.

The Executive Committee shall meet as many times as deemed necessary by the chair thereof. It shall also meet when so requested by a minimum of two of the directors forming part thereof.

Resolutions of the Committee shall be adopted by absolute majority of its members who are present at the meeting in person or by proxy.



The duties of this Committee consist of making proposals to the Board of Directors regarding strategic decisions, investments and divestitures that are significant for the Company or the group, assessing their conformity to the budget and the strategic plans and analysing and monitoring business risks. It also provides assistance to the Board of Directors in the ongoing supervision of compliance with the principles governing the organisation and coordination of the group and the strategic goals thereof.

The most relevant activities performed during the financial year by this Committee are described in the Activities Report of the Board of Directors and of the Committees thereof, available at www.iberdrola.com.

AUDIT AND RISK SUPERVISION COMMITTEE

Name	Position	Category
Ms Georgina Kessel Martínez	Chair	Independent
Ms Denise Holt	Member	Independent
Mr José W. Fernández	Member	Independent
Mr Xabier Sagredo Ormaza	Member	Other external

% of independent directors	75.00
% of other external directors	25.00

Remarks

Explain the duties exercised by this committee, describe the rules and procedures it follows for its organisation and function. For each one of these functions, briefly describe its most important actions during the year and how it has exercise in practice each of the functions attributed thereto by law, in the Articles of Association or other corporate resolutions.

The Audit and Risk Supervision Committee is an internal informational and consultative body.

A majority of its members shall be independent, and at least one of them shall be appointed taking into account the knowledge and experience thereof in the areas of accounting, audit, and risk management.



The Board of Directors shall appoint a chair of the Committee from among the independent directors forming part thereof, as well as its secretary, who need not be a director.

The members of the Audit and Risk Supervision Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length. The chair shall hold office for a maximum period of four years, after which period the director who has held office as such may not be re-elected until the passage of at least one year from ceasing to act as such.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are provided and are further developed in the Regulations of the Board of Directors, as well as in the Regulations of the Audit and Risk Supervision Committee.

The most relevant activities performed during the financial year by this Committee are described in the Activities Report of the Board of Directors and of the Committees thereof, available at www.iberdrola.com.

Identify the directors who are member of the audit committee and have been appointed taking into account their knowledge and experience in accounting or audit matters, or both, and state the date that the Chairperson of this committee was appointed.

Name of directors with experience	Ms Georgina Kessel Martínez
Date of appointment of the chairperson	17/12/2015

Remarks

APPOINTMENTS COMMITTEE

Name	Position	Category
Ms María Helena Antolín Raybaud	Chair	Independent



Mr Iñigo Victor de Oriol Ibarra	Member	Other external
Mr Ángel Jesús Acebes Paniagua	Member	Independent

% of independent directors	66.67
% of other external directors	33.33

Remarks

Explain the duties exercised by this committee, describe the rules and procedures it follows for its organisation and function. For each one of these functions, briefly describe its most important actions during the year and how it has exercise in practice each of the functions attributed thereto by law, in the Articles of Association or other corporate resolutions.

The Appointments Committee is an internal informational and consultative body.

A majority of the members of the Appointments Committee must be classified as independent. The Board also appoints the chair thereof from among the independent directors forming part thereof, as well as its secretary, who need not be a director.

The members of the Appointments Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are further developed in the Regulations of the Board of Directors, as well as in the Regulations of the Appointments Committee.

The most relevant activities performed during the financial year by this Committee are described in the Activities Report of the Board of Directors and of the Committees thereof, available at www.iberdrola.com.

REMUNERATION COMMITTEE

Name	Position	Category
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Mr Juan Manuel González Serna	Chair	Independent
Ms Inés Macho Stadler	Member	Other external
Mr Manuel Moreu Munaiz	Member	Independent

% of independent directors	66.67
% of other external directors	33.33

Remarks

Explain the duties exercised by this committee, describe the rules and procedures it follows for its organisation and function. For each one of these functions, briefly describe its most important actions during the year and how it has exercised in practice each of the functions attributed thereto by law, the Articles of Association or other corporate resolutions.

The Remuneration Committee is an internal informational and consultative body.

A majority of the members of the Remuneration Committee must be classified as independent. The Board also appoints the chair thereof from among the independent directors forming part thereof, as well as its secretary, who need not be a director.

The members of the Remuneration Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are further developed in the Regulations of the Board of Directors, as well as in the Regulations of the Remuneration Committee.

The most relevant activities performed during the financial year by this Committee are described in the Activities Report of the Board of Directors and of the Committees thereof, available at www.iberdrola.com.

SUSTAINABLE DEVELOPMENT COMMITTEE



Name	Position	Category
Ms Samantha Barber	Chair	Independent
Mr Anthony L. Gardner	Member	Independent
Mr Iñigo Victor de Oriol Ibarra	Member	Other external

% of independent directors	66.67
% of other external directors	33.33

Remarks

Explain the duties exercised by this committee, describe the rules and procedures it follows for its organisation and function. For each one of these functions, briefly describe its most important actions during the year and how it has exercised in practice each of the functions attributed thereto by law, the Articles of Association or other corporate resolutions.

The Sustainable Development Committee is an internal informational and consultative body.

A majority of the members of the Sustainable Development Committee must be classified as independent. The Board of Directors shall appoint a chair of the Committee from among the members forming part thereof, as well as its secretary, who need not be a director.

The members of the Sustainable Development Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are set out in the Regulations of the Board of Directors, as well as in the Regulations of the Sustainable Development Committee.

The most relevant activities performed during the financial year by this Committee are described in the Activities Report of the Board of Directors and of the Committees thereof, available at www.iberdrola.com.

C.2.2 Complete the following table with information regarding the number of female directors who were members of Board committees at the close of the past four years:

	Number of female directors			
	Year t Number %	Year t-1 Number %	Year t-2 Number %	Year t-3 Number %
Executive Committee	2/40	2/40	1/20	1/20
Audit and Risk Supervision Committee	2/50	2/50	2/50	2/50
Appointments Committee	1/33	1/33	1/33	1/33
Remuneration Committee	1/33	1/33	1/33	1/33
Sustainable Development Committee	1/33	1/33	1/33	1/33

Remarks

C.2.3 State, where applicable, the existence of any regulations governing Board committees, where these regulations may be found, and any amendments made to them during the year. Also state whether any annual reports on the activities of each committee have been voluntarily prepared.

Each of the Committees has its own regulations, available at www.iberdrola.com, where one can also find the Activities Report of the Board of Directors and of the Committees thereof. The main amendments to their regulations during the year were the following:

- At the meeting of the Board of Directors held on 23 October 2018, the name of the Corporate Social Responsibility Committee was changed to Sustainable Development Committee. The Regulations of the Corporate Social Responsibility Committee were therefore amended to be called Regulations of the Sustainable Development Committee. The change included the strengthening of the powers of the committee with respect to monitoring the Iberdrola group's contribution to the achievement of the Sustainable Development Goals (SDGs) approved by the United Nations.



- At the same meeting, there was an amendment of the Regulations of the Appointments Committee in order to expand the powers of the Appointments Committee regarding talent management and promotion, mainly in relation to the executive directors and senior management. This committee was also assigned the duty of informing itself regarding the implementation of measures adopted at the Group level to recruit, retain, manage and promote talent, and particularly regarding the programmes for training and monitoring officers.
- Finally, the Regulations of the Audit and Risk Supervision Committee have been successively amended to clarify the powers of the Audit and Risk Supervision Committee with respect to the monitoring of investigations regarding financial and accounting improprieties, as well as the approval of the Basic Internal Audit Regulations and the General Framework for Relations of Coordination and Information among the Audit Committees of Iberdrola, S.A. and its group.



RELATED-PARTY AND INTRAGROUP TRANSACTIONS

D.1 Describe, if applicable, the procedure and competent bodies for approval of related-party and intragroup transactions.

The Regulations of the Board of Directors provide that:

1. Any transaction by the Company or the companies forming part of its Group with directors, with shareholders that directly or indirectly own a shareholding interest that is equal to or greater than that legally regarded as significant at any time or that have proposed or caused the appointment of any of the directors of the Company, or with the respective related persons ("Related-Party Transactions"), shall be subject to the approval of the Board of Directors, or in urgent cases, of the Executive Committee, following a report from the Appointments Committee.
2. In the event that authorisation has been granted by the Executive Committee due to the urgency of the matter, the Executive Committee shall give notice thereof to the Board of Directors at its next meeting in order for it to be ratified.
3. The authorisation of Related-Party Transactions must be approved by the shareholders at the General Shareholders' Meeting in the instances provided by law, and particularly if it relates to a transaction having a value of more than ten per cent of the corporate assets.
4. As an exception, Related-Party Transactions with any of the listed companies of the Group (as is the case of Avangrid, Inc.) or with the subsidiaries thereof shall not be subject to the provisions of article 43, provided that they have corporate governance rules similar to those of the Company.
5. The execution of a Related-Party Transaction puts the director engaging in said transaction or who is related to the person engaging in the transaction in a conflict of interest, for which reason the provisions of article 39 of the Regulations of the Board of Directors shall apply, to the



extent applicable.

6. The Board of Directors, through the Appointments Committee, shall ensure that Related-Party Transactions are carried out under arm's length conditions and with due observance of the principle of equal treatment of shareholders in the same situation. In the case of transactions to be carried out by companies of the Group, the scope of authorisation of the Board of Directors, or that of the Executive Committee, if applicable, referred to in the preceding sections, shall be limited to the verification of compliance with such particulars.
7. In the case of customary and recurring Related-Party Transactions in the ordinary course of business, it shall be sufficient for the Board of Directors to give prior generic approval of the kind of transaction and of the conditions for performance thereof, following a report from the Appointments Committee.
8. If a Related-Party Transaction entails the successive performance of different transactions, of which the second and subsequent transactions are mere acts of execution of the first transaction, the provisions of article 43 shall only apply to the first transaction carried out.
9. The authorisation shall not be required in connection with transactions that simultaneously satisfy the following three conditions: that they are conducted under contracts whose terms and conditions are standardised and apply on an across-the-board basis to a large number of customers; that they are conducted at prices or rates established generally by the party acting as supplier of the goods or services in question, and that the amount thereof does not exceed one per cent of the consolidated annual income of the Group.
10. The Company shall report Related-Party Transactions in the Half-Yearly Financial Report and in the Annual Corporate Governance Report, in the cases and to the extent provided by law. Likewise, the Company shall include in the notes accompanying the annual accounts information regarding the transactions by the Company or by the companies of the Group with the directors and with those persons who act for the account of the latter when such transactions are conducted other than in the ordinary course of the Company's business or other than under normal arm's length conditions.

To this end, the directors must give written notice to the secretary of the Board of Directors, on a semi-annual basis, within the first week of January and July of each year, regarding the Related-Party Transactions that they have engaged in. If they are not carried out, the directors shall so report. The secretary of the Board of Directors shall send a notice to the directors on a semi-annual basis requesting the appropriate information that must be sent to the Company.
11. The notice must include the following information: the nature of the transaction; the date on which the transaction originated; the conditions and periods for payment; the name of the person who carried out the transaction and the relationship, if any, with the director; the amount of the transaction; and other aspects, such as pricing policies, guarantees given and received, and any other feature of the transactions that allows for a proper assessment thereof, particularly such information as allows for verification that it has been carried out on arm's length conditions and in compliance with the principle of equal treatment.
12. The secretary of the Board of Directors shall prepare a register of Related-Party Transactions. The information set forth in such register shall be

made available to the Compliance Unit when it so requests, and shall also periodically be made available to the Audit and Risk Supervision Committee through the Management of the Internal Audit Area.

D.2 Describe any transactions which are significant, either because of the amount involved or subject matter, entered into between the company or entities within its group and the company's significant shareholders:

Name of significant shareholder	Name of company or entity within the group	Nature of the relationship	Type of transaction	Amount (thousand euros)
QATAR INVESTMENT AUTHORITY	IBERDROLA, S.A.	Corporate	Dividends and other distributed profits	2,766
QATAR INVESTMENT AUTHORITY	IBERDROLA Group	Corporate	Other	344

Remarks
<p>Transactions by shareholders exercising a significant influence on participation in the entity's financial and operating decisions, with significant influence being understood as having a member of the Board of Directors, are deemed to be related-party transactions.</p> <p>Shareholders who are able to exercise the proportional representation system due to their interest in the capital of the Company are also considered to have such influence.</p> <p>As of the date of this report, only Qatar Investment Authority meets this condition, for which reason the amounts reflected in the period refer to transactions with this shareholder.</p> <p>The amounts set forth as "profits and other dividends paid" correspond to the cash dividend distributed by the Company and to the free-of-charge allocation rights stemming from the two increases in share capital by means of a scrip issue approved by the shareholders at the General Shareholders' Meetings, which were sold to the Company at a guaranteed fixed price pursuant to the terms and conditions of such increases.</p>

D.3. Describe any transactions which are significant, either because of the amount involved or subject matter, entered into between the company or entities within its group and the directors or officers of the company:



Name of director or manager	Name of the related party	Relationship	Type of transaction	Amount (thousand euros)

Remarks

D.4 Report any material transactions carried out by the company with other entities belonging to the same group, provided that these are not eliminated in the preparation of the consolidated financial statements and do not form part of the company's ordinary business activities in terms of their purpose and conditions.

In any event, note any intragroup transaction conducted with entities established in countries or territories which are considered tax havens:

Name of entity within the group	Brief description of the transaction	Amount (thousand euros)

Remarks
Transactions with subsidiaries and companies in which the Company has an interest that have not been eliminated in the process of consolidation were made in the ordinary course of business of the Company, were carried out under arm's-length conditions, and are of little significance to accurately reflect the assets, financial condition and results of operations of the Company.

D.5 Describe significant transactions conducted with other related parties that have not been reported in the previous sections.

Name of the related party	Brief description of the transaction	Amount (thousand euros)
GAMESA GROUP	ACQUISITION OF ASSETS	218,602
GAMESA GROUP	PROCUREMENT	1,702
GAMESA GROUP	RECEIPT OF SERVICES	37,602

GAMESA GROUP	SALES	1,376
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Remarks

D.6 Describe the mechanisms in place to detect, determine and resolve potential conflicts of interest between the company and/or its group and its directors, senior management or significant shareholders.

Pursuant to the Regulations of the Board of Directors, a conflict of interest shall be deemed to exist in those situations provided by law, particularly when the interests of the director, either for their own or another's account, directly or indirectly conflict with the interest of the Company or of companies within the Group and their duties to the Company. An interest of a director shall exist when a matter affects the director or a person related thereto or, in the case of a proprietary director, when it also affects the shareholder or shareholders that proposed or caused the appointment thereof or persons directly or indirectly related thereto.

Such article contains a list of persons deemed to be related for such purposes, distinguishing between an individual and a corporate director.

Conflicts of interest shall be governed by the following rules:

- a) Communication: once a director becomes aware of being in a situation of conflict of interest, the director must give written notice of the conflict to the Board of Directors, in the person of the secretary thereof. The secretary shall periodically submit a copy of the notices received to the Appointments Committee, in the person of the secretary thereof.

The notice shall contain a description of the situation giving rise to the conflict of interest, with a statement as to whether it is a direct conflict or an indirect conflict through a related person, in which case the latter person must be identified.

The description of the situation must include, as applicable, the subject matter and the principal terms of the transaction or the planned decision, including the amount thereof or an approximate financial assessment thereof. If the situation giving rise to the conflict of interest is a Related-Party Transaction (as this term is defined in article 43), the notice shall also identify the department or person of the Company or of any of the companies of the Group with which the respective contacts were made.

Any question as to whether a director might be involved in a conflict of interest must be forwarded to the secretary of the Board of Directors, and the director must refrain from taking any action until it is resolved.



- b) Abstention: if the conflict arises from an operation, transaction, or circumstance that requires any kind of operation, report, decision, or acceptance, the director must refrain from taking any action until the Board of Directors studies the case and adopts and informs the director of the appropriate decision.

To this end, the director shall leave the meeting during the deliberation and voting on those matters in which the director is affected by a conflict of interest, and shall not be counted in the number of members attending for purposes of the calculation of a quorum and majorities. At each meeting of the Board of Directors and of the committees thereof, the secretary reminds the directors, before dealing with the agenda, of the abstention rule established in this article.

- c) Transparency: whenever required by law, the Company shall report any cases of conflict of interest in which the directors have been involved during the financial year in question and of which the Company is aware by reason of notice given thereto by the director affected by such conflict or by any other means.

However, if the conflict of interest situation is, or may reasonably be expected to be, of a structural and permanent nature, it shall be deemed that there is a loss of the competence required to hold office. In this regard, the Regulations of the Board of Directors provide that a loss of competence is grounds for resignation, removal and cessation of the director.

Conflicts of interest with officers are subject to the same rules of communication, abstention and transparency.

Furthermore, transactions between companies forming part of the group with significant shareholders or shareholders that have proposed the appointment of any of the directors and their respective related persons are also dealt with in the Regulations of the Board of Directors mentioned in section D.1. They must be carried out on arm's-length conditions and be previously approved by the Board of Directors. Thus, approval by the shareholders at a General Shareholders' Meeting shall be required if the value of the transaction exceeds 10% of the corporate assets, and all transactions shall be reported in the Annual Corporate Governance Report and in the Annual Financial Report.

The Code of Ethics, which dedicates a specific section to conflicts of interest, applies to all professionals within the group, regardless of rank.

D.7 Is there more than one company in the group listed in Spain?

Yes ☐

No ☒

Identify the other companies that are listed in Spain and their relationship to the company:

Identity and relationship with other listed group companies

State if the respective areas of activity and business relationships between the listed companies have been defined publicly and precisely, as well as between the subsidiary and other members of the group;

Yes ☐

No ☐

Describe the business relationship between the parent and subsidiary listed companies as well as between the subsidiary and other members of the group

Identify measures taken to resolve potential conflicts of interest between the listed subsidiary and the other group companies:

Measures taken to resolve potential conflicts of interest

E RISK MANAGEMENT AND CONTROL SYSTEMS

E.1. Explain the scope of the company's Risk Management and Control System, including tax compliance risk.

The *General Risk Control and Management Policy* and the *Risk Policies* in further development thereof apply to all companies over which the Company has effective control, within the limits established in the legal provisions applicable to the companies of the Group that carry out Regulated activities in the various countries in which it has a presence.

These policies are implemented by means of a comprehensive risk control and management system, supported by a Risk Committee of the group and based upon a proper definition and allocation of duties and responsibilities at the operating level and upon supporting procedures, methodologies and tools, suitable for the various stages and activities within the system, including:

- a) The establishment of a structure of risk policies, guidelines, limits and indicators, as well as of the corresponding mechanisms for the approval, implementation and monitoring thereof, which effectively contributes to risks being managed in accordance with the Company's risk appetite.
- b) The ongoing identification of significant risks and threats, taking into account their possible impact on key management objectives and the accounts (including contingent liabilities and other off-balance sheet risks).
- c) The analysis of such risks, both at each corporate business or function and taking into account their combined effect on the group as a whole.
- d) The measurement and control of risks following homogeneous procedures and standards common to the entire group.
- e) The analysis of risks associated with new facilities, as an essential element in risk/return-based decision-making.
- f) The maintenance of a system for internal monitoring of compliance with policies, guidelines and limits, by means of appropriate procedures and systems, including the contingency plans needed to mitigate the impact of the materialisation of risks.

- g) The periodic monitoring and control of profit and loss account risks in order to control the volatility of the annual income of the group.
- h) The ongoing evaluation of the suitability and efficiency of applying the system and the best practices and recommendations in the area of risks for eventual inclusion thereof in the model.
- i) The audit of the system by the Internal Audit Division.

The foregoing is undertaken in accordance with the following main principles of conduct:

- a) Integrate the risk/opportunity vision into the Company's management, through a definition of the strategy and the risk appetite and the incorporation of this variable into strategic and operating decisions.
- b) Segregate functions, at the operating level, between areas that assume risks and areas responsible for the analysis, control and monitoring of such risks, ensuring an appropriate level of independence between them.
- c) Guarantee the proper use of risk-hedging instruments and the maintenance of records thereof as required by applicable law.
- d) Inform regulatory agencies and the principal external players, in a transparent fashion, regarding the risks facing the group and the operation of the systems developed to monitor such risks, maintaining suitable channels of communication.
- e) Ensure compliance with the Corporate Governance System and the update and continuous improvement thereof, in order to incorporate the best international practices as to transparency and good governance, and implement the monitoring and measurement thereof.
- f) Act at all times in compliance with the law and the Company's Corporate Governance System and, specifically, with due observance of the values and standards reflected in the *Code of Ethics* and the principles and good practices reflected in the *Corporate Tax Policy*, under the principle of "zero tolerance" for the commission of unlawful acts and situations of fraud set forth in the *Crime Prevention Policy* and in the *Anti-Corruption and Anti-Fraud Policy*.

The listed country subholding companies (like Avangrid, Inc.) and those with significant interests held by other partners (like Neoenergia, S.A.) have their own risk policies approved by their competent bodies pursuant to their own special framework of strengthened autonomy, which are aligned with those of the group.

At those companies in which the Company has an interest but which do not belong to the group, the Company shall promote principles, guidelines, and risk limits consistent with those established in the *General Risk Control and Management Policy* and in its supplemental *Risk Policies* and shall maintain appropriate channels of information to ensure a proper understanding of risks.

Iberdrola believes that its comprehensive risk control and management system operates on a comprehensive and continuous basis, strengthening such management by business unit or activity, subsidiaries, geographic areas and corporate-level support areas.

E.2. Identify the bodies within the company responsible for creating and executing the Risk Management and Control System, including tax compliance risk.

1. BOARD OF DIRECTORS

In the area within its purview, and with the support of the Audit and Risk Supervision Committee, it must use develop all of its capabilities in order for the significant risks to all the activities and businesses of the group to be adequately identified, measured, managed and controlled, and to establish through the *General Risk Control and Management Policy* the mechanisms and basic principles for appropriate management of the risk/opportunity ratio. By virtue thereof, it defines the risk strategy and profile of the group and approves the *Risk Policies*.

2. EXECUTIVE COMMITTEE

In order to conform the impact of the risks to the established appetite, the Executive Committee of the Board of Directors, upon the proposal of affected business or corporate divisions and after a report from the group's Risk Committee, annually reviews and, if appropriate, approves the specific guidelines regarding the risk limits provided for in the *Corporate Risk Policies*. In the case of the *Treasury Share Policy*, the Executive Committee can also approve limits additional to those provided for in this policy.

3. AUDIT AND RISK SUPERVISION COMMITTEE.

As a consultative body of the Board of Directors, it has the following powers, among others, relating to the internal risk control and management systems:

- Directly supervise the Corporate Risk Division and maintain an appropriate relationship therewith and with the audit and compliance committees of the other companies of the group.
- Continuously review the internal risk control and management systems, such that the principal risks are properly identified, managed and reported.
- Supervise the effectiveness of the internal risk control and management systems, formulating proposals for improvement.
- Obtain information regarding any significant deficiency in internal control that the statutory auditor detects while carrying out its audit work.
- Ensure that the group's risk control and management system identifies at least:
 - the various risk factors that the Company faces;
 - the establishment and review of the risk map and levels that are deemed acceptable;
 - the means identified in order to mitigate the potential impact any of the identified risks in the event they transpire; and
 - the internal control and information systems to be used in order to control and manage such risks.
- Promote (within the limits of its purview) a culture in which risk is a factor that is taken into account in the decisions of the Company.
- Identify and evaluate emerging risks, like those arising from technological, climactic, social and regulatory risks, as well as existing alert mechanisms, periodically evaluating the effectiveness thereof.
- Receive annual visits from the heads of the businesses of the group in order for them to report on the trends of their respective businesses and the risks associated therewith.
- Report in advance on the risks of the group to be included in the Company's *Annual Corporate Governance Report*.
- Receive information from the Company's tax director regarding the tax standards applied by the Company during the financial year, and particularly regarding the level of compliance with the *Corporate Tax Policy*.

4. BOARDS OF DIRECTORS AND AUDIT AND COMPLIANCE COMMITTEES OF COUNTRY SUBHOLDING AND HEAD OF BUSINESS COMPANIES

The country subholding companies adopt the risk policies of the group and define the application thereof, approving guidelines on specific risk limits based on the nature and particularities of the businesses in each country. The Audit and Compliance Committees of such companies shall report to the Board of Directors on the internal risk control and management systems.

The management decision-making bodies of the head of business companies of each country must approve the specific risk limits applicable to each of them and implement the control systems necessary to ensure compliance therewith.

In the case of the head of real estate business company, Iberdrola Inmobiliaria, S.A. (Sociedad Unipersonal), the Audit and Compliance Committee thereof shall report to the Board of Directors regarding the internal risk control and management systems.

Pursuant to their special framework of strengthened autonomy, Avangrid, Inc. and Neoenergia, S.A. have

their own risk policies, which are aligned with those of the group.

5. GROUP RISK COMMITTEE

The Risk Committee of the Iberdrola group is a technical committee that is chaired by the CFO and that performs executive duties in the customary management of risks as well as provides advice to the governance bodies of the group.

The committee meets at least once a month, with the participation of the group's Risk Management Directors, the risk directors of the businesses and corporate areas that have such a figure, the Internal Audit Division and the Administration and Control Division.

The committee reviews the evolution of the various risks and issues the *Quarterly Risk Report of the group*, which includes the main risk positions, the report on compliance with the risk limits and indicators, and the update of the key risks map.

The group's Risk Committee is supplemented by the Credit Risk and Market Risk committees, which report to the former, and which meet on a monthly basis to discuss and decide on credit and market (financial and commodities) risks.

E.3. State the primary risks, including tax compliance risks, and those deriving from corruption (with the scope of these risks as set out in Royal Decree Law 18/2017), to the extent that these are significant, which may affect the achievement of business objectives

The group is subject to various risks inherent in the different countries, industries and markets in which it does business and in the activities it carries out, which may prevent it from achieving its objectives and successfully implementing its strategies.

In the section "Principal risks and uncertainties" of the Management Report of the *Annual Financial Report* for financial year 2018, there is a detailed description of the principal risks associated with the activities of the main businesses of the group, as well as the risks of the corporation.

Due to the universal and dynamic nature thereof, the comprehensive risk system allows for the consideration of new risks that could affect the group as a consequence of changes in the environment or revisions of objectives and strategies, as well as updates based on the monitoring, verification, review and supervision activities that are performed on a continuous basis.

Pursuant to the definitions established by the *General Risk Control and Management Policy*, risks at the group level are classified as follows:

- a) **Corporate Governance Risks:** the Company accepts the need to achieve the fulfilment of the corporate interest and the sustained maximisation of the economic value of the Company and its long-term success, in accordance with the group's corporate interest, culture and corporate vision, taking into account the legitimate public and private interests that converge in the conduct of all business activities, particularly those of the various Stakeholders and communities and regions in which the Company and its employees act.
- b) **Market Risks:** understood as the exposure of the group's results and net worth to changes in prices and other market variables, such as exchange rates, interest rates, commodity prices (electricity, gas, CO₂ emission allowances, other fuel, etc.), prices of financial assets, and others.
- c) **Credit Risks:** defined as the possibility that a counterparty fails to perform its contractual obligations, thus causing an economic or financial loss to the group. Counterparties can be end customers, counterparties in financial or energy markets, partners, suppliers or contractors.
- d) **Business Risks:** defined as the uncertainty regarding the performance of key variables inherent in the various activities of the group through its businesses, such as the characteristics of demand, weather conditions and the strategies of different players.
- e) **Regulatory and Political Risks:** are those arising from regulatory changes made by the various regulators, such as changes in compensation of regulated activities or in the required conditions of supply, or in environmental or tax regulations, including risks relating to political changes that might affect legal security and the legal framework applicable to the businesses of the group in each

jurisdiction, nationalisation or expropriation of assets, the cancellation of operating licences and the termination of government contracts.

- f) **Operational, Technological, Environmental and Social Risks:** are those related to direct or indirect economic losses resulting from external events, inadequate internal procedures, technical failures, human error and/or fraud, including those associated with climate change, information technologies, cybersecurity and the risk of technological obsolescence.
- g) **Reputational Risks:** potential negative impact on the value of the Company resulting from conduct on the part of the Company that is below the expectations created among various stakeholders, as defined in the *Stakeholder Relations Policy*.

Iberdrola has a Compliance System made up of a set of substantive rules, formal procedures and significant actions intended to ensure that conduct is in accordance with ethical principles and applicable law, preventing, avoiding and mitigating the risk of conduct that is improper or contrary to ethics or the law by professionals of Iberdrola within the organisation. The bodies and divisions directly entrusted with the implementation and further development thereof also form part of this system.

Elements of the system include the *Code of Ethics* (which is applicable to all professionals of the group, board members and suppliers) and the Compliance Unit, a collective permanent and internal body linked to the Sustainable Development Committee of the Board of Directors of Iberdrola, which, among other things, spreads a preventive culture based on the principle of "zero tolerance" towards the commission of illegal acts or improper conduct. The system has been designed following the best domestic and international practices in the area of compliance, fraud prevention and the fight against corruption. For more details on these risks, please see the section "Risk Evaluation" (205-1) of the *2018 Sustainability Report*, as well as the *Integrated Report* and other sections of this *Annual Corporate Governance Report*.

E.4. State whether the entity has a risk tolerance level, including tolerance for tax compliance risk.

The Company's Board of Directors reviews and approves the risk tolerance level that is acceptable for the group on an annual basis. The *General Risk Control and Management Policy*, together with the policies that further develop and supplement it, qualitatively and quantitatively establish the annually accepted risk appetite, in a sufficiently detailed manner, both at the group level and at the level of each of its principal businesses and corporate functions.

By way of complement, the Administration and Control Division, after considering such limits and guidelines, in order to verify the risk globally assumed in the annual profit and loss account, engages in a comprehensive probability analysis of the global risk remaining for the financial year at the time of approving the annual budget.

In addition, all new multi-annual plans are accompanied by their corresponding analysis of associated risk.

The *General Risk Control and Management Policy* is further developed and supplemented through the following policies, which are also subject to approval by the Company's Board of Directors, and which include the following risk limits and indicators:

Corporate Risk Policies:

- *Corporate Credit Risk Policy*
- *Corporate Market Risk Policy*
- *Operational Risk in Market Transactions Policy*
- *Insurance Policy*
- *Investment Policy*
- *Financing and Financial Risk Policy*

- *Treasury Share Policy*
- *Risk Policy for Equity Interests in Listed Companies*
- *Information Technologies Policy*
- *Cybersecurity Risk Policy*
- *Reputational Risk Framework Policy*
- *Procurement Policy*

Risk policies for the various businesses of the group:

- *Risk Policy for the Networks Businesses of the Iberdrola Group*
- *Risk Policy for the Renewable Energy Businesses of the Iberdrola Group*
- *Risk Policy for the Liberalised Businesses of the Iberdrola Group*
- *Risk Policy for the Real Estate Business*

The *General Risk Control and Management Policy*, as well a summary of the risk policies in further implementation thereof, are available on the corporate website.

The limits and indicators of the risk policies should be consistent with the annual budget and the objectives set forth in the multi-annual investment plans. The numeric values of the limits and indicators set forth in the various policies are probabilistic in nature (like VaR and EBITDA at risk) or deterministic in nature, and are expressed in monetary units, indices or benchmarks based on which volumetric risks and/or values are generated, including:

- limits on the maximum overall credit risk exposure by type of counterparty;
- limitations on market risk proportional to the volume of activity of each business;
- strict overall limit on the discretionary trading of energy;
- limitations on operational risk through preventative maintenance programmes and assurance programmes; and
- strict limitations on activities not associated with the main energy business.

The *Corporate Tax Policy* establishes the limits on tax risk by setting the tax strategy, the principles of conduct and the good tax practices assumed by the Company.

As described above, the Iberdrola group has a risk tolerance level (acceptable risk level) established at the corporate level, which is annually approved by the Board of Directors and its Executive Committee. The group's Risk Committee, the Operating Committee, the Audit and Risk Supervision Committee, the businesses, the corporate functions, the Administration and Control Division and the Risk Management Division also participate in the process.

E.5. State which risks, including tax compliance risks, have materialised during the year.

The activities of the Iberdrola Group during 2018 have been subject to various risk factors occurring in the countries and markets in which it operates, and on a global basis have not had a significant impact on the results for the financial year, thanks to the diversification of activities, markets and geographic areas in which the group is present, which has allowed for the negative effects of some businesses to be offset with favourable behaviour in others.

During the financial year, the group was negative affected by events described below, although they have been offset by the following positive events:

- The recovery in 2018 of average prices in the international markets for coal (+14%), natural gas (+32%), CO₂ trading rights (+171%) and oil (+37%), with the resulting positive impact on final electricity prices.

- The recovery of hydroelectric production in Spain in 2018 to levels close to those of an average year, with a 70% increase in production over 2017.
- The publication in November by the National Markets and Competition Commission (*Comisión Nacional de los Mercados y la Competencia*) (the “**CNMC**”) of a proposed methodology for calculating the financial remuneration rate for transmission and distribution and renewable generation for the upcoming regulatory period (2020-2025), with rates as at the date of publication of 5.58% and 7.09%, respectively.
- The approval of Royal Decree-Law 1/2019, of 11 January, on urgent measures to adapt the powers of the CNMC to the requirements of EU law, which transfers to this body powers to determine remuneration for the transmission and distribution of electricity and gas beginning with the upcoming regulatory period (2020).
- The publication by the Ministry for Ecological Transition at the end of the year of a draft law that, among other things, proposes that renewables facilities before Royal Decree-law 9/2013 maintain their current remuneration (7.389%) for the next two regulatory periods, of 6 years each.
- The approval in April 2018, on terms favourable to the group, of 5-year remuneration frameworks for the Brazilian distributors Companhia de Electricidade do Estado do Bahia, S.A. (Coelba) and Companhia Energética do Rio Grande do Norte, S.A. (Cosern), with a WACC of 8.09%. The remuneration frameworks will neutralise the main uncertainties associated with network subsidiaries of the group in the coming years;

The risks that have materialised include:

- The adverse regulatory and market environment faced by the retail electricity and gas business in the United Kingdom, with the entry into force of a system for setting maximum prices for customers under the “Standard Variable Tariff” mode.
- During financial year 2018 updates were made to the provisions recorded in relation to pending arbitrations commenced at the end of certain of the projects of Iberdrola Ingeniería y Construcción S.A (Sociedad Unipersonal).

Finally, it should be noted that activities during financial year 2019 and later will be affected by the following risk factors:

- The potential impact of a progressive withdrawal of the monetary stimulus programme of the European Central Bank, with the resulting risk of interest rate increases.
- Uncertainty regarding the final outcome of the exit of the United Kingdom from the European Union, and its impact on the macroeconomic conditions of the country and on the pound/euro exchange rate.
- Uncertainties arising from potential trade wars resulting from the protectionist policies introduced by the new government administration of the United States of America.
- The evolution of commodities and electricity prices in the various countries in which the group operates.
- The annual change in hydraulic or wind resources for the production of electricity at the renewable generation plants of the group.
- Increased competition in the unrestricted market in Spain as a result of the entry of significant new players.
- The final review of the parameters to establish remuneration in Spain for the regulated networks and renewable generation businesses, which will enter into force on 1 January 2020.
- The effects of potential changes that may be implemented in the Spanish electricity market and the potential establishment of a scheduled closing of the nuclear plants and coal plants.
- The capacity for implementation of major current investment plans, especially new offshore wind projects, in terms of cost and timing.

- The opportunities/risks that might arise as a result of changes in government in Mexico and Brazil after the general elections held in 2018.
- The risks associated with cybersecurity.

The risks associated with the conventional generation business in the United Kingdom have ceased after the divestment by the group of its assets in this segment through the sale of “Scottish Power Generation, Ltd.” to the Drax group.

E.6. Explain the response and monitoring plans for all major risks, including tax compliance risks, of the company, as well as the procedures followed by the company in order to ensure that the board of directors responds to any new challenges that arise.

The Comprehensive Risk System, together with the control and management policies of the Company that implement them, including the group's Risk Committee and the Company's Operating Committee, have allowed for the identification of risks and new threats sufficiently in advance, as well as for establishing appropriate mitigation plans.

The Company's Operating Committee meets on an approximately weekly basis.

The group's Risk Committee, which reviews the evolution of the various risks, meets on a monthly basis, and on a quarterly basis issues the *Quarterly Risk Report of the Group*, which includes the main risk positions, the report on compliance with policies and limits approved, and the update of the key risks map.

On at least a quarterly basis, the Audit and Risk Supervision Committee of the Board of Directors supervises the evolution of the Company's risks:

- It reviews the group's Quarterly Risk Report submitted by the group's Risk director.
- It coordinates and reviews the Risk Report submitted on a regular basis (at least half-yearly) by the audit and compliance committees of the country subholding and head of business companies of the group.
- On at least a half-yearly basis, it prepares a Risk Report for the Board of Directors.

F. INTERNAL RISK MANAGEMENT AND CONTROL SYSTEMS RELATED TO THE PROCESS OF PUBLISHING FINANCIAL INFORMATION (ICFR)

Describe the mechanisms comprising the System of Internal Control over Financial Reporting (ICFR) of your company.

F.1. Control environment

Report on at least the following, describing their principal features:

F.1.1. The bodies and/or departments that are responsible for (i) the existence and maintenance of an adequate and effective ICFR; (ii) their implementation; and (iii) their supervision.

Iberdrola's Board of Directors is ultimately responsible for implementing and maintaining a proper and effective internal control over financial information (“ICFR”) system. The Boards of Directors of the country subholding companies and head of business companies also have this responsibility within their various purviews.

The heads of the country subholding companies and of the head of business companies, together with their respective heads of control, as well as the directors of the global corporate areas, are in turn responsible for the design and implementation of the ICFR system. This responsibility is explicitly set forth

in the certifications that said persons sign on a half-yearly basis in relation to the financial information for their respective areas of responsibility.

Pursuant to article 31.6.d of the *Regulations of the Board of Directors*, the Audit and Risk Supervision Committee (hereinafter, “**ARSC**”) is responsible for supervising the effectiveness of the internal control of the Company and of its group, as well as the risk management systems thereof. Article 31.6.f also provides that the duties of the ARSC include that of supervising the process of preparing and presenting mandatory financial information and submitting recommendations or proposals to the Board of Directors to protect the integrity of this information. The ARSC relies on the Internal Audit Area to carry out these responsibilities. Any audit committees at the country subholding and head of business companies have these powers within their respective purviews.

F.1.2. State whether the following are present, especially if they relate to the creation of financial information:

- **Departments and/or mechanisms in charge of: (i) design and review of corporate structure; (ii) clear definition of lines of responsibility and authority with an adequate distribution of tasks and functions; and (iii) assurance that adequate procedures exist for proper communication throughout the entity.**

The Board of Directors of Iberdrola defines the organisational structure at the first level. The heads of these top-level organisations, together with the Human Resources and General Services Division, implement the deployment within their respective purviews.

Each top-level division prepares a proposed organisational structure, including a description of the mission, duties and responsibilities of the various organisations deployed, which must subsequently be validated by the Human Resources and General Services Division, as well as by the Finance and Resources Division.

The main responsibility for preparing financial information lies with the corporate Administration and Control Division. This division proposes the structure of heads of Control of the country subholding and head of business companies and deals with coordinating and supervising the conduct thereof.

- **Code of conduct, the body approving this, degree of dissemination and instruction, including principles and values, (state if there is specific mention of transaction recording and creation of financial information), a body charged with analysing breaches and proposing corrective actions and sanctions.**

The Iberdrola group has a *Code of Ethics* that was first approved by the Board of Directors in financial year 2002, and that is regularly reviewed and updated. In its latest revision, in October 2018, the *Code of Ethics* included within its scope of application the directors of Iberdrola, who until then had been governed by the now-repealed *Directors’ Code of Ethics*, which contemplated principles and rules analogous to those of the *Code of Ethics*.

According to article A.2.1 thereof, “*the principles and guidelines for conduct contained in the Code of Ethics apply to all directors, including natural persons who appoint corporate directors to represent them in the performance of their duties, to professionals and to suppliers of the companies of the Group, regardless of their rank, their geographical location or functional reporting, or the Group company to which they provide their services*”.

The *Code of Ethics* is communicated and disseminated among the professionals of the Iberdrola group in accordance with the plan approved annually for this purpose by the Compliance Unit, which provides for various initiatives in the area of training (both on-line and in-person) and communication, addressed to the various groups of employees based on their exposure to Compliance risks.

The *Code of Ethics*, which includes informational transparency among its general ethical principles and principles on relations with Iberdrola’s Stakeholders, expressly states the following in article B.6.:

“1. *The Group shall provide true, proper, useful and consistent information regarding its programmes and actions. The transparency of the information required to be disclosed is a basic principle that must govern*

the conduct of all directors, professionals and suppliers of the Group.

2. The economic/financial information of the Group (especially the annual accounts) shall faithfully reflect its economic and financial position and its net worth, in accordance with generally accepted accounting principles and applicable international financial reporting standards. For such purposes, no directors, professional or supplier shall conceal or distort the information set forth in the accounting records and reports of the Group, which shall be complete, accurate and truthful.

3. A lack of honesty in the communication of information, whether internally within the Group (to professionals, subsidiaries, departments, internal bodies, management decision-making bodies, etc.) or outside the Group (to auditors, shareholders and investors, regulatory entities, the media, etc.) is a breach of the Code of Ethics. This includes delivering incorrect information, organising it in an incorrect manner or seeking to confuse those who receive it'.

The Compliance Unit, which is a collective permanent and internal body linked to the Sustainable Development Committee (previously called the Corporate Social Responsibility Committee) of Iberdrola, controls the effective operation of the Company's Compliance System, with powers in the area of regulatory compliance. The duties of the Unit include ensuring the application of the *Code of Ethics* and of the other rules of the group in the compliance area, and the spread of a preventive culture based on the principle of "zero tolerance" towards the commission of unlawful acts. It also approves the *General Compliance System Framework of the Iberdrola group*, which contains the basic principles of structure and operation of the group's Compliance System as well as the duties and responsibilities of the various bodies involved. The Unit also evaluates and prepares an annual report on the effectiveness of the Compliance System of the Company and of the other companies of the group. The report is submitted to the Sustainable Development Committee, which issues its opinion and forwards it to the Board of Directors.

The Compliance Unit is also in charge of determining whether a professional of Iberdrola, S.A. has engaged in activities that violate the provisions of law or the *Code of Ethics*, and if applicable, for tasking the Human Resources and General Services Division to apply disciplinary measures in accordance with the offences and penalties system set forth in the collective bargaining agreement to which the professional belongs or in applicable labour law. The Compliance divisions of the other companies of the group perform this same function at each of them.

Pursuant to article F.6.1 thereof, directors, professionals of the companies of the group and the suppliers thereof expressly accept the rules of conduct established in the *Code of Ethics* that are applicable thereto.

Pursuant to article F.6.2, professionals who hereafter join or become part of the group and suppliers contracting with companies of the group shall also expressly accept the rules of conduct to which they are subject as set forth in sections D (for professionals of the group) and E (for suppliers), respectively, of the *Code of Ethics*. For this purpose, a literal extract of the corresponding section in each case is attached to their respective contracts.

Likewise, directors shall receive a complete copy of the *Code of Ethics*, for which they shall deliver a signed receipt.

- **Whistleblower channel, that allows notifications to the audit committee of irregularities of a financial and accounting nature, in addition to potential breaches of the code of conduct and unlawful activities undertaken in the organisation, reporting, as the case may be, if this is of a confidential nature.**

Iberdrola has various reporting mailboxes based on the sender: (i) ethics mailboxes for the professionals of the group; (ii) the mailbox available to shareholders and investors; and (iii) the suppliers' mailbox, accessible from the Employee Portal, from the OLS "On Line Shareholders" system or their mobile app, and from the Supplier Portal, respectively. These channels allow for communicating and complaining of any conduct that may involve the commission of an improper act or an act in violation of legal provisions or of the rules of conduct laid down in the *Code of Ethics* or to ask questions regarding any issue with respect to Compliance.

One need not identify oneself in order to send a complaint through these mailboxes (complaints may be anonymous), and if one does so Iberdrola guarantees absolute confidentiality with respect to both the information provided and the personal data of the reporting party. The group naturally states its commitment to not retaliate against any employee making a complaint, unless there is bad faith on the part of the complaining party.

No complaints regarding financial information were received during financial year 2018.

- **Training and periodic refresher programmes for staff involved in the preparation and revision of financial information, as well as assessment of the ICFR (Internal Control System for Financial Information), that covers at least accounting rules, audits, internal control and risk management.**

Training is key in the Iberdrola's human resources policy and is an essential element for adjusting new employees to Iberdrola and the proper performance of their jobs, as well as to keep the group's employees updated regarding any changes that occur within the group itself as well as the environment within which it does business.

Therefore, the group has local training centres in each of the countries in which it is present, and since 2016 has had an international corporate campus in San Agustín del Guadalix (Madrid), where training of all kinds is provided, by both internal professionals and by agencies, universities, companies and external experts.

Specifically, the personnel directly or indirectly involved in the preparation and review of financial information and in the evaluation of the ICFR system, based on their different responsibilities, receive regular training on accounting standards, internal control and risk management, which is intended to give them the knowledge needed for the optimal performance of their duties as well as to anticipate, to the extent possible, the proper conformance of the group to future rules and to best practices. Most of these courses are provided by outside entities: business schools, universities and consultants specialising in economic/financial matters.

In addition, and on a general basis, these professionals regularly take coursework to improve their qualifications in the use of the computer-based tools required to perform their duties, mainly excel and database management.

They also attend various conferences, symposia and seminars in the areas of accounting, tax and internal audit, at both the domestic and international level.

Furthermore, in order to pool best practices and analyse the challenges facing the group in these areas, various meetings between the professionals of these areas from the different countries and subholding companies are organised on an annual basis. Specifically, in 2018 there were the "XI Global Internal Audit Days", the "VI-Global Tax Meeting", the "II Finance & Treasury Global Meeting" and the annual "XI Global Control Committee", which analyses the most significant issues affecting the function, like new accounting rules, with special attention on reviewing and evaluating the group's ICFR system.

In addition, although not considered specific training activities, the Accounting Practices Division, which reports directly to the director of Administration and Control, which is responsible for defining and updating the accounting policies, publishes a quarterly bulletin that is broadly distributed among the group regarding new accounting developments with respect to International Financial Reporting Standards ("IFRS"), which includes updates on standards (standards entering into effect, drafts issued, standards issued, standards approved by the European Union and pending approval, as well as expected future standards) and accounting questions asked internally, together with the conclusions with respect thereto.

F.2. Assessment of financial information risks

Report on at least the following:

F.2.1. The main characteristics of the risk identification process, including error and fraud risk, as regards:

- **Whether the process exists and is documented.**

The process of identifying risks of error in financial information is one of the most important steps within the methodology for performing the internal control over financial information at Iberdrola, documenting

both the objectives and performance thereof as well as its results.

The methodology starts with an analysis of the consolidated financial information of the Iberdrola group and of the various country subholding companies, in order to select the most significant accounting headings and notes, pursuant to quantitative (materiality) and qualitative (business risk and third-party visibility) standards. The headings and notes selected are grouped into management cycles or large processes in which the selected information is generated. The cycles are analysed and a description of each of them is prepared as a means for identifying the potential risks of error in the financial information in relation to attributes like integrity, presentation, valuation, cut-off, recording and validity. The risks identified are subject to a process of prioritisation, selecting the most significant ones applying professional judgement regarding a number of indicators (existence of documented processes and controls, existence of systems that automate the process, whether there have been any incidents in the past, whether the process is known and mature or if judgement must be used to make estimates). The risks of fraud are not subject to explicit identification, although they are taken into account to the extent that they can generate material errors in the financial information.

Once the most significant risks have been selected, the controls required for the mitigation or management thereof are selected and designed, with these controls being subject to monitoring and documentation, as well as systematic review by the Internal Audit Area.

The selected risks are reviewed at least annually within the framework of the assessment of the effectiveness of the internal control system performed by those responsible for it. This review is intended to update the risks to the changing circumstances in which the Company operates, especially given changes in the organisation, computer systems, regulation, products or the status of the markets.

- **If the process covers all of the objectives of financial information, (existence and occurrence; completeness; valuation; delivery; breakdown and comparability; and rights and obligations), whether it is updated and with what frequency.**

As mentioned above, the cycles or large processes in which financial information is generated are reviewed at least on an annual basis to identify potential risks of error in relation to attributes like validity (existence and approval), integrity, valuation, presentation, cut-off and recording.

- **The existence of a process for identifying the scope of consolidation, taking into account, among other factors, the possible existence of complex company structures, shell companies, or special purpose entities.**

The scope of consolidation is identified on a monthly basis, and is obtained as a product of an updated map of companies, with express identification of the changes that have occurred each period.

The scope of this review is the totality of all companies in which Iberdrola or any of its subsidiaries has an interest, regardless of the significance thereof.

Furthermore, following the provisions of section 529 of the *Companies Act*, the *Regulations of the Board of Directors* provides the purview of the Board of Directors includes, among other things, approving the creation or acquisition of equity interests in special purpose entities or entities registered in countries or territories that are considered to be tax havens, as well as any other transactions or operations of a similar nature that, due to their complexity, might diminish the transparency of the group. In any event, the making of such decision requires a prior report of the ARSC, as provided in Iberdrola's *Regulations of the Audit and Risk Supervision Committee*.

Pursuant to specific internal procedures in effect (conforming to the current corporate governance model), the initiative relating to the creation or acquisition of an interest in a special purpose entity or an entity domiciled in a tax haven is within the purview of the Management of the group or of the country subholding company or head of business company or subsidiary thereof that intends to create or acquire a company of this nature. In the event that such transactions are carried out by listed country subholding companies of the group or by subsidiaries thereof, the audit and compliance committee or similar body of such listed country subholding company shall be responsible for issuing the relevant report.

- **If the process takes into account the effects of other types of risk (operational, technological, financial, legal, tax, reputational, environmental, etc.) to the extent that they affect the financial statements.**

The process of identifying risks of error in financial information takes into account the effects of other types of risk (operational, technological, financial, legal, tax, reputational, environmental, etc.) to the extent that they affect the financial statements, which risks are evaluated and managed by various corporate units like the Risk Division or the Legal Division, among others. However, there is no express identification of such other types for the identification of financial information risks.

- **The governing body within the company that supervises the process.**

The governing body that supervises the process is the ARSC, which is supported by the Management of the Internal Audit Area in the performance of this duty.

F.3. Control activities

State whether the company has at least the following, describing their main characteristics:

F.3.1. Review and authorisation procedures for financial information published by the stock markets and a description of the ICFR, indicating those responsible, as well as documentation describing the flow of activity and controls (including those relating to the risk of fraud) of the various types of transactions which may materially affect the financial statements, including financial closing procedures and the specific review of judgements, estimates, valuations and relevant forecasts.

On 24 July 2018, Iberdrola's Board of Directors approved a *Group Financial Information Preparation Policy* that applies to all companies of the group, and which further develops the process for preparing the consolidated financial information and clearly defines the powers vested in the ARSC and the audit and compliance committees of the other companies of the group.

"*Consolidated financial information*" means the information appearing in the consolidated annual accounts, in the *Interim Management Statements* corresponding to the results of Iberdrola and its consolidated group for the first and third quarter, and in the *Half-Yearly Financial Report*.

The policy provides that the financial information required for the preparation of the "*consolidated financial information*" must be prepared in accordance with the accounting standards established in the *Accounting Policies Handbook* and the models approved by Iberdrola's Administration and Control Division.

The policy provides which management decision-making body of each company shall be responsible for preparing the financial information relating to its respective company that may be required to prepare the "*consolidated financial information*". By analogy, the management decision-making bodies of the country subholding companies shall be responsible for approving the "*financial information for consolidation*" within which the information regarding the company itself and that of the subsidiaries forming part of its subgroup are included.

Thus, the management decision-making bodies of the country subholding companies, following a report from their respective audit and compliance committees, and based on the information received from their subsidiaries, shall prepare and approve the financial information for consolidation corresponding to each subgroup, and once such information has been verified by their external auditor within the context of its review of the consolidated financial information, shall send it to Iberdrola's Administration and Control Division prior to the date indicated thereby, in order to prepare the consolidated financial information and submit it for formulation or approval by Iberdrola's Board of Directors, as appropriate, after a report from its ARSC.

Furthermore, the process or structure of certification of the financial information, which is formally carried out on a half-yearly basis, coinciding with the interim and annual close, reflects the form in which the financial information is generated within the group.

In this structure, the heads of the country subholding companies and the heads of the head of business companies, together with their respective heads of control, as well as the heads of the global corporate areas, certify both the reliability of the financial information regarding their areas of responsibility (which is the information they provide for consolidation at the group level) and the effectiveness of the internal control system established to reasonably guarantee such reliability. Finally, the chairman & CEO, as the top responsible executive, and the Corporate Administration and Control Director, who is responsible for the preparation of the financial information, certify to the Board of Directors the reliability of the consolidated annual accounts and the *Half-Yearly Financial Report*.

The ARSC, with the support of the Management of the Internal Audit Area, supervises the entire process of certification, submitting to the Board of Directors the conclusions obtained from this analysis at the meetings during which the accounts are formally prepared.

As regards the description of the ICFR system to be published in the securities markets, the procedure for the review and approval thereof is the same as the one used for all disclosures of an economic and financial nature in the *Annual Corporate Governance Report*.

The documentation of the internal control over financial information system includes high-level descriptions of the cycles for generating the selected relevant financial information, as well as detailed descriptions of the prioritised risks of error and of the controls designed for the mitigation or management thereof. The description of the controls includes the evidence obtained for the implementation thereof, which is necessary for their review.

Each of the accounting close processes at the businesses is considered a cycle, and the same occurs with the group of accounting close activities at the corporate level, with the process of global consolidation and with the process of preparing the notes. This means that all of these activities are subject to the methodological process described in the section relating to risks.

Furthermore, the specific review of critical accounting opinions, estimates, valuations and relevant projections is subject to specific controls within the model, as these types of issues involve the identification of risks of error in the various cycles in which they are made. The evidence of the specific controls is the support for such reviews in many cases.

Independently of the process of certification followed in the countries, businesses and corporate areas, the ARSC, once again with the support of the Internal Audit Division, performs a quarterly global review of the financial information, ensuring that the half-yearly financial reports and quarterly management statements are prepared using the same accounting standards as the annual financial reports, and verifying the proper definition of the scope of consolidation, as well as the correct application of generally accepted accounting principles and international financial reporting standards.

F.3.2. Internal IT control policies and procedures (access security, change controls, their operation, operational continuity, and segregation of duties, among others) which support relevant processes within the company and relate to the creation and publication of financial information.

The controls considered to mitigate or manage the risks of error in financial reporting include some relating to the most significant software applications, like the controls relating to user access permissions or those relating to the integrity of the transfer of information between applications, of the transaction, and of change management.

In addition, the Iberdrola group has internal control guidelines or regulations and procedures regarding IT systems in relation to the acquisition and development of software, the acquisition of systems infrastructure, the installation and testing of software, change management, management of service levels, management of third-party services, security of the systems and access thereto, incident management, transaction management, continuity of operations and the segregation of functions.

These guidelines and procedures (which in some cases are different based on geographic area or type of solution, and are in a process of progressive homogenisation) are applied to all IT systems that support the relevant process of generation of financial information, and to the infrastructure required for the operation thereof.

The Iberdrola group also has an Information Technologies Policy that contemplates the management of risks associated with the use, ownership, operation, participation, influence and adoption of specific information technology or the processes for the management and control thereof.

Thus, there is a model of general controls integrated within the risk management model that allows for a global evaluation of the risks related to information technology.

Both the risk model and the IT controls are based on and aligned with good market practices, like COBIT5 and COSO. The evolution thereof over the long term is maintained by including the new needs arising from the changing regulatory compliance framework that applies to the IT systems and services, as well as the recommendations and guidelines of auditors and relevant third parties.

As part of the general IT controls model, there is a regular evaluation of the effectiveness of the information technology controls in the area of financial systems, adopting the appropriate measures if any incident is detected.

On an annual basis, the heads of the IT systems of the Iberdrola group certify the effectiveness of the internal controls established regarding financial information. This certification covers all systems declared to be within the scope of the external financial auditing, as well as others deemed to be relevant, by the corresponding business organisations within the group.

For financial year 2018, the total number of systems covered by the IT controls system was 58, on which there was homogeneous application of 20 controls, most of which are evaluated and applied by the Systems Division, and in some cases by other business organisations. The frequency of the evaluation is annual or biannual, depending on the nature of the control; and it is performed using a principle of sampling of all of the relevant evidence in each case. The entire process of evaluating the IT controls is supported by a GRC system and is supervised annually by the Internal Audit Division.

F.3.3. Internal control policies and procedures intended to guide the management of activities subcontracted to third parties, as well as those aspects of assessment, calculation or evaluation entrusted to independent experts, which may materially affect financial statements.

In general terms, the Iberdrola group does not have significant functions subcontracted to third parties with a direct impact on financial information. The evaluations, calculations or assessments entrusted to third parties that could materially affect the financial statements are considered to be activities relevant to the generation of financial information leading to the identification of any priority risks of error, which involves the design of associated internal controls. These controls cover the internal analysis and approval of fundamental assumptions to be used, as well as the review of the evaluations, calculations or assessments made by outside parties, by comparing them to the calculations made internally.

F.4. Information and communication

State whether the company has at least the following, describing their main characteristics:

F.4.1. A specifically assigned function for defining and updating accounting policies (accounting policy area or department) and resolving doubts or conflicts arising from their interpretation, maintaining a free flow of information to those responsible for operations in the organisation, as well as an up-to-date accounting policy manual distributed to the business units through which the company operates.

The Accounting Practice Division, which reports directly to the Administration and Control director, is responsible for defining and updating the accounting policies, as well as for resolving questions or conflicts arising from the interpretation thereof. It maintains fluid communication with the heads of operation of the organisation, and particularly with the heads of the accounting functions.

It publishes a quarterly bulletin that is broadly distributed within the group regarding new accounting developments deriving from the IFRS, which includes updates on standards (standards entering into effect, drafts issued, standards issued, standards approved by the European Union and pending approval, as well as expected future standards) and accounting questions asked internally, together with the conclusions with respect thereto.

The Accounting Practice Division is also responsible for keeping the accounting practices handbook of the group continuously updated and ensuring the appropriate dissemination thereof.

The accounting handbook is continuously updated. For this purpose, the Accounting Practice Division analyses whether the new developments or changes in the accounting area have an effect on the group's

accounting policies, as well as the date of entry into force of each of the standards. When a new provision, or new interpretations thereof, are identified having an effect on the accounting policies of the group, it is included in the handbook, and also communicated to the parties responsible for preparing the financial information of the group through the quarterly bulletins mentioned above, and the application supporting the handbook is also updated.

The updated version of the handbook is available in an application on the internal network of the group. This application is also accessible by users via remote access and can be connected to e-mail. Any change or upload of a document of the handbook generates an e-mail notice to all users.

F.4.2. Measures for capturing and preparing financial information with consistent formats for application and use by all of the units of the entity or the group, and which contain the main financial statements and notes, as well as detailed information regarding ICFR.

The mechanism for capturing and preparing the information supporting the main financial statements of the Iberdrola group is mainly based on the use of a unified management consolidation tool (called BPC), which is accessible from all geographic areas, that is currently deployed through the group.

A large part of the information supporting the breakdowns and notes is included in the consolidation tool, with the rest being captured by homogeneously formatted spreadsheets, called reporting packets, that are prepared for the half-yearly and yearly close.

F.5. Supervision of system performance

Describe at least the following:

F.5.1. The activities of the audit committee in overseeing ICFR as well as whether there is an internal audit function that has among its mandates support of the committee and the task of supervising the internal control system, including ICFR. Additionally, describe the scope of ICFR assessment made during the year and the procedure through which the person responsible prepares the assessment reports on its results, whether the company has an action plan describing possible corrective measures, and whether its impact on financial reporting is considered.

The activities for supervising the ICFR by the ARSC mainly include: (i) monitoring of compliance with the process of certification by the various parties responsible for the financial information; (ii) the review, with the support of the Management of the Internal Audit Area, of the design and operation of the internal control system, to evaluate the effectiveness thereof; and (iii) regular meetings with the external auditors, internal auditors and senior management to review, analyse and comment on the financial information, the boundary of companies that it covers and the accounting criteria applied, as well as any significant weaknesses in internal control that have been identified.

It should be mentioned that the parties responsible for preparing the financial information of each country subholding company, each head of business company and each corporate area must engage in an annual process, coordinated by the Internal Control Division, of reviewing the design and operation of the internal control system within their area of responsibility in order to evaluate the effectiveness thereof.

There is thus an analysis of whether changes in the risks identified and prioritised should be included based on the changing circumstances in which the group acts (changes in organisation, systems, processes, products, regulation, etc.). There is also an analysis of whether the design of the controls to mitigate or manage the risks that may have changed is appropriate, as well as whether they have operated satisfactorily in accordance with their design.

The conclusions from this annual review process, with respect to both the deficiencies identified (which are classified as serious, medium or mild, based precisely on their potential impact on the financial information) and the action plans to fix them, are presented at an annual specialised meeting chaired by the Administration and Control director, and at which the Management of the Internal Audit Area is also present. Conclusions are made at this meeting regarding the effectiveness of the internal control system within each of the different areas of responsibility, and globally for the entire group.

Thereafter, the most significant conclusions regarding the review are submitted to the ARSC within the framework of the regular meetings it holds with the Administration and Control director.

Apart from what is described in the preceding paragraphs, the Internal Audit Area, in support of the ARSC, undertakes an independent review of the design and operation of the internal control system, identifying deficiencies and preparing recommendations for improvement. The Internal Audit Area reports hierarchically to the chairman of Iberdrola's Board of Directors, and functionally to the ARSC, and pursuant to the Basic Internal Audit Regulations has the main duties of assisting this committee in the exercise of its powers and objectively and independently supervising the effectiveness of the group's internal control system, which is made up of a set of risk management and control mechanisms and systems.

Based thereon, the Management of the Internal Audit Area engages in ongoing monitoring of the action plans agreed to with the various organisations to correct the deficiencies detected and to implement the suggestions for improvement agreed to with the organisations.

The period that the Management of the Internal Audit Area plans for in-depth review of the entire internal control system is five years.

Specifically, 34 cycles were reviewed during financial year 2018. These are cycles corresponding to the companies Avangrid, Inc., Scottish Power Ltd., Iberdrola España, S.A. (Sociedad Unipersonal) and Neoenergía, S.A., as well as corporate cycles.

In addition, on a half-yearly basis, coinciding with the half-yearly and yearly close, the Management of the Internal Audit Area performs a review of the operation of the internal controls that are considered to be most critical.

The combination of regular reviews, together with the half-yearly reviews of the most critical controls, allows the Management of the Internal Audit Area to perform an evaluation of the internal control system (both design and operation) and issue an opinion regarding the effectiveness of the internal controls established to ensure the reliability of the financial information, which it submits to the ARSC within the framework of their regular meetings.

F.5.2. If there is a procedure by which the account auditor (in accordance with the contents of the Normas Técnicas de Auditoría (NTA) - "Auditing Standards"), internal auditor and other experts may communicate with senior management and the audit committee or senior managers of the company regarding significant weaknesses in internal control identified during the review of the annual accounts or any others they have been assigned. Additionally, state whether an action plan is available for correcting or mitigating any weaknesses found.

In general terms, the procedure for discussion regarding significant internal control weaknesses that have been identified is based on regular meetings by the various agents.

Thus, the ARSC holds meetings, both at the half-year and yearly close, with the external auditors, with the internal auditors, and with the management responsible for preparing the financial information, in order to discuss any relevant aspect of the preparation process and of the resulting financial information.

Specifically, as established in its Regulations (scope of powers), Iberdrola's ARSC has, among other powers, that of obtaining information regarding any significant deficiency in internal control that the statutory auditor detects while carrying out its audit work. For these purposes, the statutory auditor appears before such Committee on an annual basis to present recommendations in connection with the internal control weaknesses identified during the review of the annual accounts. Any weaknesses noted by the statutory auditor are continuously monitored by the Committee with the support of the Management of the Internal Audit Area. Management responsible for preparing the consolidated accounts also holds meetings with the external auditors and with the internal auditors, at both the half-yearly and yearly close, in order to discuss any significant issues relating to the financial information.

F.6. Other relevant information.

Iberdrola has a financial information internal control system or model that is intended to reasonably guarantee the reliability of the financial information. The development of the model, which began in 2006,

was not the result of a legal requirement but rather the conviction, by both the Board of Directors and the Company's senior management, that within a context of growth and internationalisation as was already forecast for the group, an explicit and auditable internal control system would contribute to maintaining and improving its control environment and the quality of the financial information, while at the same time increasing the confidence of investors due to its effects on the transparency, reputation and good governance of Iberdrola and of the companies making up the group.

The ICFR system has two main sides: certification, and internal control itself.

Certification is a process by which those responsible for financial information in the different areas of the Company certify that: (i) the financial information they deliver to Iberdrola for purposes of consolidation does not contain any material errors or omissions and provides a fair view of the results and the financial condition of the Company within their area of responsibility, and (ii) they are responsible for establishing the ICFR system within their area of responsibility and have found, upon evaluation, that the system is effective. The text of these certifications is inspired by the form of certification established in section 302 of the U.S. Sarbanes-Oxley Act.

The culmination of the half-yearly process is a joint certification that the chairman & CEO and the Administration and Control director submit to the Board of Directors for purposes of approval of the Half-Yearly Financial Report or the formulation of the annual accounts.

The other side of the model, that of internal control itself, is inspired by the leading framework described in the "Internal Control Integrated Framework" report of the "Committee of Sponsoring Organizations of the Treadway Commission (COSO)", and is mainly focused on providing a reasonable level of security in achieving the goal of reliability of financial information.

The methodology used by Iberdrola for the development and continuous update of internal control has the following stages or steps: (i) analysis and selection of significant financial information; (ii) the grouping thereof within cycles or large processes in which it is generated; (iii) the identification, evaluation and prioritisation of the risks of error in financial information within the selected cycles; (iv) the design and operation of controls to mitigate or manage the selected risks; and (v) the monitoring and update of the foregoing steps to continuously adapt the model to the circumstances of the business activity.

One of the main characteristics of the design of the model is that it attempts to ensure the quality of the financial information during each month of the year, and is not only limited to the periods corresponding to the annual or half-yearly close.

This characteristic is strengthened with the use of a specific software application internally developed by the group, which allows for the monitoring of the status of the controls at all times.

Another important characteristic of the model is that it extends the culture of internal control to all of the organisations, both corporate and business, that significantly contribute to the generation of financial information, by personally assigning responsibility in the implementation and documentation of controls.

All significant documentation regarding Iberdrola's ICFR system, including both the process of certification and the internal control itself, is stored in this software application.

The people responsible for implementing the controls input into the software application evidence showing the performance thereof, and evaluate the results obtained, classifying them as satisfactory or unsatisfactory. This allows for monitoring of the internal control situation in real time, permitting quick action regarding any deficiencies detected.

Additionally, on an annual basis, the various heads of control at the country subholding and head of business companies, as well as the heads of the corporate areas, review the design and operation of the ICFR system, as a systematic process for adjustment thereof to the changing circumstances of the business activity.

The annual review is coordinated by the Internal Control Division, which is also tasked with administering the software application and with coordinating the development of the ICFR system within the various businesses and corporate areas of the group.

Furthermore, the Management of the Internal Audit Area, which is responsible for supervising internal control in support of the ARSC, undertakes an independent review of the design and operation of the ICFR system, identifying deficiencies and preparing recommendations for improvement. This review is performed applying a mixed model of selecting cycles based on risk and a minimum rotation of five years.

In addition, on a half-yearly basis, the Management of the Internal Audit Area undertakes an independent review of the effectiveness of the internal controls established to ensure the reliability of the financial information. It also reviews the process of certification of the financial information on a half-yearly basis. The conclusions from these reviews are submitted to the ARSC, which, if applicable, makes them its own

and forwards them to the Board of Directors.

Based on materiality standards, the current scope of the ICFR system covers the entire Iberdrola group. More than 1,600 people from the group use the software application, both to document the evidence showing the implementation of more than 2,950 controls—which mitigate or manage more than 1,150 risks of error in the financial information deemed priority—and to monitor, analyse, adjust and evaluate the ICFR system.

In addition, the approximately 80 department heads who participate in the process of certifying the correctness of the information for which they are responsible do so using an electronic signature directly within the software application.

All of the above allows for the final result of the certification process, which is supported by the situation of internal control itself, to be reviewed by Iberdrola's Board of Directors as one of the major guarantees of reliability in connection with the formulation of the annual and interim financial information of the group.

F.7. External auditor's report

Report on:

F.7.1. If the ICFR information submitted to the markets has been subject to review by the external auditor, in which case the entity shall include its report as an attachment. If not, reasons why should be given.

The information on the ICFR system sent to the markets has not been subject to review by the external auditor consistent with the fact that the other information contained in the Annual Corporate Governance Report is only subject to review by the external auditor in relation to the accounting information contained in said Report. Furthermore, it is believed that externally reviewing the information on the ICFR system sent to the markets would in a certain way be redundant, taking into account the review of internal control that the external auditor must perform in accordance with technical auditing standards within the context of the statutory audit of accounts.

G EXTENT OF COMPLIANCE WITH CORPORATE GOVERNANCE RECOMMENDATIONS

Specify the company's level of compliance with recommendations from the Good Governance Code of Listed Companies.

In the event that a recommendation is not followed or only partially followed, a detailed explanation should be included explaining the reasons in such a manner that shareholders, investors and the market in general have enough information to judge the company's actions. General explanations are not acceptable.

- That the Articles of Association of listed companies do not limit the maximum number of votes that may be cast by one shareholder or contain other restrictions that hinder the takeover of control of the company through the acquisition of shares on the market.**

Complies | Explanation | X

Article 29.2 of the By-Laws provides that “No shareholder may cast a number of votes greater than those corresponding to shares representing ten (10%) per cent of share capital, even if the number of shares held exceeds such percentage of the share capital. This limitation does not affect votes corresponding to shares with respect to which a shareholder is holding a proxy as a result of the provisions of article 23 above, provided, however, that with respect to the number of votes corresponding to the shares of each shareholder represented by proxy, the limitation set forth above shall apply”.

Section 3 of such article adds: “The limitation set forth in the preceding section shall also apply to the maximum number of votes that may be collectively or individually cast by two or more shareholders that are entities or companies belonging to the same group. Such limitation shall also apply to the number of votes that may be cast collectively or individually by an individual and the shareholder entity, entities, or companies controlled by such individual. A group shall be deemed to exist under the circumstances provided by law, and also when a person controls one or more entities or companies”.

Iberdrola believes that the limitation on the maximum number of votes that may be cast by a single shareholder, or by several shareholders belonging to the same group or, if applicable, acting in concert, is a measure to protect shareholders at companies with dispersed share ownership, whose investment is thus guarded from any transaction that is contrary to the corporate interest. In this regard, most shareholders, especially including but not limited to small retail investors, who represent approximately one-fourth of Iberdrola’s capital, have little room to manoeuvre and respond to a potential shareholder owning a non-controlling interest and not reaching the threshold requiring a takeover bid but seeking influence over the Company and whose own interest is not totally in line with the corporate interest.

It should also be noted that such voting limitation has been in effect since 16 June 1990, the date on which the General Shareholders’ Meeting was held at which it was resolved, by unanimous vote of the attendees, to bring the By-Laws of the Company (then doing business as Iberduero, S.A.) into line with the consolidated text of the Companies Act approved by Royal Legislative Decree 1564/1989 of 22 December. This shows the level of corporate consensus that has existed on such voting limitation from the very beginning, which has been confirmed by the fact that such limitation has remained unchanged through various by-law amendments passed by the shareholders at General Shareholders’ Meetings. In turn, it reflects the will of the shareholders to increase their bargaining power in the event of hostile offers or transactions.

In any event, article 50 of the current By-Laws establishes the instances of removal of such voting limitation in the event that the Company is the target of a takeover bid that receives the required shareholder approval, in which case the provisions of section 527 of the Companies Act prevail. Pursuant to the foregoing, it cannot be deemed that the limitation on the maximum number of votes that may be cast by a shareholder constitutes an obstacle to a takeover bid.

2. That when the parent company and a subsidiary are listed on the stock market, both should publicly and specifically define:

- a) The respective areas of activity and possible business relationships between them, as well as those of the listed subsidiary with other group companies.**
- b) The mechanisms in place to resolve any conflicts of interest that may arise.**

Complies X	Complies Partially	Explanation	Not
Applicable			

3. That, during the course of the ordinary General Shareholders’ Meeting, complementary to the distribution of a written Annual Corporate Governance Report, the chairman of the Board of Directors makes a detailed oral report to the shareholders regarding the most material aspects of corporate governance of the company, and in particular:



- a) **Changes that have occurred since the last General Shareholders' Meeting.**
- b) **Specific reasons why the company did not follow one or more of the recommendations of the Code of Corporate Governance and, if so, the alternative rules that were followed instead.**

Complies | X | Complies Partially | | Explanation |

- 4. **That the company has defined and promoted a policy of communication and contact with shareholders, institutional investors and proxy advisors that complies in all aspects with rules preventing market abuse and gives equal treatment to similarly situated shareholders.**

And that the company has made such a policy public through its web page, including information related to the manner in which said policy has been implemented and the identity of contact persons or those responsible for implementing it.

Complies | X | Complies Partially | | Explanation |

- 5. **That the Board of Directors should not propose to the General Shareholders' Meeting any proposal for delegation of powers allowing the issuance of shares or convertible securities without pre-emptive rights in an amount exceeding 20% of equity at the time of delegation.**

And that whenever the Board of Directors approves any issuance of shares or convertible securities without pre-emptive rights the company immediately publishes reports on its web page regarding said exclusions as referenced in applicable company law.

Complies | X | Complies Partially | | Explanation |

- 6. **That listed companies which draft reports listed below, whether under a legal obligation or voluntarily, publish them on their web page with sufficient time before the General Shareholders' Meeting, even when their publication is not mandatory:**

- a) **Report regarding the auditor's independence.**
- b) **Reports regarding the workings of the audit committee and the appointments and remuneration committee.**
- c) **Report by the audit committee regarding related-party transactions.**
- d) **Report on the corporate social responsibility policy.**

Complies | X | Complies Partially | | Explanation |

- 7. **That the company reports in real time, through its web page, the proceedings of the General Shareholders' Meetings.**



Complies | X Explanation |

8. That the audit committee ensures that the Board of Directors presents financial statements in the audit report for the General Shareholders' Meetings which do not have qualifications or reservations and that, in the exceptional circumstances in which qualifications may appear, that the chairman of the audit committee and the auditors clearly explain to the shareholders the content and scope of said qualifications or reservations.

Complies | X Complies Partially | Explanation |

9. That the company permanently maintains on its web page the requirements and procedures for certification of share ownership, the right of attendance at the General Shareholders' Meetings, and the exercise of the right to vote or to issue a proxy.

And that such requirements and procedures promote attendance and the exercise of shareholder rights in a non-discriminatory fashion.

Complies | X Complies Partially | Explanation |

10. That when a verified shareholder has exercised his right to make additions to the agenda or to make new proposals to it with sufficient time in advance of the General Shareholders' Meeting, the company:

- a) Immediately distributes the additions and new proposals.
- b) Publishes the attendance card credential or proxy form or form for distance voting with the changes such that the new agenda items and alternative proposals may be voted upon under the same terms and conditions as those proposals made by the Board of Directors.
- c) Submits all of these items on the agenda or alternative proposals to a vote and applies the same voting rules to them as are applied to those drafted by the Board of Directors including, particularly, assumptions or default positions regarding votes for or against.
- d) That after the General Shareholders' Meeting, a breakdown of the results of said additions or alternative proposals is communicated.

Complies | X Complies Partially | Explanation | Not Applicable |

11. That, in the event the company intends to pay for attendance at the General Shareholders' Meeting, it establishes in advance a general policy of long-term effect regarding such payments.

Complies | X Complies Partially | Explanation | Not Applicable |



12. That the Board of Directors completes its duties with a unity of purpose and independence, treating all similarly situated shareholders equally and that it is guided by the best interests of the company, which is understood to mean the pursuit of a profitable and sustainable business in the long term, and the promotion of continuity and maximisation of the economic value of the business.

And that in pursuit of the company's interest, in addition to complying with applicable law and rules and in engaging in conduct based on good faith, ethics and a respect for commonly accepted best practices, it seeks to reconcile its own company interests, when appropriate, with the interests of its employees, suppliers, clients and other stakeholders, as well as the impact of its corporate activities on the communities in which it operates and the environment.

Complies | X Complies Partially | Explanation |

13. That the Board of Directors is of an adequate size to perform its duties effectively and collegially, and that its optimum size is between five and fifteen members.

Complies | X Explanation |

14. That the Board of Directors approves a selection policy for directors that:

- a) Is concrete and verifiable.
- b) Ensures that proposals for appointment or re-election are based upon a prior analysis of the needs of the Board of Directors.
- c) Favours diversity in knowledge, experience and gender.

That the resulting prior analysis of the needs of the Board of Directors is contained in the supporting report from the appointments committee published upon a call to the General Shareholders' Meeting submitted for ratification, appointment or re-election of each director.

And that the selection policy for directors promotes the objective that by the year 2020 the number of female directors accounts for at least 30% of the total number of members of the Board of Directors.

The appointments committee will annually verify compliance with the selection policy of directors and explain its findings in the Annual Corporate Governance Report.

Complies | X Complies Partially | Explanation |

15. That proprietary and independent directors constitute a substantial majority of the Board of Directors and that the number of executive



directors is kept at a minimum, taking into account the complexity of the corporate group and the percentage of equity participation of executive directors.

Complies | X | Complies Partially | Explanation |

16. That the percentage of proprietary directors divided by the number of non- executive directors is no greater than the proportion of the equity interest in the company represented by said proprietary directors and the remaining share capital.

This criterion may be relaxed:

- a) In companies with a high market capitalisation in which interests that are legally considered significant are minimal.
- b) In companies where a diversity of shareholders is represented on the Board of Directors without ties among them.

Complies | X | Explanation |

17. That the number of independent directors represents at least half of the total number of directors.

Nonetheless, when the company does not have a high level of market capitalisation or in the event that it is a high cap company with one shareholder or a group acting in a coordinated fashion who together control more than 30% of the company's equity, the number of independent directors represents at least one third of the total number of directors.

Complies | X | Explanation |

18. That companies publish and update the following information regarding directors on the company website:

- a) Professional profile and biography.
- b) Any other Boards to which the director belongs, regardless of whether the companies are listed, as well as any other remunerated activities engaged in, regardless of type.
- c) Category of directorship, indicating, in the case of individuals who represent significant shareholders, the shareholder that they represent or to which they are connected.
- d) The date of their first appointment as a director of the company's Board of Directors, and any subsequent re-election.
- e) The shares and options they own.

Complies | X | Complies Partially | Explanation |

19. That the Annual Corporate Governance Report, after verification by the appointments committee, explains the reasons for the



appointment of proprietary directors at the proposal of the shareholders whose equity interest is less than 3%. It should also explain, where applicable, why formal requests from shareholders for membership on the Board meeting were not honoured, when their equity interest is equal to or exceeds that of other shareholders whose proposal for proprietary directors was honoured.

Complies | Complies Partially | Explanation | Not Applicable
| X

20. That proprietary directors representing significant shareholders must resign from the Board if the shareholder they represent disposes of its entire equity interest. They should also resign, in a proportional fashion, in the event that said shareholder reduces its percentage interest to a level that requires a decrease in the number of proprietary directors representing this shareholder.

Complies | Complies Partially | Explanation | Not Applicable
| X

21. That the Board of Directors may not propose the dismissal of any independent director before the completion of the director's term provided for in the Articles of Association unless the Board of Directors finds just cause and a prior report has been prepared by the appointments committee. Specifically, just cause is considered to exist if the director takes on new duties or commits to new obligations that would interfere with his or her ability to dedicate the time necessary for attention to the duties attendant to his post as a director, fails to complete the tasks inherent to his or her post, or enters into any of the circumstances which would cause the loss of independent status in accordance with applicable law.

The dismissal of independent directors may also be proposed as a result of a public takeover bid, merger or similar transaction entailing a change in the shareholder structure of the company, provided that such changes in the structure of the Board are the result of the proportionate representation criteria provided for in Recommendation 16.

Complies | X Explanation |

22. That companies establish rules requiring that directors inform the Board of Directors and, where appropriate, resign from their posts, when circumstances arise which may damage the company's standing and reputation. Specifically, directors must be required to report any criminal acts with which they are charged, as well as the consequent legal proceedings.

And that should a director be indicted or tried for any of the offences set out in company law legislation, the Board of Directors must



investigate the case as soon as possible and, based on the particular situation, decide whether the director should continue in his or her post. And that the Board of Directors must provide a reasoned written account of all these events in its Annual Corporate Governance Report.

Complies | **X** | Complies Partially | Explanation |

- 23. That all directors clearly express their opposition when they consider any proposal submitted to the Board of Directors to be against the company's interests. This particularly applies to independent directors and directors who are unaffected by a potential conflict of interest if the decision could be detrimental to any shareholders not represented on the Board of Directors.**

Furthermore, when the Board of Directors makes significant or repeated decisions about which the director has serious reservations, the director should draw the appropriate conclusions and, in the event the director decides to resign, explain the reasons for this decision in the letter referred to in the next recommendation.

This recommendation also applies in the case of the secretary of the Board of Directors, despite not being a director.

Complies | Complies Partially | Explanation | Not Applicable
| **X**

- 24. That whenever, due to resignation or any other reason, a director leaves before the completion of his or her term, the director should explain the reasons for this decision in a letter addressed to all the directors of the Board of Directors. Irrespective of whether the resignation has been reported as a relevant fact, it must be included in the Annual Corporate Governance Report.**

Complies **X** | Complies Partially | Explanation | Not
Applicable |

- 25. That the appointments committee ensures that non-executive directors have sufficient time in order to properly perform their duties.**

And that the Board rules establish the maximum number of company Boards on which directors may sit.

Complies | **X** | Complies Partially | Explanation |

- 26. That the Board of Directors meets frequently enough so that it may effectively perform its duties, at least eight times per year, following a schedule of dates and agenda established at the beginning of the year and allowing each director individually to propose items that do not originally appear on the agenda.**

Complies | **X** | Complies Partially | Explanation |

27. **That director absences only occur when absolutely necessary and are quantified in the Annual Corporate Governance Report. And when absences occur, that the director appoints a proxy with instructions.**

Complies | **X** | Complies Partially | Explanation |

28. **That when directors or the secretary express concern regarding a proposal or, in the case of directors, regarding the direction in which the company is headed and said concerns are not resolved by the Board of Directors, such concerns should be included in the minutes, upon a request from the protesting party.**

Complies | Complies Partially | Explanation | Not Applicable
| **X**

29. **That the company establishes adequate means for directors to obtain appropriate advice in order to properly fulfil their duties including, should circumstances warrant, external advice at the company's expense.**

Complies | **X** | Complies Partially | Explanation |

30. **That, without regard to the knowledge necessary for directors to complete their duties, companies make refresher courses available to them when circumstances require.**

Complies | **X** | Explanation | Not Applicable |

31. **That the agenda for meetings clearly states those matters about which the Board of Directors is to make a decision or adopt a resolution so that the directors may study or gather all relevant information ahead of time.**

When, under exceptional circumstances, the chairman wishes to bring urgent matters for decision or resolution before the Board of Directors which do not appear on the agenda, prior express agreement of a majority of the directors shall be necessary, and said consent shall be duly recorded in the minutes.

Complies | **X** | Complies Partially | Explanation |

32. **That directors shall be periodically informed of changes in equity ownership and of the opinions of significant shareholders, investors and rating agencies of the company and its group.**

Complies | **X** | Complies Partially | Explanation |

33. **That the chairman, as the person responsible for the efficient workings of the Board of Directors, in addition to carrying out his duties required by law and the Articles of Association, should prepare and submit to the Board of Directors a schedule of dates and matters to be considered; organise and coordinate the periodic**



evaluation of the Board as well as, if applicable, the chief executive of the company, should be responsible for leading the Board and the effectiveness of its work; ensuring that sufficient time is devoted to considering strategic issues, and approve and supervise refresher courses for each director when circumstances so dictate.

Complies | **X** | Complies Partially | | Explanation |

34. That when there is a coordinating director, the Articles of Association or the Board rules should confer upon him the following competencies in addition to those conferred by law: chair of the Board of Directors in the absence of the chairman and deputy chairmen, should there be any; reflect the concerns of non- executive directors; liaise with investors and shareholders in order to understand their points of view and respond to their concerns, in particular as those concerns relate to corporate governance of the company; and coordinate a succession plan for the chairman.

Complies | **X** | Complies Partially | | Explanation | | Not
Applicable |

35. That the secretary of the Board of Directors should pay special attention to ensure that the activities and decisions of the Board of Directors take into account the recommendations regarding good governance contained in this Code of Good Governance and which are applicable to the company.

Complies | **X** | Explanation |

36. That the Board of Directors meets in plenary session once a year and adopt, where appropriate, an action plan to correct any deficiencies detected in the following:
- a) The quality and efficiency of the Board of Directors' work.
 - b) The workings and composition of its committees.
 - c) Diversity of membership and competence of the Board of Directors.
 - d) Performance of the chairman of the Board of Directors and the chief executive officer of the company.
 - e) Performance and input of each director, paying special attention to those in charge of the various Board committees.

In order to perform its evaluation of the various committees, the Board of Directors will take a report from the committees themselves as a starting point and for the evaluation of the Board, a report from the appointments committee.



Every three years, the Board of Directors will rely upon the assistance of an external advisor for its evaluation, whose independence shall be verified by the appointments committee.

Business relationships between the external adviser or any member of the adviser's group and the company or any company within its group shall be specified in the Annual Corporate Governance Report.

The process and the areas evaluated shall be described in the Annual Corporate Governance Report.

Complies | ☒ | Complies Partially | | Explanation |

- 37. That if there is an executive committee, the proportion of each different director category must be similar to that of the Board itself, and its secretary must be the secretary of the Board.**

Complies | ☒ | Complies Partially | | Explanation | | Not Applicable |

- 38. That the Board of Directors must always be aware of the matters discussed and decisions taken by the executive committee and that all members of the Board of Directors receive a copy of the minutes of meetings of the executive committee.**

Complies | ☒ | Complies Partially | | Explanation | | Not Applicable |

- 39. That the members of the audit committee, in particular its chairman, are appointed in consideration of their knowledge and experience in accountancy, audit and risk management issues, and that the majority of its members be independent directors.**

Complies | ☒ | Complies Partially | | Explanation |

- 40. That under the supervision of the audit committee, there must be a unit in charge of the internal audit function, which ensures that information and internal control systems operate correctly, and which reports to the non-executive chairman of the Board or of the audit committee.**

Complies | ☒ | Complies Partially | | Explanation |

- 41. That the person in charge of the group performing the internal audit function should present an annual work plan to the audit committee, reporting directly on any issues that may arise during the implementation of this plan, and present an activity report at the end of each year.**

Complies | ☒ | Complies Partially | | Explanation | | Not Applicable |

42. That in addition to the provisions of applicable law, the audit committee should be responsible for the following:

1. With regard to information systems and internal control:

- a) Supervise the preparation and integrity of financial information relative to the company and, if applicable, the group, monitoring compliance with governing rules and the appropriate application of consolidation and accounting criteria.**
- b) Ensure the independence and effectiveness of the group charged with the internal audit function; propose the selection, appointment, re- election and dismissal of the head of internal audit; draft a budget for this department; approve its goals and work plans, making sure that its activity is focused primarily on material risks to the company; receive periodic information on its activities; and verify that senior management takes into account the conclusions and recommendations of its reports.**
- c) Establish and supervise a mechanism that allows employees to report confidentially and, if appropriate, anonymously, any irregularities with important consequences, especially those of a financial or accounting nature, that they observe in the company.**

2. With regard to the external auditor:

- a) In the event that the external auditor resigns, examine the circumstances which caused said resignation.**
- b) Ensure that the remuneration paid to the external auditor for its work does not compromise the quality of the work or the auditor's independence.**
- c) Insist that the company file a relevant fact with the CNMV when there is a change of auditor, along with a statement on any differences that arose with the outgoing auditor and, if applicable, the contents thereof.**
- d) Ensure that the external auditor holds an annual meeting with the Board of Directors in plenary session in order to make a report regarding the tasks accomplished and regarding the development of its accounting and risks faced by the company.**
- e) Ensure that the company and the external auditor comply with applicable rules regarding the rendering of services other than auditing, proportional limits on the auditor's**

billing, and all other rules regarding the auditor's independence.

Complies | **X** | Complies Partially | Explanation |

- 43. That the audit committee may require the presence of any employee or manager of the company, even without the presence of any other member of management.**

Complies | X | Complies Partially | Explanation |

- 44. That the audit committee be kept abreast of any corporate and structural changes planned by the company in order to perform an analysis and draft a report beforehand to the Board of Directors regarding economic conditions and accounting implications and, in particular, any exchange ratio involved.**

Complies | **X** | Complies Partially | Explanation | Not
Applicable |

- 45. That the risk management and control policy identify, at a minimum:**

- a) **The various types of financial and non-financial risks (among those operational, technological, legal, social, environmental, political and reputational) which the company faces, including financial or economic risks, contingent liabilities and other off-balance sheet risks.**
- b) **Fixing of the level of risk the company considers acceptable.**
- c) **Means identified in order to minimise identified risks in the event they transpire.**
- d) **Internal control and information systems to be used in order to control and manage identified risks, including contingent liabilities and other off balance sheet risks.**

Complies | **X** | Complies Partially | Explanation |

- 46. That under the direct supervision of the audit committee or, if applicable, of a specialised committee of the Board of Directors, an internal control and management function should exist delegated to an internal unit or department of the company which is expressly charged with the following responsibilities:**

- a) **Ensure the proper functioning of risk management and control systems and, in particular, that they adequately identify, manage and quantify all material risks that may affect the company.**
- b) **Actively participate in the creation of the risk strategy and in important decisions regarding risk management.**



- c) **Ensure that the risk management and control systems adequately mitigate risks as defined by policy issued by the Board of Directors.**

Complies | **X** | Complies Partially | Explanation |

47. **That members of the appointment and remuneration committee – or of the appointments committee and the remuneration committee if they are separate – are chosen taking into account the knowledge, ability and experience necessary to perform the duties they are called upon to carry out and that the majority of said members are independent directors.**

Complies | **X** | Complies Partially | Explanation |

48. **That high market capitalisation companies have formed separate appointments and remuneration committees.**

Complies | **X** | Explanation | Not Applicable |

49. **That the appointments committee consult with the chairman of the Board of Directors and the chief executive of the company, especially in relation to matters concerning executive directors.**

And that any director may ask the appointments committee to consider potential candidates he or she considers appropriate to fill a vacancy on the Board of Directors.

Complies | **X** | Complies Partially | Explanation |

50. **That the remuneration committee exercises its functions independently and that, in addition to the functions assigned to it by law, it should be responsible for the following:**

- a) **Propose basic conditions of employment for senior management.**
- b) **Verify compliance with company remuneration policy.**
- c) **Periodically review the remuneration policy applied to directors and senior managers, including remuneration involving the delivery of shares, and guarantee that individual remuneration be proportional to that received by other directors and senior managers.**
- d) **Oversee that potential conflicts of interest do not undermine the independence of external advice rendered to the Board.**
- e) **Verify information regarding remuneration paid to directors and senior managers contained in the various corporate documents, including the Annual Report on Director Remuneration.**

Complies | **X** | Complies Partially | Explanation |



51. That the remuneration committee consults with the chairman and the chief executive of the company, especially in matters relating to executive directors and senior management.

Complies | **X** | Complies Partially | Explanation |

52. That the rules regarding composition and workings of supervision and control committees appear in the rules governing the Board of Directors and that they are consistent with those that apply to mandatory committees in accordance with the recommendations above, including:

- a) That they are comprised exclusively of non-executive directors, with a majority of them independent.
- b) That their chairmen be independent directors.
- c) That the Board of Directors select members of these committees taking into account their knowledge, skills and experience and the duties of each committee; discuss their proposals and reports; and detail their activities and accomplishments during the first plenary session of the Board of Directors held after the committee's last meeting.
- d) That the committees be allowed to avail themselves of outside advice when they consider it necessary to perform their duties.
- e) That their meetings be recorded and the minutes be made available to all directors.

Complies | **X** | Complies Partially | Explanation | Not Applicable |

53. That verification of compliance with corporate governance rules, internal codes of conduct and social corporate responsibility policy be assigned to one or split among more than one committee of the Board of Directors, which may be the audit committee, the appointments committee, the corporate social responsibility committee in the event that one exists, or a special committee created by the Board of Directors pursuant to its powers of self-organisation, to which at least the following responsibilities shall be specifically assigned:

- a) Verification of compliance with internal codes of conduct and the company's corporate governance rules.
- b) Supervision of the communication strategy and relations with shareholders and investors, including small- and medium-sized shareholders.
- c) The periodic evaluation of the suitability of the company's corporate governance system, with the goal that the company



promotes company interests and take into account, where appropriate, the legitimate interests of other stakeholders.

- d) Review of the company's corporate social responsibility policy, ensuring that it is orientated towards value creation.**
- e) Follow-up of corporate social responsibility strategy and practice, and evaluation of degree of compliance.**
- f) Supervision and evaluation of the way relations with various stakeholders are handled.**
- g) Evaluation of everything related to non-financial risks to the company, including operational, technological, legal, social, environmental, political and reputational risks.**
- h) Coordination of the process of reporting on diversity and reporting non-financial information in accordance with applicable rules and international benchmarks.**

Complies | **X** | Complies Partially | Explanation |

54. That the corporate social responsibility policy includes principles or commitments which the company voluntarily assumes regarding specific stakeholders and identifies, at a minimum:

- a) The objectives of the corporate social responsibility policy and the development of tools to support it.**
- b) Corporate strategy related to sustainability, the natural environment and social issues.**
- c) Concrete practices in matters related to shareholders, employees, clients, suppliers, social issues, the natural environment, diversity, fiscal responsibility, respect for human rights, and the prevention of unlawful conduct.**
- d) Means or systems for monitoring the results of the application of specific practices described in the immediately preceding paragraph, associated risks, and their management.**
- e) Means of supervising non-financial risk, ethics, and business conduct.**
- f) Communication channels, participation and dialogue with stakeholders.**
- g) Responsible communication practices that impede the manipulation of data and protect integrity and honour.**

Complies | **X** | Complies Partially | Explanation |



55. That the company reports, in a separate document or within the management report, on matters related to corporate social responsibility, following internationally recognised methodologies.

Complies | X Complies Partially | Explanation |

56. That director remuneration be sufficient in order to attract and retain directors who meet the desired professional profile and to adequately compensate them for the dedication, qualifications and responsibility demanded of their posts, while not being so excessive as to compromise the independent judgment of non-executive directors.

Complies | X Explanation |

57. That only executive directors receive remuneration linked to corporate results or personal performance, as well as remuneration in the form of shares, options or rights to shares or instruments whose value is indexed to share value, or long-term savings plans such as pension plans, retirement accounts or any other retirement plan.

Shares may be given to non-executive directors under the condition that they maintain ownership of the shares until they leave their posts as directors. The foregoing shall not apply to shares that the director may be obliged to sell in order to meet the costs related to their acquisition.

Complies | X Complies Partially | Explanation |

58. That as regards variable remuneration, the policies incorporate limits and administrative safeguards in order to ensure that said remuneration is in line with the work performance of the beneficiaries and is not based solely upon general developments in the markets or in the sector in which the company operates, or other similar circumstances.

And, in particular, that variable remuneration components:

- a) Are linked to pre-determined and measurable performance criteria and that such criteria take into account the risk undertaken to achieve a given result.
- b) Promote sustainability of the company and include non-financial criteria that are geared towards creating long term value, such as compliance with rules and internal operating procedures and risk management and control policies.
- c) Are based upon balancing short-, medium- and long-term objectives, permitting the reward of continuous achievement over a period of time long enough to judge creation of sustainable

value such that the benchmarks used for evaluation are not comprised of one-off, seldom occurring or extraordinary events.

Complies | X Complies Partially | Explanation | Not
Applicable |

- 59. That a material portion of variable remuneration components be deferred for a minimum period of time sufficient to verify that previously established performance criteria have been met.**

Complies | X Complies Partially | Explanation | Not
Applicable |

- 60. That remuneration related to company results takes into account any reservations which may appear in the external auditor's report which would diminish said results.**

Complies | X Complies Partially | Explanation | Not
Applicable |

- 61. That a material portion of variable remuneration for executive directors depends upon the delivery of shares or instruments indexed to share value.**

Complies | X Complies Partially | Explanation | Not Applicable |

- 62. That once shares or options or rights to shares arising from remuneration schemes have been delivered, directors are prohibited from transferring ownership of a number of shares equivalent to two times their annual fixed remuneration, and the director may not exercise options or rights until a term of at least three years has elapsed since they received said shares.**

The foregoing shall not apply to shares that the director may be obliged to sell in order to meet the costs related to their acquisition.

Complies | X Complies Partially | Explanation | Not
Applicable |

- 63. That contractual arrangements include a clause which permits the company to seek reimbursement of variable remuneration components in the event that payment does not coincide with performance criteria or when delivery was made based upon data later deemed to be inaccurate.**

Complies | X Complies Partially | Explanation | Not
Applicable |

- 64. That payments made for contract termination shall not exceed an amount equivalent to two years of total annual remuneration and that it shall not be paid until the company has verified that the director has fulfilled all previously established criteria for payment.**

Complies | Complies Partially | X Explanation | Not
Applicable |

Contracts with executive directors and senior officers signed as from 2011 provide severance pay for contractual termination equal to a maximum of two times annual salary in the event of termination of their relationship with the Company, provided that termination of the relationship is not the result of a breach attributable thereto or solely due to a voluntary decision thereof. This is the case of the Business CEO.

The Company included guarantee clauses of up to five years in contracts with its key officers in the year 2000. Subsequently, in 2001, when the current chairman & CEO joined Iberdrola, he received the treatment in effect for such officers, in order to achieve an effective and sufficient level of loyalty. As chairman & CEO, he is currently entitled to three times his annual salary.

The Board of Directors has analysed this situation, the treatment of which is necessarily collective in nature. Any reduction in the salary multiples would carry high costs for the Company, for which reason the Board of Directors believes that it is most appropriate not to change the status quo. Any proposed reduction in the salary multiples would have a higher cost for the Company, as the amount of the contingency will gradually decrease due to the passage of time, resulting in payments far smaller than any possible reduction in the agreed severance payment, taking into account the average age of the affected group and the low likelihood of the guarantees being enforced. In this regard, it should be pointed out that at year-end 2014, there were 62 officers with a right to severance pay greater than two years in case of termination. At year-end 2018, the number has decreased again to 29, without the enforcement of any guarantee clause.

H FURTHER INFORMATION OF INTEREST

1. If there is any aspect regarding corporate governance in the company or other companies in the group that has not been included in other sections of this report, but which is necessary in order to obtain a more complete and comprehensible picture of the structure and governance practices in the company or group, describe it briefly below.
2. This section may also be used to provide any other information, explanation or clarification relating to previous sections of the report, so long as it is relevant and not redundant.

Specifically, state whether the company is subject to any corporate governance legislation other than that prevailing in Spain and, if so, include any information required under this legislation that differs from the data requested in this report.

3. The company may also state whether it voluntarily complies with other ethical or best practice codes, whether international, sector-based or other. In such a case, name the code in question and the date the company began following it. It should be specifically mentioned that the company adheres to the Code of Good Tax Practices of 20 July 2010.



The annex contains a description of the attendance of each and every one of the directors at the meetings of the Board of Directors and its committees during financial year 2018. Proxies granted with specific voting instructions are considered to be attendances.

This Annual Corporate Governance Report was approved by the Board of Directors of the company at the meeting held on __19/02/2019__.

State whether any directors voted against or abstained from voting on this report.

Yes ☐

No ☒

Name of director who has not voted for the approval of this report	Reasons (against, abstention, non-attendance)	Explain the reasons
Remarks		

Annex to IAGC 2018:

SECTION C.1.26

Below is the data on attendance of each and every one of the directors at the meetings of the Board of Directors and its committees during financial year 2018. Proxies granted with specific voting instructions are considered to be attendances.

Directors	Board	Committees				
		EC	ARSC	AC	RC	SDC
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	8/8	15/15	--	--	--	--
MR IÑIGO VÍCTOR DE ORIOL IBARRA	8/8	--	--	6/6	3/3	2/2
MS INÉS MACHO STADLER	8/8	15/15	--	--	6/6	--
MR BRAULIO MEDEL CÁMARA	3/3	--	--	--	--	4/4
MS SAMANTHA BARBER	8/8	15/15	--	--	--	7/7
MS MARÍA HELENA ANTOLÍN RAYBAUD	8/8	--	--	6/6	--	--
MR ÁNGEL JESÚS ACEBES PANIAGUA	8/8	15/15	--	6/6	--	--
MS GEORGINA KESSEL MARTÍNEZ	8/8	--	12/12	--	--	--
MS DENISE HOLT	8/8	--	12/12	--	--	--
MR JOSÉ W. FERNÁNDEZ	8/8	--	12/12	--	--	--
MR MANUEL MOREU MUNAIZ	8/8	15/15	--	--	3/3	5/5
MR XABIER SAGREDO ORMAZA	8/8	--	12/12	--	--	--
MR JUAN MANUEL GONZÁLEZ SERNA	8/8	--	--	--	6/6	--
MR FRANCISCO MARTÍNEZ CÓRCOLES	8/8	--	--	--	--	--
MR ANTHONY LUZZATO GARDNER	5/5	--	--	--	--	3/3

Notes:

The denominator indicates the number of meetings held during the period of the year in which the director served as such or as a member of the respective Committee.

- EC: Executive Committee.
- ARSC: Audit and Risk Supervision Committee.
- AC: Appointments Committee.
- RC: Remuneration Committee.
- SDC: Sustainable Development Committee (previously the Corporate Social Responsibility Committee).



NON-FINANCIAL INFORMATION AND DIVERSITY 2018



Iberdrola, S.A. and
subsidiaries

Financial year 2018

Statement of Non-
Financial Information

Sustainability Report 2018



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Introduction



Iberdrola prepared its first *Sustainability Report* in 2004, thus adopting the best reporting and transparency practices. Since then, the company has become a world leader in defending a model of sustainable and environmentally-friendly growth. Continuing with its commitment, Iberdrola once again submits its **Statement of Non-Financial Information. Sustainability Report 2018**, approved by its Board of Directors at the meeting thereof held on 19 February 2019, after a report from the Sustainable Development Committee of said Board of Directors.

Iberdrola publishes this report in order to give its Stakeholders a true and accurate view of its non-financial performance during financial year 2018, and in order for them to also understand both the group's social dividend and its contribution to the Sustainable Development Goals of the 2030 Agenda of the United Nations, in compliance with the commitments assumed in the [By-Laws](#) and in the [General Sustainable Development Policy](#).

Iberdrola thus satisfies the growing demand by society in general, and shareholders and investors in particular, for companies to also explain their non-financial performance in the environmental, social and corporate governance (ESG) fields, with the understanding that good performance in these areas is an essential factor for the success of companies.

After the entry into force in 2014 of *Directive 2014/95/EU*, the Directive was transposed into the Spanish legal system in 2017 by means of *Royal Decree-law 18/2017, of 24 November*. In 2018, *Law 11/2018, of 28 December, on non-financial information and diversity* was approved. This new law expands the obligations to publish non-financial information, which includes environmental and social aspects, the management of people, diversity, respect for human rights and the fight against corruption and bribery, describing the risks, policies and results connected to these issues. This document covers the requirements arising from the entry into force of the new legal provision, forming an integral part of the company's management report.

This report has been prepared in accordance with the reporting requirements and recommendations of the *Consolidated Set of GRI Sustainability Reporting Standards 2016* (Comprehensive option) and the *Electric Utilities Sector Supplement*, both of the *Global Reporting Initiative* (GRI). As a new development, and to make the report easier to read, the report has been structured into topics instead of following the order of GRI indicators. References to the GRI indicators covered in each section have been added in the texts (e.g.: **102-7**).

Readers of the *Statement of Non-Financial Information. Sustainability Report 2018* can also refer to the *Annual Financial Report 2018* and the *Annual Corporate Governance Report 2018*, as well as the *Integrated Report. February 2019*, all of which are accessible in the "[Annual Reports](#)" section, and which contain additional useful information for a better understanding of Iberdrola's performance during the financial year and of its future prospects, based on the principles of transparency and disclosure set out in the [Stakeholder Relations Policy](#).

Finally, to facilitate access to all available information, direct links are included throughout this report to both the corporate website (www.iberdrola.com) and to other pages of the group, as well as to official documents published thereon in PDF format. To open these links, click with the left button of your mouse directly on texts identified with the following format: [link example](#).

Notes:

- The report boundary is described in chapter III. About the report in this document.
- The figures included in this translation follow the customary English convention, with figures in thousands separated by a comma (,) and decimals indicated by a full stop (.).



Letter from the Chairman



102-14

The Sustainability Report I have the pleasure of presenting to you is intended to summarise the most important information on the company's last 12 months. As you will find, over the course of this financial year Iberdrola has achieved major milestones that represent great progress in our plans across all countries and all areas of the group's activity, combining financial results with the sustainable creation of value for the company.

As is customary, this report is structured following the Global Reporting Initiative (GRI) guidelines, providing a detailed and transparent presentation of our performance in the financial, social and environmental spheres.

In 2018, we made significant progress in meeting our investment plan to 2022. Over 5,300 million euros of gross investment represents one of the highest levels of investment by the group in a single financial year, which has enabled us to shorten the term for achieving our goals by almost a year.

Iberdrola's activities in 2018 show that our group has the people, the technology, the resources, the experience and the knowledge required to lead state-of-the-art energy projects worldwide. A clear example of this is the Wikingen offshore wind farm, which we have inaugurated in the German Baltic Sea and to which there will soon be added the Baltic Eagle and Wikingen Süd offshore wind farms, also in German waters.

In this technological area, we have started construction in the British North Sea of what will be one of the largest wind farms in the world, East Anglia One, capable of supplying entirely emission-free energy to approximately one-and-a-half million people. And we are developing other projects in the United States (Vineyard, Kitty Hawk and Massachusetts Zone III) and in France (Saint Briec), which strengthen our strong commitment to offshore wind power.

We also completed other highly significant projects in 2018, such as the Western Link high-voltage direct current cable connecting Scotland and Wales, which transports energy via the longest undersea electric cable in the world, and the Santiago and Hermosillo photovoltaic power stations in Mexico, which will avoid the atmospheric emission of around 550,000 tons of CO₂ per year. In Spain, we have achieved the full digitalization of our distribution network via the STAR project, which also involved the installation of 11 million smart meters allowing for improved service and network efficiency and the integration of more renewable energies and of new electric mobility solutions.

At the same time, we have made headway in the development of major initiatives that we hope to complete in the coming years, such as the NECEC project (the new transmission line between Quebec and Massachusetts, which will supply 100% renewable energy to 1.2 million homes), the Tâmega hydroelectric pumping complex (one of the most significant energy projects in Portuguese history), and increased commercial activity in countries like France and Italy.

All these advances strengthen the wager that we have been making at Iberdrola for almost two decades, a commitment to make the investment in renewable energies, storage, smart grids and new customer services required to lead the sustainable and efficient energy transition that our sector requires.



Record of results

The information included in this Report also shows that our firm commitment to a cleaner and more sustainable world is fully compatible with growing the company's operating and financial parameters and profitability.

Stimulated by the strong performance of all our businesses across all countries and by the progress of our plans, our revenue rose by 12.2% to overcome 35,000 million euros, EBITDA increased by 27.7% to 9,349 million euros and net profit grew by 7.5% in comparison with the previous year, to 3,014 million euros.

The positive performance turned in by the company during the year allowed for a proposal to the shareholders of an increase in shareholder remuneration of almost 7.7%, to 0.351 euro per share. If we add to this the performance of the share price on the financial markets, the total return on our shares in 2018 stands at 14%, compared to -11.5% for the Ibex-35 index and -11.3% for the Eurostoxx 50. This placed Iberdrola among the four largest electricity companies worldwide by market capitalisation at year-end.

Strengthening future growth

We will continue to progress in the achievement of our plans over the coming years, with the development of more renewable energies (onshore and offshore wind, photovoltaic and hydroelectric), more smart grids and new products and services for our customers.

Specifically, in Spain and within the framework of the opportunities offered by the energy transition, we are already substantially increasing and will continue to increase our renewable capacity, with the installation of new photovoltaic plants and wind farms: in Brazil, we will continue to extend our transmission and distribution grid infrastructure and to invest in clean energy; in the United Kingdom and the United States, we will move forward with our plans for transmission and distribution grids and the installation of new onshore and offshore wind farms; and in Mexico we are building plants to increase our installed combined cycle and renewables capacity, which will help to provide a more stable and secure system. We will also make a major commitment to the sale of electricity, gas and products and services in these five countries, as well as in other European countries in which we already operate.

The aim is to continue growing and to do so in the most profitable, but at the same time sustainable, manner. If anything distinguishes us at Iberdrola, it is our close link to sustainability in the broadest sense of the word, because we are convinced that it is essential to harmonise our commitment to state-of-the-art technology with improving people's daily lives and protecting the environment.

Increase in social dividend

In 2018, we reformed our corporate governance system in order to formalise and develop Iberdrola's commitment to compliance with the United Nations Sustainable Development Goals (SDGs), which have been fully integrated into the company's sustainability policies and By-Laws as part of our Social Dividend.

Of note in this regard is the fundamental contribution that our work as an electricity company makes to SDGs 7 (affordable and clean energy) and 13 (climate action), among others. In 2018, we continued to increase our emission-free installed capacity up to approximately 33,000 MW, 68% of our total capacity, and we recorded a CO₂ emission intensity of 82 grams per kilowatt-



hour in Spain, well below that of other Spanish companies and approximately 75% less than the average for European companies.

As a socially responsible company, we also contribute actively to the other SDGs, including those relating to decent work and economic growth (SDG 8), gender equality (SDG 5), industry, innovation and infrastructure (SDG 9), sustainable cities and communities (SDG 11) and partnerships for the goals (SDG 17).

We continued to promote the creation of high-quality employment in 2018, with around 3,500 new hires and more than 1,400 recruitments of young trainees. Our workforce today amounts to 34,000 people, to whom we can add the other 390,000¹ people that Iberdrola provides with employment through its worldwide activities. And we have continued to encourage the professional development and training of our team, with more than one-and-a-half-million hours of training given (47 hours per employee, four times more than the European average) and 2,700 internal promotions.

At the same time, we have kept firm in our commitment to equality between men and women in all areas. For example, there is no gender-based salary gap at the Iberdrola group, and we are also the Ibex-35 company with the largest number of women on its Board of Directors, with 50% of the external directors being women.

We have also reinforced our commitment to the economic development of all the countries in which we operate, through our purchases from local suppliers (close to 8,000 million euros in 2018) as well as our tax contribution (7,939 million euros). Overall, for every euro of profit that Iberdrola makes, the company has generated more than 10.3 euros in the GDP of these countries¹.

Iberdrola has likewise continued to strengthen investment in innovation (with around 270 million euros invested during the financial year) for the development of new energy transition-related technologies. This has cemented our position in the main indices in this area.

2018 has also seen strong development in the work of our Foundations worldwide, which have increased their activities in areas such as social action and solidarity, art and culture, biodiversity and training, research and development of young talent in order to provide help to those who most need it, conserve and value our heritage and respond to the main challenges that society is facing. We are proud that our growth takes place within a framework of solidarity, collaboration and dialogue with disadvantaged groups.

At Iberdrola we aim to be ever closer to people. Contributing to their wellbeing and progress and preserving the planet on which we all live are the main hallmarks of our identity.

It is precisely for this reason that we have defined our purpose –a statement that summarises our main *raison d'être*, the motivation for our activities and the value that Iberdrola contributes to society–, which has been established as follows: “to continue building together each day a healthier, more accessible energy model, based on electricity”.

This purpose is based on three fundamental pillars that constitute the updated values of the Iberdrola group: “Sustainable Energy, Integrating Force and Driving Force”, which are underpinned by essential elements such as ethics, transparency, diversity, dialogue, innovation, diligence and foresight.

¹ Data from PwC report (January 2019) based on figures from 2017.



Iberdrola is thereby deepening its commitment to achieving the Sustainable Development Goals and to the creation of value for all Stakeholders, the basis of our Social Dividend.

From this corporate perspective and naturally through our daily management, we will continue working together, with conviction and commitment, to contribute to a world that is better, more equitable and with more and better opportunities for all.

Ignacio S. Galán,
Chairman & CEO of Iberdrola










Corporate Reputation: Recognitions, Presence in External Indexes and External Evaluations



	Indexes or organisations	Rating or status ²
	Dow Jones Sustainability World Index 2018	Selected in utilities sector. Member in all editions
	Global 100	Iberdrola selected
	FTSE4Good	First utility with nuclear assets selected for the index for 8 years in a row
	CDP Climate Change Index 2018	A-
	CDP Supply-Chain	A-List, the highest category
	MSCI Global Sustainability Index Series	Iberdrola selected AAA
	Euronext Vigeo Eiris index: World 120, Eurozone 120 & Europe 120	Iberdrola selected
	Sustainability Yearbook 2018	Classified as “Silver Class” in the electricity sector

² As at the date of approval of this report by the Board of Directors.



	Indexes or organisations	Rating or status ²
	MERCO 2018	mercoEmpresas: Leader among Spanish utilities: energy, gas and water.
	ET Global 800 ET Europe 300	Iberdrola selected
	2018 World's Most Ethical Companies, ranking prepared by the Ethisphere Institute	Only Spanish utility present in the ranking. Selected for the fifth consecutive year as one of the most ethical companies in the world
	Fortune Global 500	Iberdrola selected
	Stoxx Global ESG Leaders/Eurostoxx Sustainability 40/Eurostoxx ESG Leaders 50	Iberdrola selected
	InfluenceMap	Iberdrola among top 25 scoring companies
	Bloomberg Gender-Equality Index 2019	Only Spanish electrical utility included in the 2019 ranking. Selected in recognition for its equal opportunity and gender equality policies



	Indexes or organisations	Rating or status ²
	ISS-Oekom	Iberdrola classified as Prime
	EcoAct	Iberdrola classified as top utility and top 10 in the world in the 2018 sustainability reporting performance report
Forbes 2018 GLOBAL WORLD'S LARGEST PUBLIC COMPANIES 2000	Forbes	Iberdrola selected in Forbes 2018: GLOBAL World's Largest Public Companies 2000
	ECPI	Iberdrola selected in various sustainability indices
	Energy Intelligence	Iberdrola among the top three utilities in the EI New Green Utilities Report 2018



I. About Iberdrola



I.1. Profile of the Company

- Purpose and values
- Presence by areas of activity
- Main products and services: the Iberdrola brand
- Key operating figures
- Corporate and governance structure, ownership and legal form



Purpose and values

102-16 102-26

In 2018 Iberdrola began a process of articulating a unique and relevant Corporate Purpose going beyond the traditional concept of mission and vision to describe its long-term *raison d'être* and contribute to the cohesion, differentiation and generation of trust among all the Stakeholders.

The proposal reflects and confronts the main social trends, the major economic, social and environmental challenges and expectations of the Stakeholders, and also defines Iberdrola's role in society as an agent for change and transformation of the electricity sector.

Iberdrola's Corporate Purpose has thus been defined as follows:

“To continue building together each day a healthier, more accessible energy model, based on electricity”.

This Purpose conveys:

- The Iberdrola group's commitment to what today constitutes an urgent social need: the transformation of the current energy model towards a new model that prioritises the well-being of people and the preservation of the planet.
- The Iberdrola group's commitment to a real and global energy transition based on decarbonisation and electrification of the energy sector and of the economy as a whole decidedly contributes to the fight against climate change, and at the same time favours the creation of new opportunities for economic, social and environmental development.
- The foresight of the Iberdrola group, spending more than a decade working to make this transformation a reality, driving the development of clean energy throughout the world, and continuing to invest its resources to reach the objectives of the Paris Agreement.
- The Iberdrola group's determination to continue building a more electricity-based energy model, which reduces dependency on the use of fossil fuels and generalises the use of renewable energy sources, the efficient storage of energy, smart grids and digital transformation.
- The conviction that a more electricity-based energy model is also healthier for people, whose health and well-being in the short term depend on the environmental quality of their surroundings (air, water, food, biodiversity, etc.) and, in the long term, to the success of the fight against climate change.
- The aspiration for the new energy model to also be more accessible to all, thus favouring inclusiveness, equality, equity and social development.
- The desire to continue building this new model in collaboration with all involved players: governments, institutions, companies, tertiary sector, citizens, etc., because this is a tremendous shared challenge to ensure the present and future of the societies in which we live.



This Corporate Purpose is aligned with the social dividend strategy, the principles of Sustainable Development, Corporate Social Responsibility, and thus the 2030 Agenda - Sustainable Development Goals of the United Nations.

To attain said Purpose, the Iberdrola group condensed its corporate values into the following three concepts:

- **Sustainable energy:** because the Iberdrola group seeks to always be a model of inspiration, creating economic, social and environmental value in all of its surroundings, and with the future in mind.

This value expresses the commitment to:

- Responsibility
- Ethics
- Safety
- Transparency

- **Integrating force:** because the Iberdrola group works with force and responsibility, combining talents, for a Purpose that is to be achieved by all and for all.

This value expresses the commitment to:

- Diversity
- Dialogue
- Empathy
- Solidarity

- **Driving force:** the Iberdrola group makes small and large changes into reality in order to ease the life of people. And it performs this work while always seeking to continually improve, efficiently and with high self-imposed standards.

This value expresses the commitment to:

- Innovation
- Simplicity
- Agility
- Foresight



Presence and areas of activity

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Iberdrola and its subsidiaries and affiliates carry out their activities in almost thirty countries. However, for operational and economic/financial purposes, Iberdrola concentrates a large portion of its business activities in five principal countries: Spain, the United Kingdom, the United States, Brazil and Mexico. It also engages in activities in Germany, Portugal, Italy and France, among other countries.

The following infographic shows the group's principal areas of activity. The countries in which it operates, the activities performed in each of them and the criteria used to define the significance thereof are set forth in the "Scope of Information" section of this report.





Main products and services: the Iberdrola brand

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The main product that Iberdrola makes available to its customers is electricity, but the group also offers a broad array of products, services and solutions in the areas of:

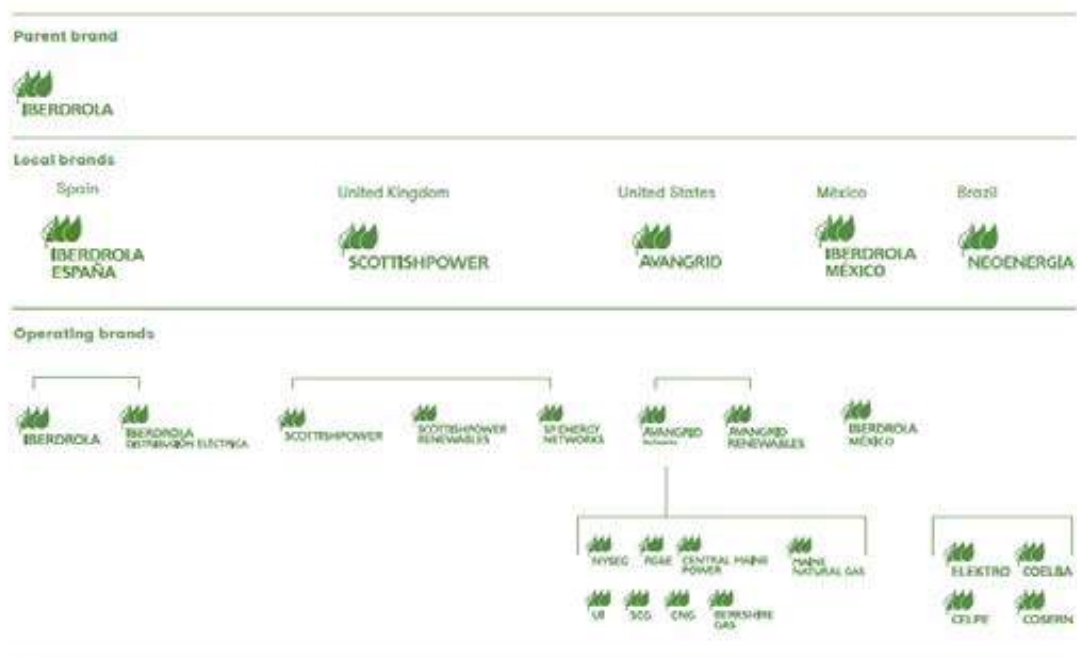
- Protection of the environment: renewable energy and sustainable mobility.
- Quality of electricity supply and safety of facilities.
- Distribution and sale of gas.
- Improvement in the consumer's quality of life, peace of mind and safety.
- Efficiency, digitalization and energy services.
- Assembly of electricity infrastructure.
- Comprehensive management of energy facilities and supplies.

More detailed information in this regard can be found in the "[Group Structure](#)" section of the website.

The "Iberdrola" brand

The "[Iberdrola](#) brand" is a reflection of its corporate Purpose and Values (see the Purpose section of this chapter I.1), is based on the company's strategy, which gives it credibility and strength, and conveys its commitment: the sustainable creation of value for all of its Stakeholders, contributing to the development of the communities in which we do business and to the well-being of people, providing a high-quality service and offering environmentally-friendly, efficient and innovative energy solutions.

Iberdrola knows how to identify and adjust to the needs of each of the countries in which it does business. The company has used its experience in each market to strengthen its brand value, and beyond the location of the business, it has created a brand culture based on a global/local balance. Iberdrola has the brand names listed in the table below at year-end 2018:



The table above shows the most important brands having the largest operational and market presence in each country. The company has other brands at the local and business level.



Key operating figures³

Installed capacity, output, networks and users

At year-end 2018, Iberdrola had 47,448 MW of installed capacity, 68.2% of the total corresponding to emission-free technologies.

EU1

Installed capacity by energy source (MW)	2018	2017	2016
Renewables	29,177	29,113	27,813
Onshore wind	15,671	15,533	14,820
Offshore wind	544	544	194
Hydroelectric	12,252	12,513	12,378
Mini-hydro	303	303	302
Photovoltaic solar and other	406	219	120
Nuclear	3,177	3,177	3,410
Combined cycle	12,885	13,985	13,637
Cogeneration	1,335	1,299	1,315
Coal	874	874	874
Total	47,448	48,447	47,049

Production for the year was 145,597GWh, showing growth of 5.9%:

EU2

Net energy output by source of energy (GWh)	2018	2017	2016
Renewables	61,754	50,747	56,443
Onshore wind	36,605	33,878	32,162
Offshore wind	1,642	821	728
Hydroelectric	22,416	15,321	22,597
Mini-hydro	670	394	686
Photovoltaic solar and other	421	333	270
Nuclear	23,536	23,254	24,381
Combined cycle	50,654	54,053	50,892
Cogeneration	8,016	6,853	6,947
Coal	1,637	2,642	3,803
Total	145,597	137,549	142,466

³ Operating figures include figures corresponding to partially owned and uncontrolled companies, applying the percentage interest.



The following table shows the net output for 2018 broken down by country and technology type. 42.4% of generation was from renewable sources, an increase during the financial year of 5 percentage points over the prior year.

2018 net output by technology and country (GWh)	Spain	United Kingdom	United States	Brazil	Mexico	Other countries
Renewables	25,973	5,146	17,261	10,099	1,095	2,180
Nuclear	23,536	0	0	0	0	0
Combined cycle	4,092	5,530	8	3,553	37,470	0
Cogeneration	2,472	0	2,713	0	2,831	0
Coal	1,637	0	0	0	0	0
Total	57,711	10,675	19,983	13,652	41,396	2,180

In 2018, 93% of production was achieved using local sources of energy⁴, as shown in the following table:

2018 production with local sources of energy	(%)
Spain	86
United Kingdom	100
United States	86
Brazil	100
Mexico	100
Other countries	100
Iberdrola group average	93

At the end of financial year 2018, the companies of the group, as a whole, handled 30.6 million electricity supply points (30.3 in 2017). More than 90% are residential customers.

EU3 102-6

Electricity users (%)	2018	2017	2016
Residential	90.2	90.1	90.2
Industrial	0.9	1.0	1.0
Institutional	0.9	1.0	0.9
Commercial	5.9	5.8	5.8
Other	2.1	2.1	2.1
Total	100	100	100

Users who are producers (no.)	2018	2017	2016
Users that are also producers of electricity	87,081	72,073	83,626

⁴ All renewable and non-renewable sources available in the country, as well as nuclear fuel acquired from the Spanish company Enusa, are considered local sources of energy.



The group operates more than 1.1 million kilometres of transmission and electricity distribution lines.

The following table shows the detail by type of line. Due to the nature of the electricity systems in each country, the voltage levels used to classify lines as transmission or distribution are different. In Brazil, the United States and in the United Kingdom, transmission lines are deemed to be those with a nominal voltage equal to or greater than 30 kV; and in Spain, by law, Iberdrola does not have transmission.

EU4

Power lines ⁵ (Km)	2018	2017	2016
Transmission			
Overhead	17,765	48,088	48,032
Underground	1,244	1,999	987
Total	19,009⁶	50,087	49,019
Distribution			
Overhead	962,940	911,474	875,140
Underground	191,723	195,050	193,285
Total	1,154,663	1,106,524	1,068,425

During financial year 2018, the companies of the group produced electricity with a volume of 145,970 GWh, distributed 233,435 GWh of electricity, and supplied 126,341 GWh of gas.

Products or services provided	2018	2017	2016
Net electricity production (GWh)	145,970	137,549	142,466
Electric power distributed (GWh)	233,435	230,151	229,920
Gas supplies to users (GWh)	126,341	122,010	127,425

Operations (locations)

The Iberdrola group has identified more than 1,200 sites at which the company operates. In order to properly report on such a large number of them from the viewpoint of the disclosures required by the GRI Standards, rationalisation criteria have been used to address them; accordingly, the number of Iberdrola's locations of operation at year-end 2018 is deemed to be 150 for purposes of this report.

Detailed information on these locations and on the criteria used to define them can be found in Annex 1 Supplementary Information.

⁵ Lengths of lines are calculated by circuit, regardless of the number of circuits for each power line. A double-circuit 5-km line is considered to be 10 km.

⁶ Since 2018 subtransmission in the United States and Brazil is recorded as distribution network. Until then it was recorded as transmission network.



Employees

The group had 34,078 employees at year-end 2018, with the following breakdown by country.

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Employees ⁷	2018	2017	2016
Spain	9,822	10,296	10,395
United Kingdom	5,611	6,067	6,373
United States	6,449	6,561	6,849
Brazil	10,749	10,096	9,429
Mexico	1,112	944	874
Other countries	335	291	162
Total	34,078	34,255	34,082

The distribution by types of employment and contract is reflected in the following table

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Employees ⁸	2018			2017			2016		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
By employment type									
Full-time	25,015	7,339	32,354	26,050	7,182	33,232	25,720	7,252	32,972
Part-time	1,102	622	1,724	179	844	1,023	205	905	1,110
By type of contract									
Permanent	25,840	7,890	33,730	26,073	7,965	34,038	25,531	8,018	33,549
Temporary	277	71	348	156	61	217	394	139	533
Total	26,117	7,961	34,078	26,229	8,026	34,255	25,925	8,157	34,082

Policies regarding subcontracted personnel are set out in the Creation of Employment and Salaries section of Chapter II-1 Sustainable Economic Growth.

⁷ The figures in the table reflect the number of employees at year-end 2018, without distinguishing between full-time/part-time employees. To perform statistical analysis regarding labour costs, it is recommended to use the number of employees in terms of Full Time Equivalents (FTEs): 28,355 in financial year 2016, without including the consolidation of Neoenergia, 33,772 in financial year 2017 and 33,747 in financial year 2018.

⁸ The boundary is defined in Chapter IV. About the Report in this document. Information by geographic area can be found in Annex 1 Supplementary Information.



Revenue, equity and assets

The main figures relating to turnover, value of assets and liabilities and composition of consolidated property, plant and equipment are the following:

Net sales (Net revenue) (€ millions)	2018	2017	2016
Iberdrola consolidated total	35,076	31,263	29,216

Capital structure, broken down in terms of debt and equity (€ millions)	2018	2017	2016
Equity of controlling company	36,582	35,509	36,691
Bank borrowings, gross	37,990	37,115	32,025

Assets (€ millions)	2018	2017	2016
Iberdrola consolidated total assets	113,038	110,689	106,706
Gross property, plant and equipment in operation	97,911	94,928	96,585
Accumulated amortisation and provisions	(39,394)	(37,627)	(39,242)
Property, plant and equipment in operation	58,517	57,301	57,343
Gross property, plant and equipment in progress	7,651	6,837	6,727
Provisions	(59)	(56)	(235)
Property, plant and equipment in progress	7,592	6,781	6,492

Information on the key figures by geographic area can be found in Annex 1 Supplementary Information.



Corporate and governance structure, ownership and legal form

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Iberdrola is a *sociedad anónima* (public limited company) organised under Spanish law.

The corporate and governance structure of the company and of the group, which forms an essential part of the company's [Corporate Governance System](#), is reflected in the following chart:

Corporate and governance structure of Iberdrola, S.A.



(*) Company listed on the New York Stock Exchange.

Such corporate and governance structure of the company and of the group is defined on the grounds described below, which differentiate between the duties of day-to-day administration and effective management, on the one hand, and those of supervision and control, on the other:

- Vesting in the company's Board of Directors of powers regarding approval of the strategic goals of the group and the definition of its organisational model, as well as supervision of compliance therewith and development thereof.
- Assumption by the chairman & CEO, with the technical support of the Operating Committee, by the Business CEO, with overall responsibility for all the businesses of the group, and by the rest of the management team, of the duty of organisation and strategic coordination within the group.
- The function of strategic organisation and coordination is also strengthened through country subholding companies in those countries in which the Board of Directors of the company has so decided. These entities group together equity stakes in the energy head of business companies carrying out their activities within the various countries in which the group does business. This structure is rounded out with a country subholding company that groups together certain equity interests in other entities, including the non-



energy head of business companies, with a presence in various countries. One of the main functions of the country subholding companies is to centralise the provision of services common to the head of business companies, always in accordance with the provisions of applicable law and especially the legal provisions regarding the separation of regulated activities.

Country subholding companies have boards of directors that include independent directors and their own audit committees, internal audit areas and compliance units or divisions.

Country subholding companies are responsible for disseminating, implementing and supervising the general strategy and the basic management guidelines at the country level.

- d) The group's listed country subholding companies (currently Avangrid, Inc.) have a special framework of strengthened autonomy that covers regulatory matters, related-party transactions and management.

In particular, all transactions between the listed country subholding company and the subsidiaries thereof with the other companies of the group require approval by a committee of the Board of Directors of said country subholding company made up solely of directors not linked to Iberdrola.

The special framework of strengthened autonomy is implemented in the respective contracts signed by the company with each listed country subholding company.

- e) The head of business companies of the group assume decentralised executive responsibilities, enjoy the independence necessary to carry out the day-to-day administration and effective management of each of the businesses and are responsible for the day-to-day control thereof.

These head of business companies are organised through their respective boards of directors, which include independent directors where appropriate, and their own management decision-making bodies; they may also have their own audit committees, internal audit areas and compliance units or divisions.

The corporate configuration and governance principles described above make up the corporate and governance structure of the group. This structure operates jointly with the group's Business Model (see Chapter I.3. Business Model and Strategy), which entails the global integration of the businesses and aims to maximise the operational efficiency of the various business units. It also ensures the dissemination, implementation and monitoring of the general strategy and of the basic management guidelines for each of the businesses, mainly through the exchange of best practices among the various companies of the group, without reducing the decision-making autonomy of each of them.

Within the group's corporate and governance structure, the Operating Committee is an internal committee of the company, the essential function of which is to provide technical, information and management support to the chairman & CEO, in order to facilitate the development of the group's business model.

The organisational model is structured into the decentralised business units and the centralised corporate governance and control functions, which can be viewed in the "[Group Structure](#)" section of the corporate website.



Governance structure

Board of Directors

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Iberdrola's Board of Directors is made up of 14 members:

Board of Directors ⁹					
Position	Director	Status	Nationality	Date of last appointment	Ending date
Chairman & CEO	José Ignacio Sánchez Galán	Executive	Spain	21-05-2001	27-03-2019
Vice Chair	Inés Macho Stadler	Other external	Spain	07-06-2006	08-04-2020
Director	Íñigo Víctor de Oriol Ibarra	Other external	Spain	26-04-2006	08-04-2020
Director	Samantha Barber	Independent	United Kingdom	31-07-2008	08-04-2020
Director	María Helena Antolín Raybaud	Independent	Spain - France	26-03-2010	27-03-2019
Director	Ángel Jesús Acebes Paniagua	Independent	Spain	24-04-2012	27-03-2019
Director	Georgina Kessel Martínez	Independent	Mexico	23-04-2013	13-04-2022
Director	Denise Holt	Independent	United Kingdom	24-06-2014	27-03-2019
Director	José W. Fernández	Independent	United States	17-02-2015	27-03-2019
Director	Manuel Moreu Munaiz	Independent	Spain	17-02-2015	27-03-2019
Director	Xabier Sagredo Ormaza	Independent	Spain	08-04-2016	08-04-2020
Director	Juan Manuel González Serna ⁽¹⁾	Independent	Spain	31-03-2017	31-03-2021
Director	Francisco Martínez Córcoles	Executive	Spain	31-03-2017	31-03-2021
Director	Anthony L. Gardner	Independent	United States	13-04-2018	13-04-2022

Secretary (non-member): Julián Martínez-Simancas Sánchez.

Deputy Secretary (non-member): Santiago Martínez Garrido.

Legal Counsel (non-member): Rafael Mateu de Ros Cerezo.

⁽¹⁾ Juan Manuel González Serna is the lead independent director.

The composition of the Board of Directors is shown below:

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Composition of the Board of Directors	2018		2017		2016	
	no.	%	no.	%	no.	%
By gender						
Men	9	64	9	64	9	64
Women	5	36	5	36	5	36
By age group						
Up to 30 years old	0	0	0	0	0	0
Between 31 and 50 years old	2	14	2	14	3	21
Over 50 years old	12	86	12	86	11	79
Number of members	14	100	14	100	14	100

⁹ As at the date of approval of this report by the Board of Directors.



Executive Committee

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The Executive Committee has all the powers inherent to the Board of Directors, except for those powers that may not be delegated pursuant to legal or by-law restrictions.

The core activities of this Committee consist of assisting the Board of Directors in the on-going supervision of the implementation of the strategy, compliance with objectives and the governance model and submitting proposals to the Board of Directors or making decisions in urgent cases regarding all strategic issues, investments and divestitures that are significant for the company or its group, assessing their alignment with the budget and the strategy of the company, and analysing and monitoring business risks, taking into consideration the environmental and social aspects thereof.

Executive Committee		
Position	Director	Status
Chairman	José Ignacio Sánchez Galán	Executive
Member	Inés Macho Stadler	Other External
Member	Ángel Jesús Acebes Paniagua	Independent
Member	Manuel Moreu Munaiz	Independent
Member	Samantha Barber	Independent

Secretary (non-member): Julián Martínez-Simancas Sánchez.

Chairman & CEO

The chairman of the Board of Directors is also the chief executive of Iberdrola. At the General Shareholders' Meeting held on 27 March 2015, the shareholders approved the re-election of the chairman & CEO by a large majority. Such proposal was supported by two reports: one prepared by a prestigious independent expert (PricewaterhouseCoopers Asesores de Negocios, S.L.) and the other by the Board of Directors itself. It was also favourably reported upon by the former Appointments and Remuneration Committee.

The initiative for such proposal was led by the lead independent director at the time, who called the independent directors to a meeting on 15 December 2014. At such meeting, it was unanimously resolved to submit the proposal to the Board of Directors and to ask PricewaterhouseCoopers Asesores de Negocios, S.L. to prepare a report thereon. In light of the unanimous opinion of the independent directors, of the report of the Appointments and Remuneration Committee and of the content of the independent expert's report, the Board submitted the corresponding proposed resolution to the shareholders at the General Shareholders' Meeting on the basis of:

- The demonstrated capability and competence of the candidate to hold such position and the specific provisions of the Corporate Governance System of the company, whose decentralised governance model requires a leadership that necessarily entails a high level of professional commitment and a level of depth, presence and involvement in such person's work that means that whoever takes on such duties will be considered an "executive" of the company.
- The practical application of such governance model, which confirms the validity thereof, reflects a better economic and financial performance than that of comparable companies and has historically been supported by the shareholders at General Shareholders' Meetings and by the capital markets.



- The sound checks and balances system implemented by the company, which: (i) separates oversight and management duties; (ii) ensures that there is a majority of independent directors; (iii) ensures a high level of professional diversity and diversity of gender and origin on the Board of Directors; (iv) grants very significant powers to the lead independent director; (v) establishes a succession plan for the chairman; (vi) decentralises the executive duties of the group among the various country subholding and head of business companies; and (vii) makes Iberdrola, S.A. a holding company with duties that relate solely to the strategic supervision and coordination of the businesses conducted by the group.

The agenda for the General Shareholders' Meeting to be held on 29 March 2019 once again contains a proposal for the re-election thereof. The procedure followed for said proposal is similar to the one followed in 2015. The rationales for the proposal are set out in reports (PwC and Board of Directors) and are the following:

- Iberdrola, S.A. has performed better than comparable companies and the EURO STOXX UTILITIES index during the 2001-2017 period. In other words, from this viewpoint, there are no reasons justifying a change in the model and leadership.
- The group's model of governance and organisation was approved by the shareholders at a General Meeting and is based on the separation of the duties of strategy and supervision (essentially entrusted to Iberdrola, S.A., to its Board, to its management team and to its organisation) from the duties of management (entrusted to each of the head of business companies heading up the various businesses).
- The By-Laws of Iberdrola, S.A. provide checks-and-balances that avoid the risk of accumulation of powers:
 - a) There is a majority of independent directors, and the By-Laws do not allow the Board of Directors to make or propose appointments that break such majority. This commitment also covers the committees.
 - b) The Board of Directors has a diverse composition of professional profiles, gender, seniority and nationalities. All non-executive directors are required to have a high level of dedication and to be a member of one of the committees.
 - c) The Board of Directors has a lead independent director (*consejero coordinador*) with broad powers.
 - o Call to and planning of the agenda for the meeting of the Board of Directors.
 - o Coordination of non-executive directors.
 - o Management of the re-election, evaluation and succession of the chairman & CEO.
 - o Contacts with shareholders.
- At the time of preparation of this report, Iberdrola is in the second year of implementation of its 2018-2022 Strategic Plan, presented in February 2018 to the international financial community, and which has been broadly supported by the market. The company's evolution to date reflects an extremely high level of compliance with the defined objectives.



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The company also has a Business CEO (*consejero director-general de negocios*), who has been specially appointed by the Board of Directors, with responsibility for all the businesses of the group in order to support the chairman & CEO (together with the management team) in the function of strategic organisation and coordination of the group. In addition, the company has a structure of executives and employees authorised to implement its strategy and basic management guidelines, with powers provided under two operating principles: (i) the principle of joint action, which governs the exercise of the powers that are of a decision-making or organisational nature; and (ii) the principle of solidarity, which governs the exercise of powers of mere representation.

Furthermore, the group has *Internal Rules on Powers of Attorney* which generally define the system for representational powers of the group, which is governed by the principle of several representatives, pursuant to which each company will appoint its representatives from among its own employees rather than from the employees of another company of the group, and by the establishment of limitations on time, quantity and the substitution of powers, among others.

Consultative Committees

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Permanent internal informational and consultative bodies within the Board of Directors, without executive powers, with informational, advisory and proposal-making powers within their scope of activity.

- **Audit and Risk Supervision Committee.** Carries out duties relating to the supervision of the internal audit function, the review of the internal control and risk monitoring systems, the process of preparing the economic and financial information, the auditing of accounts and compliance, all upon the terms established in its [Regulations](#).

Audit and Risk Supervision Committee		
Position	Director	Status
Chair	Georgina Kessel Martínez	Independent
Member	Denise Holt	Independent
Member	José W. Fernández	Independent
Member	Xabier Sagredo Ormaza	Independent

Secretary (non-member): Rafael Sebastián Quetglas.

- **Appointments Committee.** Performs duties relating to the selection, appointment, re-election and cessation in office of the company's directors and senior officers upon the terms established in its [Regulations](#).

Appointments Committee		
Position	Director	Status
Chair	María Helena Antolín Raybaud	Independent
Member	Iñigo Víctor de Oriol Ibarra	Other external
Member	Ángel Jesús Acebes Paniagua	Independent

Secretary (non-member): Iñigo Gómez-Jordana Moya.



- **Remuneration Committee.** Performs duties relating to the remuneration of the company's directors and senior officers upon the terms established in its [Regulations](#).

Remuneration Committee		
	Director	Status
Chair	Juan Manuel González Serna	Independent
Member	Inés Macho Stadler	Other external
Member	Manuel Moreu Munaiz	Independent

Secretary (non-member): Rafael Mateu de Ros Cerezo.

- **Sustainable Development Committee.** Performs duties relating to the revision and update of the Corporate Governance System and supervision of the sustainable development policies: human resources, equal opportunities, occupational health and safety, stakeholder relations, respect for human rights, sustainability, etc., upon the terms established in its [Regulations](#).

Sustainable Development Committee		
Position	Director	Status
Chair	Samantha Barber	Independent
Member	Iñigo Víctor de Oriol Ibarra	Other external
Member	Anthony L. Gardner	Independent

Secretary (non-member): Fernando Bautista Sagüés.

For more detailed information regarding the composition, operation and activities carried out by the governance bodies of the company, see the [Activities Report of the Board of Directors and of the Committees thereof](#) for financial year 2018.

Beneficial ownership

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At 31 December 2018, the company's share capital totalled 4,798,221,750 euros, represented by 6,397,629,000 shares of the same class and series, each having a nominal value of 0.75 euro. All shares give the holders thereof the same rights. The approximate distribution of equity interests is as follows:

- Foreign institutional investors 66.27%
- Domestic institutional investors 10.25%
- Retail shareholders 23.48%



No shareholder holds a controlling interest in the equity structure of the company. Below is a table showing those shareholders who hold a significant interest¹⁰ in the share capital of, or voting rights in, Iberdrola as of 31 December 2016, 2017 and 2018.

Significant shareholders and percentage of direct and indirect voting rights (%)	31/12/2018	31/12/2017	31/12/2016
Qatar Investment Authority	8.65	8.57	8.51
Norges Bank	3.33	3.21	3.20
Capital Research and Management Company	N/A	3.10	N/A
BlackRock, Inc.	5.13	3.03	3.01
Kutxabank, S.A.	N/A	N/A	3.00

As at the date of approval of this report, the share capital of Iberdrola, S.A. totals 4,890,342,750 euros and is made up of 6,520,457,000 shares, each having a nominal value of 0.75 euro, which are fully subscribed and paid up.

¹⁰ Defined according to Royal Decree 1362/2007 and Circular 2/2007, of 19 December, of the National Securities Market Commission.



I.2. Iberdrola's Contribution to the Sustainable Development Goals

- Introduction
- Commitment to the SDGs
- Our main focus: SDGs 7 and 13
- Main objectives and actions in 2018 that contribute to the SDGs



Introduction

In September 2015, the Member States of the United Nations adopted 17 Sustainable Development Goals (hereinafter, SDGs) as part of the 2030 Agenda for Sustainable Development. These goals are designed to, among other things, end all forms of poverty, fight inequalities and injustice and tackle climate change.

The success of the Agenda will be the result of the collaborative efforts of all of society, with companies being included in this process for the first time in their role as promoters of innovation and engines for economic development and employment. Strong and visionary business leadership is essential for achieving the necessary transformation that the SDGs require.

Iberdrola recognises that the SDGs offer a new vision that allows us to translate global needs and desires into solutions. They propose a new viable model for long-term growth and will contribute to companies developing more solid strategies. The integration of the SDGs into business plans strengthens the identification and management of material risks and opportunities and costs, the creation of and access to new markets, and innovation in the business models - making them more efficient and thus aligning the strategy and expectations of the company with its employees, customers, suppliers and investors and the communities in which it operates.

SUSTAINABLE DEVELOPMENT GOALS





References to SDGs in this Report

This report is a compendium of the annual performance of the company in the area of sustainable development, of its strategy in this regard, and of the principal activities and projects undertaken.

To facilitate an analysis from the viewpoint of its contribution to the 2030 Agenda, it is important to establish a relationship between the activities that Iberdrola describes throughout this report and the various SDGs that are furthered by the activities performed. Therefore, the SDGs to which the company contributes are identified in each section, based on the mapping made by the tool *SDG Compass. The guide for business action on the SDGs*, as well as the recent document published by GRI and the UN Global Compact “*GRI-UNGC Business Reporting on SDGs. An Analysis of Goals and Targets*”, but only including those SDGs to which the company believes it makes a significant contribution.

Annex 2 provides more detailed information regarding Iberdrola's contribution to the SDGs and related goals, as well as the related GRI disclosures and the pages on which the corresponding performance information can be found.

Commitment to the SDGs

Based on ongoing dialogue with its Stakeholders, and aware of the clear economic, social and environmental impact of all of its activities, Iberdrola frames all of its business activities within a commitment to a Purpose and certain values, and within the context of respect for Human Rights. It thus promotes initiatives that contribute to achieving a more just, egalitarian and healthy society, and particularly the achievement of the SDGs, especially those relating to universal access to electricity (goal 7) and the fight against climate change (goal 13), but also others like the promotion of innovation, the development of education, the protection of biodiversity, gender equality, and particularly the empowerment of women, as well as the protection of disadvantaged groups.

Therefore, Iberdrola has linked the [SDGs](#) to its business strategy since 2015, and in 2018 revised its Corporate Governance System to include the company's contribution to the SDGs as part of the company's corporate philosophy.

The SDGs thus inspire or are included as a fundamental element in the following areas:

- By-Laws
- *Purpose and Values of the Iberdrola group* and *Code of Ethics*
- Corporate governance and regulatory compliance policies
- Sustainable development policies
- Governance rules of corporate decision-making bodies and of other functions and internal committees

Ultimately, it is an attempt to cause all Stakeholders to participate in the social dividend generated by its activities, or shared value, which is the sum of all the economic, social and environmental impacts that a company generates through its activity, within the environment in which it does business.



It should be noted that, among the various corporate policies that have been approved, those relating to [sustainable development](#) are intended to ensure the alignment of all conduct of the group with the bylaw-mandated commitment of the company to the social dividend and to the SDGs, as provided in the [General Sustainable Development Policy](#).

This policy sets out the general principles and provides the basis for governing the group's sustainable development strategy. The goal is to ensure that all its corporate activities and businesses are carried out while fostering the sustainable creation of value for society, citizens, customers, shareholders and the communities in which the group is present, equitably compensating all groups that contribute to the success of its business enterprise, with a long-term vision that achieves a better future without compromising present results, favouring the achievement of the SDGs and rejecting actions that contravene or hinder them.

The company's commitment to contribute to the SDGs is supervised by the governance bodies. Thus, the [Sustainable Development Committee](#) of the Board (the composition and duties of which are described in the "Corporate Governance" section of Chapter II.7) is vested with the power to, among other things, *"Monitor the group's contribution to the achievement of the SDGs"*.

The SDGs are cross-sectional within the group. For this reason, Iberdrola has an SDG Advisory Committee, a multidisciplinary team that meets on a quarterly basis in order to review the actions taken by Iberdrola and analyse the alignment thereof with the SDGs, in addition to proposing new challenges and encouraging actions that help to achieve the fixed goals. The SDG Advisory Committee held 4 meetings during 2018.

Activities to raise awareness of the SDGs

As a company committed to the achievement of the SDGs, Iberdrola also wants to disseminate and raise the awareness of its employees regarding the importance thereof, and the capacity of the actions of each of them as a company and as individuals. The activities include:

- Making available to all employees a training course on the SDGs, prepared in collaboration with Unesco. This course will serve as the basis for a new online orientation course made available to all new hires.
- Preparation of a campaign called "The SDGs and Me", which defines each of these Goals, Iberdrola's position and the activities that each person can perform in their daily life to improve them.
- At the internal communication level, the various notices included in the intranet have a graphical link to the SDGs.
- Various social campaigns defining their link to the SDGs have been launched.
- All volunteering campaigns, as well as the social contributions made by the group and its foundations, have been linked to the SDGs they seek to improve.



Our main focus: SDGs 7 and 13

Iberdrola focuses its efforts on the SDGs where its contribution is most significant: the supply of accessible and non-polluting energy (goal 7) and climate action (goal 13). This commitment forms part of its governance model and of the company's management, and is formalised in goals that are tied to the remuneration of the management team: the shareholders at the Shareholders' Meeting 2017 approved the linkage of the long-term incentive plan to contribution to achievement of these two Goals.

The following tables show the disclosures in this report where it can be seen how the company contributes to the achievement of these two goals and their related aspirations. The mapping comes from *SDG Compass. The guide for business action on the SDGs*, available at www.sdgcompass.org, developed by the Global Reporting Initiative (GRI), the United Nations Global Compact and the World Business Council for Sustainability Development.



Goal 7: Affordable and sustainable energy

Ensure access to affordable, reliable, sustainable and modern energy for all

Our goal for the “Electricity for All” programme: bring electricity to 16,000,000 million people by 2030 who today lack access to this energy source.

The *Electricity for All* programme is Iberdrola’s response to the call of the international community to extend universal access to modern forms of energy, with environmentally sustainable, financially affordable and socially inclusive models. It is intended to ensure access to electricity in emerging and developing countries.

Since the launch of the *Electricity for All* programme in January 2014, we have contributed to 5.4 million people benefiting from access to electricity through projects carried out in Latin America and Africa, meeting our 2020 commitment two years in advance. We have also participated in the 2018 SE4ALL (Sustainable Energy for All) forum held in Lisbon, sharing our targets and commitments at this programme.

Commitment to renewables. Iberdrola, a world leader in renewable energy, commits to the decarbonisation of the economy, which means electrification and the encouragement of renewable technologies, increasing renewable installed capacity by 9% between 2018 and 2019, with the start-up of an additional 2,600 MW.

Goal of the 2030 Agenda (SDGs)	GRI Indicator	Description	Pag.
7.1.- By the year 2030, guarantee universal access to affordable, reliable and modern energy services .	Own indicator	Number of beneficiaries of the <i>Electricity for All</i> programme	202
	Shift indicator C070101 from SDG EU26	Proportion of population of distribution zones with access to electricity	201
	EU28	Power outage frequency	184
	EU29	Average power outage duration	185
7.2.- By 2030, increase substantially the share of renewable energy in the global energy mix.	Own indicator	Installed capacity from renewable sources (MW or %)	25
	Own indicator	Power produced from renewable sources (MWh or %)	25
	302-1	Energy consumption within the organization	142
7.3.- By 2030, double the global rate of improvement in energy efficiency.	302-4	Reduction of energy consumption	143
	302-5	Reductions in energy requirements of products and services	146
	EU30	Average plant availability	345
7.a.- By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.	Own indicator	Amount allocated to R&D+i (€M)	194
7.b.- By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support.			



13 CLIMATE ACTION



Goal 13: Climate action

Take urgent action to combat climate change and its impacts

The group recognizes the seriousness of the threat that global warming entails, which must be faced in a coordinated manner with governments, multilateral agencies, the private sector and society. The company thus undertakes to assume a position of leadership in the fight against climate change and to assume the following principles of conduct: i) prevent pollution by reducing the intensity of greenhouse gas emissions, ii) promote electrification, efficiency and smart grids, iii) support international negotiations and the participation of the private sector, iv) advocate for an emissions market that generates a strong and sustainable price signal, and v) support a tax system that includes the “polluting party pays” principle.

Iberdrola has set itself a goal to reduce the intensity of its CO₂ emissions to 50% below those of 2007 by 2030, and to be carbon-neutral by 2050.

It has committed to maintaining its position as one of the leading European companies with the lowest CO₂ emissions per kWh produced, and to achieve this by focusing its efforts on reducing the intensity of greenhouse gases, promoting renewable technology and increasing efficiency.

Policy, memberships, awareness-raising and reporting


The company has a [Policy against Climate Change](#), in which there is a commitment to supporting the necessary international conventions, encourage the development of technology, and promote efficient energy use and responsible consumption. It has also endorsed the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD), created by the Financial Stability Board (FSB), the objective of which is transparency regarding risks associated with climate change. Iberdrola has a section of its website called [Against Climate Change](#) to show the actions taken in this area. In 2016 Iberdrola included a *Plan for Raising Social Awareness on Climate Change* as an additional focal point for its climate change actions, with initiatives aimed at different audiences. And an *Introduction to climate change* course has been launched for all employees as a virtual training initiative.

Goal of the 2030 Agenda (SDGs)	GRI Indicator	Description	Pag.
13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change	302-1	Proportion of energy consumption derived from renewable energy.	142
	302-4	Reduction of energy consumption (efficiency).	143
	302-5	Energy savings of green products and services.	146
	305-1	Direct GHG emissions. Scope 1 (per GHG Protocol)	152
	305-2	Indirect GHG emissions. Scope 2 (per GHG Protocol)	153
	305-3	Other indirect GHG emissions. Scope 3 (per GHG Protocol)	154
	EU30	Average plant availability	345
	Own indicator	Installed capacity from renewable sources (MW or %)	326
	Own indicator	Power produced from renewable sources (MWh or %)	328
13.1.- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.	201-2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	68
13.3.- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	Own indicator	Awareness-raising activities regarding climate change and renewable energy	149



Main objectives and actions in 2018 that contribute to the SDGs

The following table lists some of the more significant goals relating to the SDGs as well as Iberdrola's main activities during 2018 and indicators measuring the Iberdrola group's contribution:

SDGs and related targets	Iberdrola's main actions and achievements 2018
 <p>1.4 Ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance</p> <p>1.5 Reduce exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters</p>	<p>Actions and achievements:</p> <ul style="list-style-type: none"> • Procedures to protect customers in situations of vulnerability: covers 100% of vulnerable customers in Spain. • Procedures for protecting vulnerable customers in the United Kingdom with the <i>Warm Home Discount</i> programme. • Work with <i>Operation Fuel</i> in Connecticut (United States) to ensure that 1,200 people in vulnerable situations have access to energy throughout the year. • Contribution of more than 11 million euros at the group level to initiatives intended to improve the quality of life of vulnerable groups.
 <p>2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round</p>	<p>Goal: Voluntary contributions by the group's employees of consumer staples, thus contributing to alleviating the situation of social exclusion and poverty of many people.</p> <p>Actions and achievements:</p> <ul style="list-style-type: none"> • Iberdrola has gathered more than 6,000 kilos of food at its work centres thanks to '<i>Operation Kilo</i>', a programme launched in 2012. The more than 6 tons of food contributed by the employees have been distributed to various families through social organisations in Portugal, Spain and Mexico. • Encouragement of volunteering activities to distribute food to families in situations of vulnerability, soup-kitchens, etc.



being

3.6 Halve the number of global deaths and injuries from road traffic accidents

3.9 Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

3.4 Reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-

Goal: Reduce the accident rate (accidents involving own staff) by 10% over the average of the last 5 years.

Actions and achievements:

- Improve the Global Occupational Safety and Health System, which is aligned with the [Occupational Safety and Health Policy](#) and the strictest international standards.
- Health and safety measures for contractors through training programmes and in-sourcing of work and personnel.
- 0-accident plan in Brazil in order to reduce the accident rate among employees.



jobs and entrepreneurship

4.7 Ensure that all learners acquire the knowledge and skills needed to promote sustainable development

4.4 Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent

Goal: Exceed ratio of training hours received per employee over that of comparable companies.

Actions and achievements:

- Develop continuous training plans for employees, monitoring compliance therewith.
- **45 hours of training per employee in 2018** (42 hours in 2017, 4.4 times greater than the annual training hours of companies in the energy sector of the country. 2018 data not yet published to establish the comparison.).
- 2.2 million euros of investment in the scholarship and research grant programme for the 2018-2019 academic year.
- *Iberdrola U: Universities* programme. The group has contributed to the training of almost 4,000 university students in just the past five years.



5.1 End all forms of discrimination against all women and girls everywhere

5.4 Promote shared responsibility within the household and the

family

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

5.c. Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

Goal: Increase the number of women in management positions.

Actions and achievements:

- **Only continental European electric utility included in the Bloomberg Gender-Equality Index (GEI).**
- The Iberdrola group has an [*Equal Opportunity and Reconciliation Policy*](#) that includes measures to solidify the reconciliation of work and personal life: ScottishPower offers training with up to 6 months of leave to improve opportunities. Avangrid offers flex time with tele-work. Neoenergia has 6 months of maternity leave and legal, financial and psychological support for employees. Iberdrola Mexico has flexible work hours and improved vacation days. Spain was the first Ibex-35 company to apply the intensive workday, in 2008, and has more than 70 measures to facilitate reconciliation.
- 36% of Iberdrola's Board of Directors are women, double that of the other Ibex-35 companies.
- **Support for female sports. Women's Universe (*Universo Mujer*) programme in partnership with the Higher Council for Sport (*Consejo Superior de Deportes*), promoting female sports within 16 Spanish federations.**



6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving

the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 Implement integrated water resources management at all levels

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Goal: In its position as one of the utilities with the best water productivity (water utilised/revenue), Iberdrola commits to maintaining this indicator 50% below the European average for the sector in the coming 5 years.

Actions and achievements:

- Join the United Nations' CEO Water Mandate to encourage sustainable practices in the use of water.
- **It has been part of CDP Water since its first edition.**
- Improve the management of the hydraulic sub-footprint and of the environmental management systems.



7.1 Ensure universal access to affordable, reliable and modern energy services

7.2 Increase substantially the share of renewable energy in

the global energy mix

7.3 Double the global rate of improvement in energy efficiency

7.a Enhance international cooperation to facilitate access to clean energy research and technology and promote investment in energy infrastructure and clean energy technology

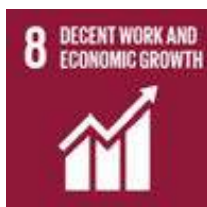
7.b Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries

Goal: By 2030, achieve access to energy for 16,000,000 people who previously lacked it, within the framework of the *Electricity for All* Programme.

Goal: increase renewable installed capacity by 9% during 2018 and 2019, with the start-up of 2,600 MW.

Actions and achievements:

- **A leader in renewable energy: 38,247 GWh of wind (onshore and offshore) output, 23,086 GWh of hydroelectric and 421 GWh of solar and others in 2018.**
- Offer of 100% renewable energy: "Custom Plans".
- **ScottishPower, only 100% renewable electric company in the United Kingdom.**
- Energy efficiency: 59 million tons of CO₂ emissions avoided during the last 3 years.
- Fernando de Noronha Zero Carbon Project in Brazil to develop a sustainable energy model.



8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation

8.4 Improve

progressively global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation

8.5 Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

Goal: Maximise issues in the green finance market.

Actions and achievements:

- 34,078 direct jobs.
- 425,000 direct, indirect and induced job positions throughout the world¹¹.
- Almost €8,000 million in tax contributions in 2018.
- €32,300 million in impact on the GDP of the countries in which the group does business.
- €7,753 million procurement volume in 2018.
- Largest corporate issuer of green bonds in the world: 13 issues with a value of almost 9,000 million euros, which will be invested mainly in renewable projects.
- Digital transformation applied to the businesses: big data, virtual reality and artificial intelligence.

¹¹ PwC study "Economic, social and environmental impact of Iberdrola worldwide" (based on 2017 data).



9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.4 Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including by encouraging innovation and substantially increasing the number of research and development workers

Goal: Development of the Innovation and Digitalization Programme.

Actions and achievements:

- **267 million euros in R&D+i in 2018 (most innovative Spanish utility and third most innovative in Europe).**
- 75 innovation projects between 2018 and 2019.
- Digitalization to 2020 Plan: more than 4,800 million euros of investment.
- World leaders in smart grids. The STAR project culminated in Spain in 2018 and the SMART UK project continued in the United Kingdom.
- Development of the smart grid projects *Smart City* (Atibaia) in Brazil and *Smart Community* (Ithaca) in the United States.
- Development of new products for customers based on Data Analytics (Energy Wallet, Custom Plans) and development of new apps.
- Develop projects to improve management of the grids in distributed generation scenarios, like the *Alois* project in Spain and *Fusion* project in the United Kingdom.



10.2 Empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

Goal: Foster diversity and the social inclusion of vulnerable groups through the corporate volunteer programme and the social welfare projects of the foundations.

Actions and achievements:

- More than 7,000 proposed volunteer activities at the global level were offered to employees in 2018.
- Ensure equality of opportunities within the workforce through talent management.
- Human Rights Management Model at the global level and training for suppliers.
- II Edition of the Iberdrola Awards for solidarity, given to entities that fight for the equality and integration of the most vulnerable people.
- Iberdrola's Social Programme, focused on social support, psychological treatment, lodging for women, labour integration and equal opportunities, among others. More than 160,000 beneficiaries and approximately 100 social entities during the 2018-19 period in Spain.



public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.2 Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding

Goal: Installation of 25,000 recharging stations for electric vehicles by 2021 through the Sustainable Mobility Plan, with initiatives aimed at employees, companies, customers and suppliers.

Actions and achievements:

- **Incentives to buy electric vehicles and availability to employees of electric vehicles from the corporate fleet.**
- Electric vehicle fleet available to employees.
- Join the *x Aire Limpio* platform, in which public, private and tertiary sector organisations coordinate the viewpoints needed to design air quality plans in cities, in order for the sustainability of transport, buildings and industry, together with efficiency in waste management, result in a cleaner atmosphere.
- Illumination Programme of the Foundations, the goal of which is promote the recovery of artistic heritage and improve the interior and/or exterior illumination of unique buildings through collaborations with entities and institutions.



generation through prevention, reduction, recycling and reuse

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.8 Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

12.6 Reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

12.2 Achieve the sustainable management and efficient use of natural resources

12.5 Substantially reduce waste

Goal: Improve the *CSR Scoring* model for suppliers and increase the percentage awarded to them with analysis based on social responsibility.

Actions and achievements:

- Energy efficiency plan at the corporate buildings.
- 90% of energy production is carried out using local sources of energy available in the country where the electricity is generated.
- 88% of procurement from local suppliers.
- **First Ibex-35 company to certify its General Shareholders' Meeting as a sustainable event in 2016, in accordance with international ISO 20121 standard.**
- Publication of Sustainability Report since 2004 and specific sustainability website.



13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Goal: achieve a 50% reduction in the intensity of CO₂ emissions by 2030, as compared with the emissions of 2007; and be carbon-neutral by 2050.

Actions and achievements:

- Development of a unique model preparing scenarios of mitigation and adaptation to assess the environmental impacts of climate change on the company over the long term, conforming to the requirements of the Task Force on Climate-related Financial Disclosures (TCFD).
- CO₂ emissions 70% less than the average for the European electricity sector (continental Europe, 2015).
- Request to close the last two coal plants.
- Participation in the Katowice Climate Change Conference (COP 24), the events associated with the United Nations General Assembly and the various phases of the Tanalao Dialogue.
- *Plan for Raising Social Awareness on Climate Change*, with initiatives aimed at different audiences.



14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by

strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

Goal: Preserve marine ecosystems through innovative measures in the construction and operation of offshore wind farms.

Actions and achievements:

- Installation of noise mitigation systems for mammals in the construction and relocation phase and/or respect biotopes for the preservation of marine life.
- Regular studies of environmental impact on the area to monitor and conserve the habitat.
- Dolphin Watch Aberdeen: project to protect dolphins in Sussex (United Kingdom) focused on the protection of fauna and the conservation of marine habitats with disclosure and awareness-raising activities.
- Insulation of subsea cables to avoid increasing temperature in the Baltic sea.



15.1 Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in

particular forests, wetlands, mountains and drylands

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and protect and prevent the extinction of threatened species

Goal: adjustment of 25,000 supports at distribution lines to avoid the electrocution of birds over the next two years (Flapping Wings (*Alateo*) project).

Actions and achievements:

- Biodiversity protection programmes.
- Member of the *Biodiversity Pact*, sponsored by the Biodiversity Foundation.
- **AENOR Corporate Environmental Footprint certificate.**



16.5 Substantially reduce corruption and bribery in all their forms

Goal: Renewal of ISO 37001 certifications regarding the anti-bribery management system and UNE 19601 certification on the criminal compliance management system.

Actions and achievements:

- **Inclusion for the fifth consecutive year on the list of the World's Most Ethical Companies of the Ethisphere Institute (United States).**
- Iberdrola's Board of Directors has approved the group's [Code of Ethics](#), the [Crime Prevention Policy](#) and the [Anti-Corruption and Anti-Fraud Policy](#), which are regularly reviewed and updated.
- Compliance System that includes rules to mitigate the risk arising from relations with third parties. Includes the *Protocol for Management of the Risk of Third-Party Fraud and Corruption*, the *Protocol for Corporate Transactions* and the *Protocol for Social Contributions, Donations and Sponsorships*.
- Award from *Expansión* to the company with best compliance practices 2018-2019.
- Receipt of "Compliance Leader Verification" certification provided by the Ethisphere Institute as evidence of the effectiveness of the Compliance System.
- The group has anonymous ethics inboxes to allow for the reporting of improper actions or acts contrary to law or the *Code of Ethics*.
- Sponsorship of the Iberdrola Chair on Economic and Business Ethics of the Universidad Pontificia Comillas (ICADE).



17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of

partnerships

17.19 Build on existing initiatives to develop measurements of progress on sustainable development

Goal: Promote alliances with institutions that contribute to action against climate change.

Actions and achievements:

- Collaboration with the *Spanish Office of Climate Change* and the *Spanish Green Growth Group*.
- Alliances with the academic world: *Chair for the Sustainable Development Goals* and *Chair on Climate Change* (Polytechnic University of Madrid).
- Support for the youth initiative of the Spanish Network for Sustainable Development of the UN's Sustainable Development Solutions Network – SDSN Youth.
- Alliance with *High Level Political Forum* 2018 in New York.
- Shire Alliance to supply electric power and improve facilities at refugee camps. 2nd phase approved with the help of the EU.
- Iberoamerican conference on the SDGs in Salamanca.



Iberoamerican Conference on Sustainable Development Goals in Salamanca

From 27 to 29 June 2018, the University of Salamanca, the Polytechnic University of Madrid and Iberdrola organised the Iberoamerican Conference on Sustainable Development Goals, among the acts commemorating the VIII Centenary of the University of Salamanca, a meeting that turned this city into the Iberoamerican capital of the SDGs during these days.



The Conference was conceived with the goal of achieving a collective commitment driving the transformation necessary for achieving the Sustainable Development Goals of the 2030 Agenda of the United Nations in the Iberoamerican region.

Given that such profound and complex transformations can only be approached collectively, this commitment took the form of a large multiactor platform, with the participation of public and private institutions, organisations from the tertiary sector, universities and citizenry, the true catalysts for change.

The Conference, with the participation of more than 50 leading international speakers and more than 600 attendees, was structured around four major themes:

- Education for transformation
- Environment and energy
- Innovation for development
- Multiactor partnerships

And more than 50 leading international speakers participated, with more than 600 attendees.

Iberdrola collaborated both in the organisation of the conference and on different presentations, within its commitment to disseminate the SDGs to society, and support for Goal 17. Iberdrola's Chairman participated in the inaugural table, where he emphasised the company's interest in working with a conference that serves to *promote the sustainable development goals in Iberoamerica*, a task that must be handled "*among all players*", including government authorities, companies and civil society as a whole. Within the framework of the Conference, Iberdrola launched its new goal for the Electricity for All Programme, with which it wants to reach 16 million beneficiaries by 2030.



I.3. Business Model and Strategy

- Business model
- Corporate Governance System
- *Code of Ethics*
- Policies and commitments
- Sustainable development policies
- Responsibilities
- Responsibility in the sustainable development strategy
- Goals, resources and results
- Key impacts on sustainability
- Risks and opportunities Comprehensive risk system
- Climate change risk management Iberdrola and the TCFD



Business model

102-15

Iberdrola focuses its activities on:

- Production of electricity from renewable and conventional sources.
- Transmission and distribution of electricity and gas.
- Purchase/sale of electricity and gas on wholesale markets.
- Supply of electricity, gas and related energy services.
- Other activities mainly linked to the energy sector.

As explained in Chapter I.1, Iberdrola carries out its activities mainly in the Atlantic area: Spain, the United Kingdom, the United States, Brazil and Mexico.

The business model developed by the group is based on Iberdrola's purpose (see "Purpose and Values" section of Chapter I.1) through a long-term sustainable industrial enterprise. Under this consideration, and taking into account the long-term consensus energy scenarios, Iberdrola is pursuing a strategy with the following main characteristics:

- The organic growth of the company is focused on major investments in the countries referred to above, plus continental Europe. The international diversification in terms of contribution to results will continue to grow in the coming years.
- The investment will preferably focus on the networks and renewables businesses, which, in addition to being regulated businesses or long-term contracts, contribute decisively to the fight against climate change.
- The strategic pillars defined by the company are profitable growth, operational excellence, customer-focused operations, the optimisation of capital, and innovation.
- The company has published its commitment to decarbonisation, setting stringent objectives: to reduce the intensity of its CO₂ emissions to 50% below those of 2007 by 2030, and to be carbon-neutral by 2050. These goals have been recognised as being based on science in accordance with the Science Based Targets initiative (SBTi).
- One characteristic of Iberdrola is its focus on innovation and on the rapid adoption of available technology.
- Financial stability is considered key for balanced growth. The company seeks to maintain high levels of solvency and liquidity, which ensure the normal development of operations, good access to the capital markets, and a sustainable dividend policy.
- The commitment to social responsibility and sustainability is reflected by the inclusion in the company's strategy of the concept of the "social dividend", defined as the sustainable creation of value for its Stakeholders by engaging in all of its activities.



Corporate Governance System

The company's [Corporate Governance System](#) is made up of the [By-Laws](#), the [Purpose and Values of the Iberdrola group](#), the [corporate policies](#), the [governance rules of the corporate decision-making bodies and internal committees](#) and [Compliance](#).



Leadership in corporate governance and transparency is one of the hallmarks of Iberdrola's identity: The Board of Directors therefore regularly reviews the Corporate Governance System, keeping it updated and including therein the good governance recommendations and best practices generally accepted in international markets.

In October 2018 there was a revision of the Corporate Governance System to include, among other changes, the company's contribution to the SDGs as part of the company's corporate philosophy. In February 2019 there was a new revision to include the Corporate Purpose of the Iberdrola group and its new values. For more information about the [Corporate Purpose and Values of the Iberdrola group](#), see the "Purpose and Values" section of Chapter I.1.

The commitments of Iberdrola defined in this System materialise daily in all business activities of the group, as well as in its strategy to maximise the social dividend, sustainable development and respect for human rights, encouraging initiatives that contribute to achieving a more healthy, equal and just society, and particularly to the achievement of the SDGs, especially the goals relating to universal access to electricity and the fight against climate change.



Ultimately, it is to seek Shared Value and to maximise Iberdrola's contribution to society through an energy model that is healthier, more accessible and based on electricity, and in the definition and construction of which all involved players should collaborate.

Along these lines, one should note the inclusion of Article 7. Social Dividend in the company's By-Laws: *"The Company conceives of the social dividend as the sustainable creation of value for all Stakeholders affected by the activities of the group in carrying out its businesses, the advancement of business communities which the Company participates in and leads, both from*



the economic viewpoint and from the perspective of business ethics, the promotion of equality and justice, the encouragement of innovation and protection of the environment, as well as through the generation of quality employment, its strategy of social responsibility, and its effort in the fight against climate change”.

Iberdrola is conscious of the importance of the social dividend for all of the communities in which the group is present. Maximisation of the social dividend and the company's commitment to the sustainable creation of value are key values that the Board of Directors takes into account in order to define the strategy of the group.

Code of Ethics

Contribution to SDGs of the performance described by the indicators of this section
(according to SDG Compass www.sdgcompass.org)



102-16 102-26

The company's [Code of Ethics](#) establishes a set of principles and guidelines for conduct (applicable to all directors, including natural persons appointed by corporate directors to represent them in the performance of their duties, to professionals and to suppliers of the companies of the group, regardless of their rank, their geographical location or functional reporting, or the group company to which they provide their services), intended to ensure the ethical and responsible behaviour of all directors, professionals and suppliers of the group.

The *Code of Ethics*, which forms part of the Corporate Governance System, was approved by the Board of Directors in 2002 and last amended in October 2018. This last revision includes the unification of the three ethical codes existing until that time: *Directors' Code of Ethics*, *Professionals' Code of Ethics* and *Suppliers' Code of Ethics*, into a single code applicable to all directors, professionals and suppliers of the group (excluding from its scope country subholding companies that are listed or not wholly owned by the group and that have their own code of ethics, as well as the subsidiaries thereof).

The body charged with ensuring that the *Code of Ethics* is applied is the Compliance Unit (hereinafter, the “Unit”), a collective, internal and permanent body connected to the Sustainable Development Committee of the Board and with powers in the regulatory compliance area. The Unit's main duties include ensuring the application of the *Code of Ethics* and the dissemination of a preventative culture based on “zero-tolerance” towards the commission of unlawful acts and fraud. The operation and main powers thereof are set forth in the [Regulations of the Compliance Unit](#).

In addition, Compliance Divisions have been established at each country subholding company and/or head of business company of the group, which are structured as internal independent areas linked to the respective Audit and Compliance Committee, with duties in the area of regulatory compliance and in the prevention and correction of unlawful or fraudulent conduct.

For more detailed information regarding the group's Compliance System, see the Ethics and Integrity section of Chapter II.7.



Policies and commitments

The Iberdrola group has a set of corporate policies that develop the principles reflected in the Corporate Governance System and that contain the guidelines governing the actions of the company and the companies of its group, as well as those of the directors, officers and employees thereof, within the framework of the *Purpose and Values of the Iberdrola group*.

The companies of the group assume a set of principles and values that express their commitment to corporate governance, business ethics and sustainable development. The awareness, dissemination and implementation thereof serve to guide the activities of the Board of Directors and its committees and of the decision-making bodies of the company in their relations with the company's various Stakeholders.

These policies, which can be viewed in full or in summary in the [Corporate Governance](#) tab of the website, are grouped into three categories:

- Corporate Governance and Regulatory Compliance Policies.
- Risk Policies.
- Sustainable Development Policies.

Iberdrola has also assumed certain public commitments that guide the activities of the group:

- By subscribing to various initiatives relating to the environmental and social dimension of its activities.
- Through its membership in certain business and social organisations, which are identified by their objectives and purposes.

Both the initiatives and the partnerships are available in the "Public Policies" section of Chapter II.7 of this report.

These policies and commitments serve to guide the company and its workforce to manage their activities, and specifically the material topics dealt with in this document.

Sustainable development policies

102-16

Iberdrola has a [General Sustainable Development Policy](#) which sets out the general principles and provides the basis for governing the group's sustainable development strategy. The goal is to ensure that all its corporate activities and businesses are carried out while fostering the sustainable creation of value for society, citizens, customers, shareholders and the communities in which the group is present, equitably compensating all groups that contribute to the success of its business enterprise.

This sustainable development strategy is based on a long-term vision that achieves a better future without compromising present results, favouring the achievement of the SDGs and rejecting actions that contravene or hinder them.



The actual and effective implementation of this strategy is to form part, along with the Corporate Governance System that supports it, of the virtual soul of the group, one of the key elements that differentiates it from its competitors and which is a deciding factor for its establishment as the preferred company for its Stakeholders.

The policy contains 5 cross-cutting principles of conduct in relation to:

- the sustainable creation of value
- transparency
- development and protection of intellectual capital
- innovation
- responsible taxation

And 6 principles of conduct in relation to the principal Stakeholders:

- shareholders and investors
- communities in which the group does business
- environment
- human team and talent
- customers
- suppliers

The [General Sustainable Development Policy](#) is further developed and supplemented by various sustainable development policies addressing specific needs and expectations of the Stakeholders:

- *Stakeholder Relations Policy*
- *Innovation Policy*
- *Policy on Respect for Human Rights*
- *Quality Policy*
- *Corporate Security Policy*
- *Human Resources Framework Policy*
- *Knowledge Management Policy*
- *Recruitment and Selection Policy*
- *Equal Opportunity and Reconciliation Policy*
- *Occupational Safety and Health Policy*
- *Sustainable Management Policy*
- *Environmental Policy*
- *Policy against Climate Change*
- *Biodiversity Policy*

The principles of conduct included in these sustainable development policies are described throughout this report.



Responsibilities

The “Corporate and governance structure, ownership and legal form” section of Chapter I.1 describes the organisational model of the Iberdrola group and its responsible persons. The responsibilities of the corporate functions or business units regarding the various aspects dealt with in this report are the following:

- The chairman & CEO of the Board of Directors, together with the Business CEO and the rest of the management team, assumes the duty of strategic organisation and coordination of the group through the dissemination, implementation and monitoring of the general strategy and the basic management guidelines established by the Board of Directors.
- Issues relating to corporate governance and that affect the legal area are the responsibility of the Office of the Secretary of the Board of Directors.
- Aspects relating to labour practices are the responsibility of the Human Resources and General Services Division, within the Finance and Resources Division.
- Aspects relating to the environment are the responsibility of the Innovation, Sustainability and Quality Division. And specifically, those aspects relating to the fight against climate change are the responsibility of the Energy Policies and Climate Change Division. Both divisions report directly to the chairman & CEO.
- Issues relating to procurement are the responsibility of the Procurement and Insurance Division, within the Finance and Resources Division if referring to general supplies, and the responsibility of the Wholesale and Retail Business, within the group’s General Business Division, if referring to the procurement of fuel.
- Those relating to regulation and public policies are the responsibility of the Planning, Management and Regulatory Positioning Division in coordination with the country subholding companies of each of the countries in which Iberdrola operates.
- Products sold, demand, customers and other related topics are the responsibility of the Wholesale and Retail Business if referring to liberalised markets like Spain or the United Kingdom, and of the Networks Business if referring to regulated markets like the United States or Brazil.
- Those relating to production facilities are the responsibility of the Wholesale and Retail Business or the Renewables Business, each within their scope of activity, and those relating to transmission and distribution facilities are the responsibility of the Networks Business. These three businesses are within the General Businesses Division of the group.

By way of complement:

- The Operating Committee, made up of the chairman & CEO, the Business CEO and the directors of corporate functions and business units, is an internal committee providing technical support, information and management, with respect to both the duties of supervision and monitoring as well as the strategic organisation and coordination of the group through the dissemination, implementation and monitoring of the general strategy and the basic management guidelines established by the Board of Directors, while always respecting the scope of day-to-day management and effective decision-making corresponding to the governance and management bodies of the head of business companies of each of the businesses.



- The Compliance Unit, as an internal and permanent decision-making body linked to the Sustainable Development Committee of the company's Board of Directors, is responsible for proactively ensuring the effective operation of the company's Compliance System, which is made up of all of the rules, formal procedures and significant actions intended to ensure that the company conducts itself in accordance with ethical principles and applicable law, and for preventing improper conduct or conduct that is contrary to ethics, the law or the Corporate Governance System that might be committed by the professionals thereof within the organisation.
- The Internal Audit Division ensures the proper operation of the information technology and internal control, risk management and governance systems of the company and of the group. Its activities are governed by the provisions of the Corporate Governance System, the [Basic Internal Audit Regulations of Iberdrola, S.A. and its group \(BIAR\)](#) approved by the Board of Directors and the other internal rules of the company, as well as the *International Standards for the Professional Practice of Internal Auditing* approved by the Global Institute of Internal Auditors (IIA). The BIAR is required knowledge of the professionals of the group that it affects, and describes the nature, organisation, competencies, resources, activities, powers and duties of the function and establishes the relations between the Internal Audit Area of Iberdrola, S.A. and the Internal Audit divisions of the other companies of the group.

To exercise these responsibilities, the Iberdrola model provides that they are assumed in a decentralised manner by the country subholding companies and head of business companies in each country, which are organised through their respective boards of directors. The head of business companies occupy themselves with the effective management thereof, as well as the day-to-day management and control thereof.

Responsibility in the sustainable development strategy

The implementation, monitoring and supervision of the sustainable development strategy is the responsibility of the various companies of the group in accordance with the corporate and governance structure of the group described in Chapter I.1, in all cases respecting the principles of subsidiarity and decentralised management through the various committees that assume duties in the area of sustainable development and reputation.

Specifically, the Corporate Sustainable Development and Reputation Committee has the duties of:

- o defining the basic corporate lines of evolution of practices focused on the sustainable growth of the social dividend and improvement of the group's reputation,
- o approving and monitoring development plans in both areas,
- o acknowledging the most significant advances, and
- o collaborating in the preparation of public information regarding these areas disclosed by the company.



102-20

For its part, the [Sustainable Development Committee](#) of the Board (the composition and duties of which are described in the “Corporate governance” section of Chapter II.7) is vested with the power to, among other things:

- *Assess and review the Company’s plans implementing the sustainable development policies and monitor the level of compliance therewith.*
- *Supervise the Company’s actions relating to sustainable development and report thereon to the Board of Directors and to the Executive Committee, as appropriate.*
- *Supervise and evaluate the processes of relations with the various Stakeholders.*

The [Activities Report of the Board of Directors and of the Committees thereof](#) for financial year 2018, available on the corporate website, identifies the reports prepared by this Committee and the appearances that took place during the year.

Goals, resources and results

Iberdrola regularly publishes its medium- and long-term goals using various formats: [Capital Markets Day](#), the materials for which are available on the corporate website, is one of the most important events for communication of the company’s future outlook. As additional information, Iberdrola annually publishes its [Integrated Report](#), which is also available on the corporate website, using the methodology of the *International Integrated Reporting Council (IIRC)*.

To reach its financial and operational goals, Iberdrola has an annual process for assigning resources, by establishing the corresponding income and expense budgets, which are approved by the company’s Board of Directors.

Internally, the various businesses and corporate organisations determine their annual goals in harmony with the strategic goals of the company, both financial and non-financial, directed specifically towards the activities for which they are responsible. The results obtained with respect to the established goals are used to establish the annual variable remuneration of the company’s management team. The listed country subholding companies have their own process for establishing objectives and remuneration of their officers pursuant to their own special framework of strengthened autonomy, although they will be consistent with those of the Iberdrola group.

The sustainable development objectives are set by the different businesses and corporate divisions. Many of them are set out in the Social Responsibility Plan that the company prepares on a bi-annual basis. The table below shows the main objectives of the Social Responsibility Plan 2018-2019, which consists of more than 300 activities.

For more detailed information regarding the Social Responsibility Plan, see the introduction of Chapter II “Responsible Energy for People”: Our Priorities.

The achievements obtained by Iberdrola are reflected in the performance of the various quantitative indicators covered by the various aspects dealt with in this report.



Principal sustainable development objectives 2018 2019	
Our priorities	Objectives
Fight against climate change and protection of biodiversity	5% reduction in specific direct emissions during the 2017-2019 period compared to the 2014-2016 period.
	Increase renewable installed capacity by 9% during 2018 and 2019, with the start-up of 2,600 MW.
Contribution to the well-being of our communities	Continue providing access to energy for people who lack it, in line with the 2020 goal of reaching 16 million beneficiaries.
	Work with <i>Operation Fuel</i> in Connecticut (United States) to ensure that 1,200 people in vulnerable situations have access to energy throughout the year.
Sustainable economic growth	Maximisation of the volume of issues in the green financing market and update of the <i>Green Financing Issue Framework</i> to ensure consistency with the <i>Green Bond Principles</i> and available best practices.
	Develop new global Cybersecurity campaigns.
Innovation, digitalization and quality for our customers	Development of the <i>Innovation and Digital Transformation Programme</i> , applied to all the businesses.
	Development of new products for customers based on Data Analytics (Energy Wallet, Customised Plans) and development of new apps.
	Increase in subscriptions to electronic invoicing to 26% of the entire Continental Europe portfolio by year-end 2018.
	Development of projects to improve management of the grids in distributed generation scenarios: <i>Alois</i> in Spain and <i>Fusion</i> in the United Kingdom.
	Development of the smart grid projects <i>Smart City</i> (Atibaia) in Brazil and <i>Smart Community</i> (Ithaca) in the United States.
Good governance, transparency and Stakeholder engagement	Approval by the Board of Directors of a new <i>Digital Presence and Action Policy</i> .
	Development of a unique model preparing scenarios to assess the environmental impacts of climate change on the company over the long term, conforming to the requirements of the Task Force on Climate-related Financial Disclosures (TCFD).
	Maintenance of ISO 37001 certification regarding the anti-bribery management system and UNE 19601 certification on the criminal compliance management system, as well as the Pro-ethics stamp at Neoenergia.
	Creation of an energy policy chair at the European level.
	Development of the Human Rights Management Model at the global level.
Promote Socially responsible practices in the supply chain	Improvement in the supplier sustainability evaluation model (now <i>RSC Scoring</i>) and actions to increase the percentage volume of procurement awarded to suppliers that have been evaluated in the area of sustainability.
	Review of the methodology for measuring the carbon footprint of suppliers to evaluate Scope 3.
	Preparation of a protocol for performing social audits at the first level of contracting.
Workforce health & safety and personal development	Reduction of accident ratios, highlighting the <i>0 Accident Plan</i> in Brazil.
	Continuous increase of female presence in significant positions.
	Development of continuous training plans for employees, monitoring compliance therewith.



Key impacts on sustainability

102-15

The objective of Iberdrola's sustainable development strategy is to favour the "sustainable creation of value by engaging in the activities included in its corporate object, taking into account the Stakeholders related to its business activity and its institutional reality, in accordance with the *Purpose and Values of the Iberdrola group*", as set out in the [General Sustainable Development Policy](#) approved by the Board of Directors.

This sustainable development strategy is aligned with the implementation by the Iberdrola group of a business enterprise focused on the sustainable creation of value for all of its Stakeholders, providing a quality service through the use of environmentally-friendly energy sources, staying alert to the opportunities offered by the knowledge economy, and committed to the SDGs, especially in relation with goals 7 and 13 regarding universal access to energy and the fight against climate change.

For this purpose, the group innovates, makes new investments and promotes more efficient, sustainable and clean technologies, fosters the growth and develops the talent and the technical and human capacities of its professionals, works for the safety of people and supply, and labours to build a successful business enterprise together with all of the participants in its value chain, sharing the achievements with its Stakeholders.

The sustainable development strategy will endeavour to ensure the achievement of the following objectives, based on the principles set out in the SDGs:

- Cause all Stakeholders to participate in the success of Iberdrola's business enterprise through the social dividend generated by the group.
- Favour the achievement of the strategic goals of the group in order to offer a safe, reliable and high-quality supply of energy that is respectful of the environment.
- Improve the competitiveness of the group through the assumption of management practices based on innovation, equal opportunities, productivity, profitability and sustainability.
- Responsibly manage the risks and opportunities deriving from changes in the surroundings, and maximise the positive impacts of its activities in the various territories in which it operates and minimise the negative impacts, to the extent possible, avoiding short-term approaches or those that do not sufficiently take into account the interests of all Stakeholders.
- Encourage a culture of ethical behaviour that increases business transparency in order to generate creditability and trust within the Stakeholders, which includes society as a whole.
- Promote relationships based on trust and the creation of value for all of its Stakeholders, providing a balanced and inclusive response to all of them, particularly emphasising the involvement of local communities to glean their expectations regarding significant potential issues, and thus be able to take them into consideration.
- Contribute to the recognition of the group and the improvement of its reputation.

Furthermore, the group's commitment to sustainability specifically takes shape in five basic principles of conduct pursuant to its [Sustainable Management Policy](#):



- Competitiveness of the energy products supplied.
- Safety in the supply of energy products.
- Reduction in environmental impact of all of the activities performed by the companies of the group.
- Creation of value for shareholders, customers and suppliers, looking after business profits as one of the foundations for the future sustainability of the company and of the group.
- Driving the social dimension of the activities of the group.

Iberdrola responsibly manages the main risks relating to the impacts where the group engages in its principal activities, along with the potential risks arising from the environment, thus maximising the positive impacts and minimising the negative ones, addressing the expectations of the Stakeholders. For this reason, Iberdrola has a Comprehensive Risk Control and Management System that identifies, analyses and measures significant threats following common procedures for the entire group, which include ongoing assessment as well as the application of best practices and recommendations, as described in the following section “Long term risks and opportunities. Comprehensive Risk System.

Measurement of the social dividend

The measurement of the social dividend encompasses the principal direct, indirect and induced impacts, both present and future, generated by the group’s activities, consistently with Iberdrola’s commitment to the long-term sustainable creation of value.

Due to the diversity of sustainable development goals and commitments, the group uses a broad set of indicators that allows for an evaluation of the contribution from various viewpoints. Even though the indicators do not capture all of the impacts generated, the results obtained constitute an efficient assessment tool to verify the achievement of the bylaw-mandated commitment to the social dividend in the communities in which the group does business.

This assessment is taken into consideration by the Board of Directors when defining the group’s strategy, and is shared transparently with all Stakeholders.



Long-term risks and opportunities. Comprehensive Risk System

102-15

The Iberdrola group is subject to various risks inherent to the different countries, industries and markets in which it does business and to the activities it carries out, which may prevent it from achieving its objectives and successfully implementing its strategies.

Aware of the significance of this issue, the Board of Directors of the company undertakes to develop all of its capabilities in order to adequately identify, measure, manage and control the significant risks to all the activities and businesses of the group, and to establish through the [General Risk Control and Management Policy](#) the mechanisms and basic principles for appropriate management of the risk/opportunity ratio.

All actions aimed at controlling and mitigating risks shall conform to the following main principles of conduct, among others:

- a) Segregate functions, at the operating level, between risk-taking areas and areas responsible for the analysis, control and monitoring thereof.
- b) Act at all times in compliance with the law and the company's *Corporate Governance System* and, specifically, with due observance of the values and standards reflected in the *Code of Ethics* and the principles and good practices reflected in the *Corporate Tax Policy*, under the principle of "zero tolerance" for the commission of unlawful acts and situations of fraud set forth in the [Crime Prevention Policy](#) and in the [Anti-Corruption and Anti-Fraud Policy](#).

Comprehensive Risk Control and Management System

The *General Risk Control and Management Policy* and the basic principles underpinning it are implemented by means of a *Comprehensive Risk Control and Management System*, supported by a Risk Committee of the group and based upon a proper definition and allocation of duties and responsibilities at the operating level and upon supporting procedures, methodologies and tools suitable for the various stages and activities within the system, including:

- a) The establishment of a structure of risk policies, guidelines, limits and indicators, as well as of the corresponding mechanisms for the approval and implementation thereof.
- b) The on-going identification and analysis of significant risks and threats (including passive liabilities and other off-balance sheet risks), both for each corporate business or function and taking into account their combined effect on the group as a whole. To the extent possible, risks will be measured following homogenous procedures and standards common to the entire group.
- c) The analysis of risks associated with new facilities, as an essential element in risk/return-based decision-making.
- d) The audit of the system by the Internal Audit Division.



The risk factors to which the group is subject are generally grouped into the following categories:

- Corporate governance
- Market
- Credit
- Business
- Regulatory and political
- Operational, technological, environmental, climatic, social and legal
- Reputational

Effectiveness of risk management processes

102-30

Generally, the group's *Comprehensive Risk Control and Management System* allows for proper *ex ante* identification of risks or sounds alarms that allow for the making of decisions tending to minimise the impact of the risks.

The pillars of the system include the on-going evaluation of the suitability and efficiency thereof, as well as best practices and recommendations in the area of risks for eventual inclusion thereof in the model.

The group's Risk Committee does so on a monthly basis. This committee is supplemented with the Credit Risk and Market Risk Committees, which report to said Risk Committee, and which meet on a fortnightly and monthly basis, respectively.

On at least a quarterly basis, the Audit and Risk Supervision Committee of the Board of Directors monitors trends in the group's risks:

- It reviews the group's quarterly risk report.
- It coordinates and reviews the Risk Reports sent periodically (at least half-yearly) by the Audit and Compliance Committees of the companies of the group that have such a body.
- On at least a half-yearly basis, it prepares a risk report for the Board of Directors.

A more detailed description regarding risk management at Iberdrola can be found in the following public documents, available on the website:

- Section "E" of the [Annual Corporate Governance Report](#) for financial year 2018.
- The "Principal risks and uncertainties" section of the [Consolidated Management Report](#) for financial year 2018.
- Note 5 to the consolidated financial statements for financial year 2018
- The [Integrated Report](#). February 2019.



Climate change risk management. Iberdrola and the TCFD

201-2

In 2015 the Financial Stability Board (FSB) established a Task Force to encourage investors to have sufficient information regarding the risks relating to climate change and the manner in which each company is managing it: the Task Force on Climate-related Financial Disclosures (TCFD). Climate change could entail various risks in the medium term, both transitional and physical (according to the types defined by the TCFD). In June 2017 the Task Force published recommendations to include an analysis of risks and opportunities relating to climate change in annual financial reports, as well as the adjustment of the company's strategy and governance thereto. The eleven recommendations of the TCFD are structured around four thematic areas:

- Governance
- Strategy
- Risk management
- Metrics and targets

Iberdrola was one of the first companies to publicly commit to implement these recommendations in its public reports by 2020. To this end, Iberdrola already published in its February 2018 Integrated Report a description of the level of development of the four aforementioned areas. It has deepened this analysis during 2018, and has prepared a publication analysing climate scenarios, as required by the recommendations.

Governance

Iberdrola's Board of Directors considers climate change to be a priority element for the company. In 2018 it undertook a profound reform of Iberdrola's Corporate Governance System strengthening the group's commitment to all of the SDGs, especially goals 7 and 13.

The Sustainable Development Committee of the Board is in charge of reviewing aspects relating to climate change, among other things, and receives regular reports. The 7 meetings that took place during 2018 included aspects relating to climate change in its agenda.

The Board of Directors revised the [Policy against Climate Change](#), and specifically Iberdrola's contribution to the mitigation of climate change and to the decarbonisation of the energy model, gradually reducing the intensity of greenhouse gas emissions (expressed in grams of CO₂ per kWh generated) in order to place it below 150 grams of CO₂ per kWh by 2030 (which is a 50% reduction in the intensity of emissions compared to 2007), continuing the development of electric energy from renewable sources, focusing innovation efforts within more efficient technologies having a lower intensity of carbon dioxide emissions, and progressively introducing them in their facilities, until reaching carbon neutrality by the year 2050.

Based on this commitment, there is also a link between the long-term incentive plan of the executive directors and the achievement of goals that support SDGs 7 and 13.

For more information, see the Corporate Governance System section of this chapter, as well as the following link [Corporate Governance System](#).



Strategy

Climate change is a key element for defining the company's strategy. Iberdrola treats it not only as a risk factor, but also as an opportunity for growth through mitigation and adjustment activities during the transition towards a low-carbon economy.

Iberdrola's strategy is aligned with the objectives of the Paris Agreement, given that the company has been integrating the fight against climate change into its strategy since the early 2000s, clearly committing to decarbonisation of the energy model through renewable energy, storage and smart grids, together with the commitment to achieve the SDGs.

In 2018 ScottishPower sold its 2,566 MW of thermal generation, making it the first vertically integrated company in the United Kingdom with 100% renewable wind power generation facilities.

Iberdrola has chosen four climate scenarios on which it is performing the analysis of potential impacts on its business model:

- **Two transition scenarios** that for Iberdrola represent potential paths towards a low-carbon economy. They are based on plausible projects prepared by a third party, the International Energy Agency:
 - *Sustainable Development Scenario (SDS)*: this scenario assumes achievement of the climate change goals agreed to in Paris (<2°C), improvement in air quality and universal access to electricity in accordance with the UN SDGs.
 - *New Policies Scenario (NPS)*: a scenario based on the World Energy Outlook, which includes current and announced energy policies (e.g. nationally determined commitments, or NDCs, from the Paris Agreement).

There has been a comparative analysis of these two scenarios allowing for conclusions to be extracted by business and geographic area regarding the level of resiliency of Iberdrola's strategy with respect to climate change in the short and medium term. Continuity of the Outlook 2018-2022 has been assumed, with a qualitative transfer thereof through 2030.

The result of the analysis indicates that, thanks to the company's strategy and positioning in renewable energy, divestment from oil and coal plants, and smart grids, its business model is sufficient to face both scenarios.

It is important to note that, over the long term, Iberdrola's goal to achieve carbon neutrality by 2050 (which the company already set in 2009) is more ambitious than the goals sought under the NPS scenario and is aligned with the SDS.

- **Two physical scenarios**, based on the [IPCC Fifth Assessment Report](#), to diagnose the range of impacts:
 - *Representative Concentration Pathway 8.5 (RCP 8.5)* of the Intergovernmental Panel on Climate Change (IPCC): the most unfavourable case of the physical risks that the company might face corresponds to a 3.7° C increase in average global temperature during the 2081-2100 period.
 - *Representative Concentration Pathway 4.5 (RCP 4.5)* of the Intergovernmental Panel on Climate Change (IPCC): stabilisation scenario, taking account of the efforts being made and to be made at the international level to reduce greenhouse gas emissions.



Taking into account that adjustment to the physical risks arising from climate change is a major issue for a sector as strategic as electricity, Iberdrola has analysed the principal climate threats to which the electricity sector might be exposed under these two scenarios in the various jurisdictions and for the different technologies in the short, medium and long term.

From this analysis derive the specific detailed studies in those sectors and locations that have been identified as most vulnerable to the impacts of climate change, going into detail regarding the quantification of the impacts and ability to adapt.

The preliminary analysis evaluated the risks arising from the principal climate threats, like increasing temperature, changes in rainfall and increase in sea levels, considered to be chronic risks, as well as the increase in frequency and severity of extreme meteorological events (flooding, heat waves, hurricanes, etc.) for the various jurisdictions in which Iberdrola operates and for the different technologies, taking into account the vulnerability and exposure thereof. The RCP 4.5 and RCP 8.5 emission scenarios have been considered for the group of climate variables analysed in order to consider a scenario of emissions stabilisation (RCP 4.5) and a more pessimistic scenario of higher concentrations of GHG emissions, and thus greater changes in climate (RCP 8.5).

The analysis leads to the conclusion that the risks arising from climate change affect customary business variables and therefore variables managed within the customary processes of its operations. It is expected that climate change will affect the probability of occurrence and potentially the intensity of such events, for which reason, even if they do not constitute a new source of risk, there is a greater level of sensitivity to them.

Extreme phenomena are identified as one of the main threats to the different technologies and jurisdictions, the frequency and severity of which are expected to increase in coming years. However, there are plans and predictive systems that allow for the impacts arising from these events to be minimised. One example of an extreme event that was already managed is in the management of the networks in the United States, where Avangrid Networks launched a plan for the next 10 years, "Transforming Energy", in order to improve the resiliency of the network against severe storms, with measures like the replacement of supports and conductors, the improvement of tree trimming and maintenance, and better connectivity, among others.

The chronic impacts are progressive and will be occurring in the coming decades, relatively long periods, for which reason they will be managed based on the level of adaptation and resilience of the various facilities. This also means that, in large part, the group's future assets, and not the current assets, will be the ones bearing the most severe impacts, as all assets are gradually renewed when they reach the end of their useful life.

The adaptive ability of Iberdrola's facilities, and thus the ability to manage the risks arising from climate change, is due to, among other factors, the large diversification of generating assets that allows the group to better manage the risk arising from climate change and consideration of climate variability in traditional processes, like the replacement of equipment and the supply of spare parts, as well as in the technical specification of the equipment.

However, given the constant evolution of science and the uncertainty associated with studies on climate projection and the impacts thereof, the analysis must be continued and deepened in order to quantify the potential impacts and establish adjustment measures if necessary. There can thus be a detailed analysis of the variability of resources like hydraulic, wind and solar based on the location of the company's assets, and progress to the extent that climate science homogeneously introduces itself in the processes in the various countries in which Iberdrola



does business. They are all lines within the working plan regarding the adjustment to climate change.

For more information regarding the company's strategy, see the document *Outlook 2018-2022* (or the document replacing it for a subsequent period), which can be accessed through its corporate website in the [About Us](#) section, as well as in the section "Key impacts on sustainability" of this chapter.

Risk management

As regards the process for identifying the risk of climate change, Iberdrola's Board of Directors and senior management are committed to identifying and evaluating the risks of the group: a) *Ex ante*: the risk tolerance levels are reviewed and approved annually through risk policies and limits that establish the qualitative and quantitative risk appetite at the level of the group and at each of the principal businesses and corporate functions; b) *Ex post*: at least one quarterly supervision of major risks and threats and the different exposures of the group, as well as compliance with the risk policies, limits and approved indicators.

Climate change covers various risks, which to a large extent are not new risks for Iberdrola. Pursuant to the *General Risk Control and Management Policy*, risks relating to climate change are included in the catalogue of threats. Within the group, the identification, analysis and management thereof is approached with a multi-departmental focus, in which there is cooperation between corporate as well as business functions with the participation of the highest management levels of the group. Regular review procedures are established for this purpose.

The group's control and risk management system considers and monitors the risks arising from climate change, which can be grouped into:

- Physical: potential material impacts on facilities.
- Transitional: associated with the process of global decarbonisation, including regulatory changes, market prices, technologies, reputation.
- Other: like risks in the supply chain and social phenomena.

Based on the estimates of the impacts and Iberdrola's mitigating elements (included in section 4.7 of the Consolidated Management Report), it is not expected that the climate change risks evaluated will have a catastrophic or permanent impact on the group's consolidated figures analysed to 2040, which are globally resistant. In any case, the opportunities arising for the company from the decarbonisation of the global economy are greater than the risks.

It should be noted that although the impacts from climate change can already be seen in the short term (e.g.: greater intensity and frequency of climatic events in certain geographic areas), they are gradual and over relatively long terms.

Finally, although they represent an enormous challenge, climate change and the necessary transition towards decarbonisation of the energy model are also an opportunity compatible with growth and profitability for the company. Iberdrola has undergone a profound transition in this regard over the last two decades, clearly anticipating the energy transition to face the challenges of climate change and the need for clean electricity. Today, the group is perfectly positioned to take advantage of the following opportunities, among others, thanks to its leadership in renewable energy, smart grids, storage and digitalization, and its commitment to the transition towards a low-carbon and climate-resistant economy:



- **Investment opportunities and improved competitive advantage.** Legislative and regulatory changes encouraging decarbonisation through greater electrification, the development of renewable energy and the integration thereof into the electricity system through smart grids and backup capacity, technological innovation, etc.
- **New services and markets.** Demand for new energy services and products related to the energy transition (e.g. electric mobility, demand-side management, smart grids, energy storage, etc.).
- **Advantages in the acquisition of financing.** Growing pressure on the financial sector and capital markets, which favours those companies with an ambitious decarbonisation strategy, low exposure to assets linked to climate change and good positioning on the sustainability and transparency indexes.
- **Strengthening of corporate reputation.** Result of a leadership position in the energy transition.
- **Sustainable creation of value.** Maximisation of the social dividend for all Stakeholders.

For more information regarding the management of climate risks, see section 4.7 “Climate change risks” of Chapter 4. “Principal risks and uncertainties” of the [Consolidated Management Report](#) for financial year 2018, as well as the [Integrated Report](#). February 2019.

Metrics and targets

Iberdrola includes in this sustainability report and in the Integrated Report significant indicators to report on aspects relating to climate and to the strategy of the fight against climate change, including the [greenhouse gas emissions inventory](#), the intensity of emissions, reduction targets, the use of energy, energy intensity, the energy mix, renewable installed capacity, use of water, source of water, R&D+i and Capex in the development of low-emission products, services and/or technology.

Iberdrola believes that disclosure of the financial risks relating to climate change in a consistent and improved manner will allow for the establishment of a constructive and well-informed dialogue amongst investors and companies regarding the opportunities and risks relating to their activities.

For more information, see the “Reduction in emissions” section of Chapter II.3. Iberdrola also has a specific section on its website called [Against Climate Change](#) in order to show the company’s efforts to mitigate and adapt to the consequences of climate change.



II. “Responsible Energy for People”: Our Priorities





Iberdrola is firmly committed to contributing to the sustainable development of society and improving the quality of life of people. This commitment materialises in the innumerable projects and activities undertaken by Iberdrola and set out in the Social Responsibility Plan 2018-2019 “Responsible energy for people”. It summarises the most significant projects, sets the goals and shows our alignment with the Sustainable Development Goals of the United Nations (SDGs).

Iberdrola’s vision of its responsibility is based on the long-term creation of value for our Stakeholders. For this reason, we focus our work on meeting their expectations and strengthening the links of mutual trust with our shareholders, employees, suppliers, environment and society in general. We have called this shared value the social dividend, which constitutes the basis of the responsibility that we assume through our actions contributing to society.

The vision of “Responsible energy for people” is grouped around seven priorities: It is a broad focus, because we believe that it is the proper way to respond to the expectations of our Stakeholders. We have also added multiple lines of work with specific tasks (more than 300) and measurable goals in accordance with international sustainability standards. We have also included the exchange of lessons learned to face the new challenges raised by society.

These goals are monitored by the Corporate Social Division together with the areas and businesses, and the results are evaluated by the Sustainable Development and Reputation Committee of the group and by the Sustainable Development Committee of the Board of Directors, when the latter so requests.

Iberdrola’s largest impacts for the success of the 2030 Agenda are focused on SDG 13 (Climate action) and SDG 7 (Affordable and clean energy), which also constitute significant business opportunities due to the growing electrification of the economy. One should also note the company’s enormous contribution to the development of our communities in the areas of biodiversity, innovation, training, transparency, solidarity, education, the arts, culture, etc. Supplying “Responsible Energy” means responding to all of these challenges, meeting the demands of our Stakeholders.

Sustainable development at Iberdrola is integrated into its businesses and corporate areas, and is at the head of a new management paradigm in which companies take a more active role in building a more equitable world.

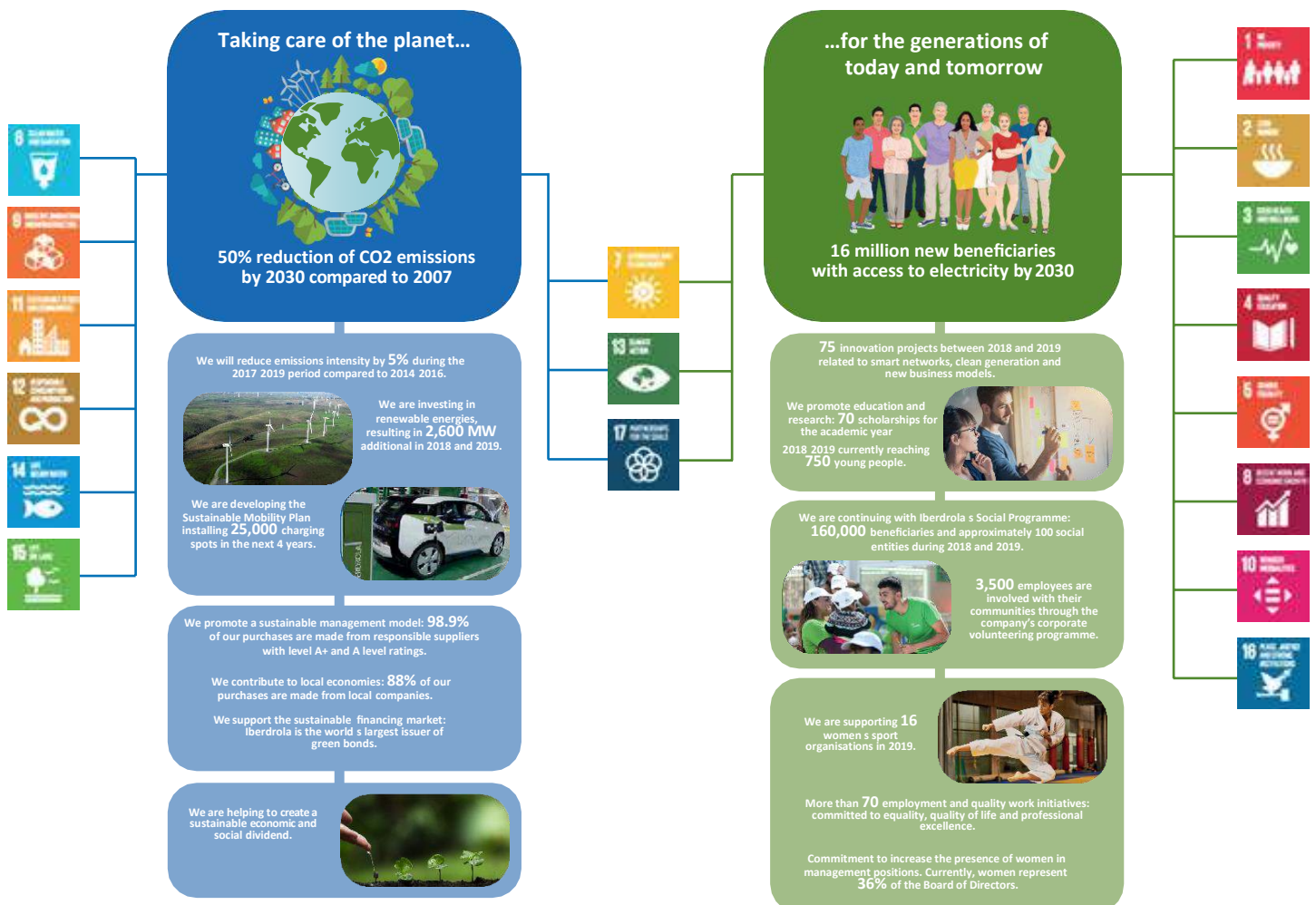


RESPONSIBLE ENERGY FOR PEOPLE

Our **commitment to sustainable development** is realized by integrating the **United Nations 2030 Agenda** into the strategy and operations of the Iberdrola Group.

Our greatest contributions to the achievement of the Sustainable Development Goals are oriented around **two major axes** which inspire our actions: **we take care of the planet** by being at the forefront in reducing emissions in the energy sector, and **we contribute to the welfare and progress of societies** in all the territories where we are present. Iberdrola's commitment materialises through different lines of work which encompass more than **300 environmental, social and economic actions**, thus responding to the expectations and needs of our Stakeholders.

IBERDROLA'S CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS DURING 2018 -2019





II.1.

Sustainable Economic Growth





- Economic/financial impact
- Green financing
- Energy transition and supply costs
- Creation of employment and salaries
- Stable labour environment. Commitment to quality employment



Economic/financial impact

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 201

The electricity sector is a significant driver of the economy, to which it continuously contributes through significant investments and the creation of high-quality jobs, both direct and indirect. Its function is to provide safe, competitive and sustainable supply. Generation technologies using renewable sources are decisive in the fight against climate change, as they allow for increased electrification of the economy, thus reducing dependency on fossil fuels.

Iberdrola continues to engage in a process of growth and internationalisation that has made it one of the leading electric companies in the world. This strong position was achieved through a sound, long-term industrial plan that is both profitable and creates value, supported by a business strategy of sustainable growth and geographic diversification.

Analysts describe a global scenario for the energy sector characterised by an increase in energy demand, tied to a need to reduce CO₂ emissions. Estimates call for high growth in demand in the medium and long term in emerging countries and moderate growth in the developed world. In any event, this energy transition will require large investments in renewable generation facilities, in smart grids and in efficient storage; all accompanied by greater digitalization to support efficiency and the development of new products.

Iberdrola's strategy, implemented at the beginning of the 2000s, has been based precisely on these growth vectors: investment in renewables, smart grids, efficient storage, digitalization and customer solutions. The strategic pillars defined by the company are profitable growth, operational excellence, customer-focused operations, the optimisation of capital, and innovation. Its current leadership position reflects the benefits of its forward vision and diversification of businesses and areas.

A summary of the Iberdrola strategy can be found in the document *Strategic Overview 2018-2022* (or in the document superseding it in a subsequent period), which can be accessed through its corporate website in the [About Us](#) section.

Iberdrola's financial results for the year are summarised in the [Results](#) section of the website. Alongside these results, the company also requires its companies to explain how they are achieved and to evaluate them in terms of sustainability, understanding that adequate disclosure of non-financial information is an essential element for the sustainability of financing activities.

This *Sustainability Report 2018* covers the requirements arising from the entry into force of the new Law 11/2018 on non-financial information and diversity, forming an integral part of the company's management report. The [Annual Reports](#), the *Integrated Report. February 2019*, the



quarterly results reports and other operational and financial information of interest can also be found on the website.

201-1

Direct economic value generated, distributed and retained (€ millions)	2018	2017	2016
Iberdrola total			
Revenue (sales and other income)	36,273	32,714 ¹²	30,706
Operating costs	22,433	20,446	18,588
Employee remuneration (excluding company social security costs)	2,387	2,517	2,260
Payments to providers of capital	2,402	2,916	2,692
Payments to government administrations	3,096	2,723	2,740
Community investments (verified according to the LBG Model)	54	63	36
Economic value retained	5,901	4,049	4,390

Information by geographic area can be found in Annex 1 Supplementary Information.

Financial assistance received

Financial assistance received by the Iberdrola group is shown in the following table on a consolidated basis:

201-4

Financial assistance (€ millions)	2018	2017	2016
Capital subsidies	6	10	13
Operating subsidies	3	6	3
Investment tax credits ¹³	8	30	0
Production tax credits ¹⁴	91	90	87
Assistance for other items included in the GRI Protocol	0	0	0
Iberdrola consolidated total	108	136	103

Information by geographic area can be found in Annex 1 Supplementary Information.

GRI 203

In addition to the direct economic impacts that occur as a result of the cash flows that are generated, the Iberdrola group also induces additional effects or indirect economic impacts such as those described below:

203-2Indirect impacts of the businesses and facilities

From an economic standpoint, the expansion of electricity systems drives the regional economy in the region where it occurs and creates employment opportunities, contributing to economic and social enhancement.

¹² Includes Sales in the amount of €31,263 million and Other revenue €1,451 million.

¹³ *Créditos fiscales a la inversión.*

¹⁴ *Créditos fiscales a la producción.*



Positive effects include:

- Facilities for the production, transmission and distribution of electrical energy are built in dispersed geographic locations. This contributes to the generation of economic activity and jobs in urban and rural environments. This can also support the revitalisation and repopulation of underpopulated rural areas.
- These same facilities create significant indirect employment in the region in the form of local contracting companies, creating demand for various lodging, security, health, mechanical, supplier services, etc.
- Due to this geographic reach, electricity activities generate fees, taxes and duties at the local, regional and national levels and allow for the generation of revenue in very different areas, to which one must add the tax loads associated with increased commercial and financial activity.
- In local communities, professional training is promoted and skilled labour, such as services for building and maintaining wind farms, is boosted.
- Local communities are supported through sponsorship of the initiatives of social and environmental institutions and organisations.

Negative effects can be considered to include the following:

- Environmental risks, which may give rise to undesirable consequences for the environment, such as spills and improper emissions, or waste management; these situations might occur despite the ever more demanding operational practices developed by the group.
- The landscape impact of the facilities, especially large ones, and the possible negative effects (during construction or operation) on traditional activities, particularly in the rural environment, such as ranching, hunting or fishing.

Indirect impacts of the supply chain

The high volumes of Iberdrola's purchases (described in detail in the "Description of supply chain" section of Chapter II.6) of equipment, works and services, as well as fuel, becomes an engine for growth in the countries in which the company is present.

Entrepreneurial support

Iberdrola supports the creation and strengthening of new entrepreneurial projects through a number of significant initiatives, including the following:

- In 2018 Iberdrola procured a volume equivalent to 42.6 million euros from companies in Spain that have been operating for less than 5 years, which is clear support for entrepreneurship.
- Inclusion of the specific category *Generation of employment and employment of youth* at the Supplier of the Year Awards in Spain: incentivising the suppliers to commit to youth and female employment, and encouraging them to offer high-quality professional opportunities to youth, which will undoubtedly lead to an improvement in competitiveness and innovation at the companies and will allow them to retain talent.
- Iberdrola's venture capital program, *Iberdrola Ventures - Perseo*, funded with 70 million euros, is an opportunity for companies dedicated to innovative technologies and business models, ensuring the sustainability of the energy model. For more information about this



programme, see the section “Digital innovation and transformation projects” of Chapter II.4, as well as the [Innovation](#) section of the corporate website.

203-1

During the construction and operation of its facilities, Iberdrola also carries out certain infrastructure activities that are unrelated to its facilities and without a specific commercial purpose, but rather that are intended to meet the needs of the social environment, resolving existing shortcomings in the local communities.

A summary of these projects with strong social impact during 2018 is provided below:

- Noteworthy is support for professional formation and training in areas near Iberdrola's facilities. In 2018, more than 8,000 people visited the Energy Classrooms near the wind farms in Spain. There is also a visitor centre in the United Kingdom at the Whitelee windfarm, where visits are received from the general public and from school groups.
- In Mexico, it has participated in the construction and/or improvement of various recreational and educational centres, as well as infrastructure improvement and expansions of potable water and sewerage networks.
- In the United Kingdom, action has been taken to improve the various infrastructures as well as landscape improvements for the enjoyment of the people near the different production centres.
- Finally, one should note the collaboration with Hydrographic Confederations and other bodies in Spain to enable various activities near the hydroelectric reservoirs (sports events, support for reproduction of certain species, etc.), by adjusting flows at certain times, as well as specific assistance in the repopulation of species.

Green financing

Iberdrola is a world leader at the company level with respect to green financing, highlighted by the number and amount of green bonds issued. All of the foregoing is to align with its vision and values, optimise the cost of its debt and diversify its sources of financing.

The differentiating feature of such bonds is the commitment of the issuer to use the proceeds to finance or refinance socially responsible projects like renewable energy, improving efficiencies in electricity transmission grids and researching more efficient energy sources. The issuer also commits to regularly report the return on its investments in these projects in terms of sustainability.

The company issued its first *green* bond in 2014, and since then has intensified its financing in this SRI (Socially Responsible Investing) focused market, with many more issues, in various areas: both public and private, senior and subordinate (November 2017 and March 2018 hybrid green bonds), by the corporation as well as its subsidiaries (Avangrid *green* bond in November 2017).

The process for selecting and evaluating projects that can be (re)financed by green instruments is articulated in the [Iberdrola Framework for green financing](#) (the “**Framework**”), which has been verified by PriceWaterhouseCoopers Auditores, who also verify this *Sustainability Report*, and is fully consistent with the *Green Bond Principles*.



The validation of the projects eligible for each issue can also be found in the corresponding *Second Party Opinion* prepared by VigeoEiris and available on the corporate website. It is important to note that the issue of this type of financial asset requires not only compliance with the *Green Bond Principles* and of the *Framework* at the operational level, but also the existence of a strong sustainability profile of the issuing group.

The table below summarises the environmental benefits in 2018 related to investments financed with the green bonds issued by Iberdrola.

Bond	Area of investment	Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
XS1057055060	Renewables ¹⁵	478	1,000	220,493
XS1398476793	Renewables	736	1,384	324,862
XS1490726590	Renewables	403	805	227,687
XS1527758145	Renewables	540	1,128	247,033
XS1564443759	Renewables	201	237	63,509
XS1575444622	Renewables	340	794	313,010
XS1682538183	Renewables	279	587	223,618
XS1721244371	Renewables	648	1,309	370,542
XS1797138960	Renewables	225	0	0
XS1847692636	Renewables	241	0	0
XS1924319301	Renewables	25	81	46,874

For more details on these issues and their sustainability returns, see the *Report on Green Bond Returns* available in Annex 3 of this report.

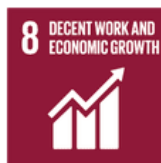
¹⁵ Among others.



Energy transition and supply costs

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Demand-side management

As part of its demand-side management programmes, Iberdrola's main objective is to improve energy efficiency and the smart use of active electrical grids to thus contribute to the more efficient use of energy by consumers, and thereby reduce CO₂ emissions and contribute to the fight against climate change.

The types of actions taken include those relating to information, training and the supply of solutions and technologies that help them improve energy efficiency and reduce the environmental impact of their energy habits and consumption. Iberdrola engages in demand-side management in all of its geographic areas and for its various types of customers.

The main activities performed are broken down separately due to the unique nature and law of each country or market:

Spain

Noteworthy is the completion of the smart meters installation plan in Spain, reaching a figure of 10.7 million meters installed, within the *STAR* programme.

Iberdrola also sells a wide range of products and services that promote efficiency, energy saving and environmental protection, all within its *Smart Solutions*:

- Energy efficiency: efficient air conditioning and lighting, capacitor banks, home automation systems and other solutions.
- Renewable energy facilities: solar photovoltaic energy.
- Comprehensive management of energy supplies.
- Electromobility.

In 2018 more than 800,000 customers benefited from products and services that improve energy efficiency.

In the industrial and commercial sectors, there are initiatives to diagnose and propose measures for energy savings and efficiency, like efficient lighting, efficient air conditioning, etc.

Other activities to promote energy efficiency were also carried out through the website, social media, campaigns, customer invoices, etc.



In addition, Iberdrola's contribution to the Energy Efficiency Fund, used to increase energy efficiency in the different energy consumers sectors in a way that contributes to reaching the national energy savings goal established by the National Energy Efficiency Obligations System (*Sistema Nacional de Obligaciones de Eficiencia Energética*) was 15.2 million euros.

United Kingdom

In the residential customer market, ScottishPower is participating in the *Energy Company Obligation (ECO) Programme*, sponsored by the British government, the purpose of which is to reduce CO₂ emissions and heating costs through insulation and energy efficiency measures. It also provides energy consultancy and support services through a range of channels, with a team of accredited consultants.

In the area of commercial and industrial customers, the company's products are focused on energy savings, cost reductions and CO₂ emissions. These include automated controls that allow for proactive or reactive response to the requirements of the grid.

In addition, there has been continued development of the Demand-Side Response (DSR) products to generate business opportunities through the management of one's own energy consumption based on network requirements.

United States

There are various energy efficiency programmes in the states in which Avangrid distributes electricity, including *Clean Energy Communities* and *Home Energy Solutions* in Connecticut.

There are also programmes to help improve the energy efficiency of homes under construction or undergoing major renovations. There is also the *Residential New Construction* programme in Connecticut and the *Berkshire Gas New Construction Initiative* in Massachusetts.

Brazil

The companies of the Neoenergia group carry out various energy efficiency programmes for residential customers. For example, the *Vale Luz* programme, which promotes the safe and efficient use of electric power, and the *Energía con Ciudadanía* project, intend to encourage reduced consumption. There is also a programme for training in the efficient and safe use of energy for educators, students and the general population.

In the institutional and industrial segments, Neoenergia has carried out a range of projects relating to the improvement of energy efficiency and the development and improvement of the competitiveness of these sectors.

Generally, most of the programmes seek to promote energy efficiency in the buildings of customers and help to control their electricity consumption through various tools, allowing this consumption to be monitored.



Availability and reliability

EU10

The companies of the Iberdrola group have no direct responsibility for long-term planning processes for the corresponding electricity systems in the countries in which they operate.

Government authorities conduct the studies needed to anticipate the long-term needs of the respective electricity system, and Iberdrola's companies act as market agents, making investment decisions that are consistent with their business plans.

Spain

The planning of generation in Spain is a government function and is indicative in nature, as participants make investment decisions within a free-market environment.

Analysing the reliability of the short-term electricity supply is a task assumed by the System Operator (which role is played by Red Eléctrica de España, S.A.), which regularly studies different operation scenarios to verify the robustness of the system. Iberdrola significantly contributes to increasing reliability in the operation of the system by providing great flexibility through hydroelectric generating and pumping capacity as well as with a pioneering renewable energy control centre.

The Networks Business also contributes to guaranteeing reliability, performing studies to identify the short- and long-term investments needed to meet the increase in demand and to renew older facilities by adopting more modern technologies and network digitalization programmes, with a view to guaranteeing a more operational and reliable network. Of note is completion of the deployment of smart meters, with 10.7 million installed, a modernisation of 99.9% of the company's meters in Spain. The investments in smart distribution grids helps to improve reliability and availability of the networks.

United Kingdom

A large part of the United Kingdom's generating facilities is reaching the end of its use life, and the government is determining an energy policy and regulations to enable renewal without endangering the safety of supply. There are auctions of capacity in which the government calculates the required capacity to cover demand depending upon its system reliability target, and asks for bids from industry players owning facilities or projects, awarding the required capacity. February 2018 saw the fourth long-term T-4 auction, in which both existing plants and new projects took part. Iberdrola is developing new projects in offshore wind technology.

Electricity transmission network activities are governed by the RIIO-T1 regulatory framework for the 2013-2021 period. Investments with a dual purpose are being considered during this period: first, to increase the transmission capacity of interconnections between Scotland and England, and second, to enable the evacuation of energy from all renewable facilities expected in the short to medium term. Of note is the start-up of the Western Link subsea cable, which has increased transmission capacity between Scotland and Wales by 2,000 MW. Both objectives will make it possible to guarantee reliable, high-quality service in the coming years.

The reliability of electricity distribution networks is ensured through studies that make it possible to identify the short- and long-term investments needed to meet new demand and to renew older facilities, all of which is managed in accordance with the RIIO-ED1 regulatory framework for the 2015-2023 period. The investments in smart distribution grids helps to improve reliability and availability of the networks.



United States

Iberdrola is among the leading producers of wind energy in this country.

The group's North American companies act in accordance with the laws and regulations of the states in which they operate. In the state of New York, the companies participate in planning activities through official bodies, ensuring that they can meet short- and long-term demand under proper conditions of reliability and safety. The System Operator (NYISO) operates within the reliability margins set by the North American Electric Reliability Council, the Northeast Power Coordinating Council and the New York State Reliability Council (NYSRC). NYSRC sets the installed capacity reserve margin, as well as the required level of generating capacity, such that the loss of load in the New York control region is no more than one day per ten years. In New England, ISO-NE sets installed capacity requirements (ICR) using similar criteria.

In the State of Maine, transmission and distribution companies have no authority over energy planning, and cooperate with official bodies on operational matters that may be required by such bodies. In any case, electricity distribution companies guarantee reliability, carrying out studies that make it possible to identify the short- and long-term investments needed to meet the increase in demand, and to renew older facilities by adopting more modern technologies, with a view to ensuring a more operational and reliable network.

The construction of the 233 km HVDC transmission line (New England Clean Energy Connect) awarded to Avangrid in 2018 will improve grid stability and reliability, allowing for the supply of 1,200 MW of 100%-hydroelectric energy to the state of Massachusetts. The project is in the initial phase of obtaining the main permits.

Brazil

The group's companies in Brazil manage major electric distribution areas and electricity production plants. They work in close cooperation with the public administrations, developing systems to help them attain energy planning goals, achieving the desired balance between available resources and the quality and reliability of the electricity supply.

Iberdrola's Networks Business contributes to ensuring the reliability of electricity supply, making investments to meet the rapid increase in demand and electricity consumption in the areas in which it distributes, ensuring a more functional and reliable network. It also invests in electricity transmission projects that will encourage robustness by improving the backbone of the system. 4 transmission projects were awarded in December 2018 involving the construction of 3,000 km of transmission lines, favouring the safety of the system.

Other examples of activities to improve the quality of supply in Brazil during 2018 are:

- Improvement of prioritisation of incidents based on their scope (number of customers affected and duration of the interruption) and definition of a new contingency plan for the crisis.
- Review and expansion of automation, improving coordination of protective equipment and expanding automation of the lines.
- Construction of nine new substations.

The group's companies in Brazil also participate in developing generating facilities (hydroelectric, wind and photovoltaic).



Mexico

In Mexico, a major portion of production is generated by combined cycle generation plants with long-term contracts from the Federal Energy Commission. These plants contribute to the country's energy transition with efficient energy, providing safety of supply and high levels of availability. The rest of the production is sold through long-term contracts to private customers.

Iberdrola is also investing to grow in the segment of renewable energy, especially wind and solar photovoltaic.

Fuel

A key element in managing the availability of electricity service is the procurement of the necessary fuel. Iberdrola ensures it has a global portfolio of gas and coal contracts that is flexible and geographically diverse. This is in addition to a stable, long-term and low-risk supply of nuclear fuel.

The risk of fuel cost is managed using financial contracts that fix the price of the fuel at a particular time, allowing for reduction of risks and ensuring a margin on forward sales. These financial contracts are primarily used to fix the costs of coal and gas under long-term contracts. Derivatives are also used to cover fuel costs in euros, as purchases are usually made in U.S. dollars.

The Iberdrola group's generation facilities have high availability factors, as shown below:

EU30

Average availability factor of generation technologies (%)	2018	2017	2016
Combined cycle	90.4	90.9	89.9
Conventional thermal	94.3	93.9	85.5
Cogeneration	92.2	82.8	91.0
Nuclear	89.3	89.3	86.0
Hydroelectric	86.9	86.0	87.0
Wind	96.4	94.4	96.8
Total¹⁶	91.6	90.5	91.0

Information on the availability factors in the various countries is described in Annex 1 Supplementary Information.

Supply costs

The cost of electricity supply, and the energy transition, are taking on a greater role in the political and social agenda. The principal challenge is to reconcile secure and environmentally friendly supply, thanks to the use of renewable energy, with prices that are competitive and can be afforded by society as a whole.

¹⁶ Weighted average with the installed capacity.



The electricity sector, which by nature is a basic service for society, is broadly regulated in the various countries in which Iberdrola operates, with varying levels of liberalisation in some of them. The most significant cost-related issues being debated and regulatory developments currently occurring in these countries are described below:

European Union

- The Agency for the Cooperation of Energy Regulators (ACER) and the European Commission, in studies on electricity prices published since 2016, confirm that taxes and components associated with energy and environmental policies are what have grown the most in recent years, reaching half of the bill in countries like Spain. This increase is mainly due to the electricity sector being the only sector that financially supports the renewable energy development goal imposed by the European Union. A competitive electricity supply requires the elimination of cost components outside of the service itself, which must be accommodated through general taxes for renewable goals to be distributed among all polluting energies.
- The Clean Energy for All Europeans package includes various legislative proposals, including a revision of the Market Design favouring the energy transition and responding to the need to comply with the 2030 environmental agenda (40% reduction in GHG emissions, 32% increase in renewables and 32.5% improvement in energy efficiency), monitoring the safety of supply and the competitiveness of the European industry, and allowing prices that are accessible for European citizens.
- As regards the existence of specific regulated rates for vulnerable customers, the Package maintains the situation until 2025, when the Commission will analyse the situation and may propose the elimination thereof.

Spain

- The wholesale price for electricity in the Iberian *SPOT* market is aligned with the other European markets. According to the Third Report on Energy Prices and Costs in Europe published by the European Commission at the beginning of 2019, prices for industrial customers in Spain are below the European average. For residential customers, Spain holds fifth place in the European Union, after Germany, Denmark, Belgium and Portugal. However, as mentioned above, only half of the electricity bill of certain customers, especially those in the residential and commercial segment, is directly related to the provision of the service. The rest derives from the pursuit of energy policy goals (aid for renewable energy and cogeneration), social goals (subsidies for electricity in non-mainland territories and recovery of tariff deficits from previous years) and taxes.
- The government has approved a Royal Decree Law (15/2018) with urgent measures for the energy transition and the protection of vulnerable consumers, which seeks to reduce the price of domestic invoices and expand coverage for vulnerable groups, among other things. Along these lines, it expands subsidised rates (*bono social*) to certain groups, creates a thermal subsidised rate for heating, eliminates the “green cent” tax on gas and temporarily suspends the tax on electric power production. All of these measures help to reduce the final price.
- Iberdrola has included in its *General Sustainable Development Policy* the protection of customers in situations of vulnerability, in order to ensure energy supply to this group. For this purpose, it is taking action to promote, inform and facilitate access to the



subsidised rates, and it is also working with public authorities, various institutions and NGOs to identify and protect economically disadvantaged persons (see “Access to electricity” section of Chapter II.5).

United Kingdom

- In 2018, the UK government approved the “Tariff Cap” law and Ofgem defined the cap for the standard variable tariffs (SVT) at 1,137 pounds annually for a dual customer (gas and electricity) with direct debit from 1 January 2019 until 31 March of 2019. Ofgem published the new limits that will apply from April to October 2019 on 7 February: 1,254 pounds annually for dual customers. The price limits will apply until no later than 2023 and will be updated on a half-yearly basis.
- Although the government continues working to minimise the costs that it controls, as a demonstration of its environmental commitment it has maintained the minimum price of CO₂ and has announced an annual budget of 60 million pounds for the next auction of Contracts for Differences for projects commencing during the 2023-24 and 2024-25 periods. The government expects to award between 1 and 2 GW of offshore wind.

United States

- The Environmental Protection Agency (EPA) has proposed an “Affordable Clean Energy” (ACE) rule to replace the Clean Power Plan (CPP) which establishes guidelines for the states allowing them to develop greenhouse gas reduction plans for existing coal plants. The ACE is mainly based on making efficiency improvements at generating plants and on the application of new technologies, giving states the flexibility to develop their own plans for regulating the emissions of generating plants.
- The development of smart grids, the rapid replenishment of supplies in the face of extreme weather conditions, new EPA regulations, and the integration of new energy sources require major investments, which sometimes conflicts with the goal of reducing final tariffs. These final rates are agreed between the distributors and the state regulators.

Brazil

- According to the International Energy Agency’s *Renewables 2018* market report, Brazil has the least polluting energy matrix among the large economies of the world. 43% of final energy consumption in Brazil is from renewable sources, which rises to 85% if we analyse the electric generation mix.
- Prices in Brazil’s electricity market are highly dependent on the hydrological situation of the country and on rainfall expectations; in fact, the hydrological situation worsened beginning in April 2018, causing the Regulator to activate the yellow tariff flag in May and second-level red from June to September (both inclusive), meaning that the final consumer pays an additional cost of 5 Brazilian reais per 100 kWh consumed. The yellow flag was activated during the last quarter of the year, meaning an additional cost of 1 Brazilian reais for each 100 kWh.
- Furthermore, according to ANEEL data, almost 30% of Brazilian domestic consumer electric invoices are due to taxes, 53% corresponds to generation, transportation and other industry costs and 17% corresponds to energy distribution costs.



- Brazil has the “Light for All” programme for vulnerable consumers, which has been extended to December 2022 for Coelba. This programme was created in 2003 in order to electrify rural, isolated and economically disadvantaged areas. The programme is coordinated by the Ministry of Mines and Energy, operated by Eletrobrás and executed by the energy concessionaires and rural electrification cooperatives. The programme is financed by industry funds, by the state governments and by the electric power distribution companies. The current Coelba contract is financed 65% with industry funds (CDE account) and 35% with own funds that are recovered in the tariff revisions every 5 years. The Coelba contract does not have financing from the government of the State of Bahia.
- The Ministry of Mines and Energy has approved the Decennial Energy Expansion Plan, which provides for the installation of a total of 54.6 GW between this year and 2027, of which 32.3 GW will be renewable. Breakdown by technology: 13 GW will be wind, 6.9 GW solar and 6.8 GW hydroelectric, with the remaining 5.6 GW being biomass and mini-hydro. It is also expected that 40,227 million euros will be allocated to the transmission business.

Mexico

- In Mexico, private investment in electricity generation, the goals of renewable generation and the establishment of a system of clean energy certificates are encouraging competition and the diversification of the energy matrix, which is allowing for a reduction in generation costs. These goals are being reached to a large extent thanks to the long-term energy auctions, which allowed for the construction of 7,451 MW of clean energy and very competitive prices at the global level. There were three auctions of this type through the end of 2018, and the price has progressively decreased from USD 41.8/MWh for the first auction to USD 20.57/MWh for the third.
- At the end of 2017 the CRE published a new methodology for calculating the regulated rate for basic supply, which is now additive, reflecting the costs of the system. This new methodology has been gradually implemented for industrial consumption during 2018. Domestic consumption will remain with the old methodology indefinitely.

As an electricity operator in these countries, Iberdrola maintains a spirit of cooperation with regulators of the electricity supply systems to help define their growth, and will operate within the established regulations, defending the decarbonisation of the economy and supporting frameworks that expand free-market activities and market transparency and encourage required investments and efficient operations, through tariff schemes that send efficient signals to consumers and do not penalise them compared to other sources of energy.

For more information about the business environment and the main factors and trends in the markets in which the company operates, see the [Integrated Report. February 2019](#).

Nuclear plant decommissioning

Iberdrola is the only 100%-owner of a nuclear plant in Spain (Cofrentes). It also has interests in Almaraz I and II (52.69%) Trillo (49%), Vandellós II (28%) and Ascó II (15%), as indicated in the section “Scope of information of Chapter III. About this Report”.

According to Law 25/1964 on nuclear energy, the management of radioactive waste, including spent nuclear fuel, and the decommissioning and closing of the nuclear plants, is an essential public service reserved to the State, pursuant to article 128.2 of the Spanish Constitution. This



law vests Empresa Nacional de Residuos Radiactivos S.A. (Enresa) with the management of this public service.

Enresa prepares the *General Radioactive Waste Plan (Plan General de Residuos Radiactivos)* (PGRR), which is the basic reference document setting forth the strategies to be followed and activities to be carried out in Spain in the fields of radioactive waste management and plant decommissioning, together with the corresponding economic/financial study. The PGRR is sent to the Ministry of Ecological Transition (MITECO) with a 4-year frequency, or whenever the Ministry requires, for approval after a report of the Nuclear Safety Council, after hearing from the Autonomous Communities with respect to territorial and environmental ordinances. The first PGRR was adopted in 1987 and the sixth, approved in June 2006, is currently in force.

The financing system in Spain for PGRR activities is based on contributions from waste-generating entities called the “Fund for the Financing of the General Radioactive Waste Plan Activities”. The fund is managed by Enresa and includes provisions for the decommissioning of nuclear power plants.

Iberdrola makes contributions to the fund through a fee that is calculated by Enresa and approved by the government, which covers all management expenses relating to the management of the spent fuel and the radioactive waste generated at its plants, as well as the expenses corresponding to the decommissioning and closure thereof, as provided in the PGRR.

In addition, Iberdrola records a reserve on its balance sheet to cover the pre-decommissioning stage of its nuclear power plants. Pre-decommissioning means the period from the final cessation of operations of the plant and decommissioning approval, at which time ownership of the plant passes to Enresa. The current sixth PGRR establishes a period of 3 years for this stage.

Nuclenor, S.A., the company owning the Santa María de Garoña plant in which Iberdrola has a 50% interest, created a reserve for the pre-decommissioning to pay for the closure once commercial operation of the plant has ended and until Enresa takes ownership thereof.



Creation of employment and salaries

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 401 GRI 402

Policies and commitments

The professionals of the Iberdrola group form a global, multicultural, committed and qualified team that contributes to the sustainable creation of value with its work and talent.

The policies defined for the management of human resources contain guidelines governing labour relations among the various companies of the group and serve as a reference to define the company's employment-related goals: maintaining employment guarantees and a stable relationship with workers; strengthening of occupational health and safety and training aspects; protection of diversity and equal opportunity in access to employment; promotion of professional development; and promotion of behaviour and attitudes among its entire workforce in line with ethical principles.

Iberdrola has a [Human Resources Framework Policy](#), the purpose of which is to define, design and disseminate a human resources management model of the group that will allow it to obtain, promote and retain talent and encourage the personal and professional growth of all people belonging to the group's workforce, making them participants in the successful business enterprise and guaranteeing them a dignified and safe job.

This policy is further developed in the following specific policies:

- [Recruitment and Selection Policy](#)
- [Knowledge Management Policy](#)
- [Equal Opportunity and Reconciliation Policy](#)
- [Occupational Safety and Health Policy](#)

The key principles for the conservation of human capital are considered to be the design and implementation of frameworks for the management of human resources and labour relations that allow all employees to share in the group's success and promote the economic and social development thereof, thereby contributing to compliance with SDG 8 Decent Work and Economic Growth, and furthering competitiveness and business efficiency.



Principles of the Iberdrola group's business culture	
Satisfaction of legitimate expectations	Of all Stakeholders.
Financial and non-financial results	All of our actions must be focused on results.
Human capital	Invest in our largest asset, our employees.
Professionalism	For leaders, managers and/or technicians.
Multinational	Teams with different cultures and locations who work together.
Integration and commitment	To the organisation.
Communication	Open, transparent and systematic at all levels.

Objectives

In relations with its employees, Iberdrola has identified as especially significant issues:

- Culture: the strengthening of a group corporate culture.
- Integration: encouraging the integration of the people joining the group (Onboarding Programme).
- Recruitment: defining a basic recruitment model at the international level.
- Training: the implementation of an integrated training management system.
- Diversity: raising the awareness of our workforce with respect to diversity.

Our workforce

405-1

Employees in the workforce	2018		2017		2016	
	no.	%	no.	%	no.	%
By gender						
Men	26,117	77%	26,229	77%	25,925	76%
Women	7,961	23%	8,026	23%	8,157	24%
By age group						
Up to 30 years old	5,378	16%	4,924	14%	4,955	14%
Between 31 and 50 years old	19,512	57%	18,912	55%	18,541	55%
Over 50 years old	9,188	27%	10,419	31%	10,587	31%
By professional category						
Management team	830	2%	928	3%	854	2%
Middle managers and skilled technicians	14,240	42%	14,676	43%	16,589	49%
Skilled workers and support personnel	19,008	56%	18,651	54%	16,639	49%
Number of employees	34,078	100%	34,255	100%	34,082	100%

For reasons of confidentiality, in order to comply with the requirement established by the personal data protection laws in effect in each country, the information systems of the companies making up the Iberdrola group do not record their membership by ethnic group, religious group or any other diversity indicator. Information by geographic area can be found in Annex 1 Supplementary Information.



Subcontracted activities

EU17

To perform those activities that the company deems necessary to carry out at its facilities using subcontracted personnel, Iberdrola follows a procedure of executing services agreements defining the type of activities to be performed, and contractors are responsible for allocating and managing the resources required for the proper performance thereof.

To ensure that the subcontracted activities are performed in alignment with the values of the group, the subcontracted companies:

- Must be approved in accordance with the process described in the “Description of Supply Chain” section of this report, which takes into account both their technical performance and their labour, environmental and social practices.
- Must meet the requirements set forth in the [contracting terms of the group](#), which take into account financial and quality aspects as well as environmental, labour, health and safety, and social responsibility performance.

Under these terms and conditions, subcontractors, with a total of 10,772,560 days worked, manage their technical and human resources and Iberdrola supervises the subcontracted activities performed, and does not deem it necessary to keep statistics regarding subcontracted personnel, except as regards health and safety given the importance of these issues in the social area and because they are considered material topics.

New hires

GRI 202 401-1

At Iberdrola, we believe that the talent of our organisation is a fundamental part of ensuring the success of the organisation each day. It is for this reason that we join forces from all countries to attract and select professionals with the skills, knowledge and abilities aligned with the current and future values and needs of the company. We thus work in the critical areas to achieve this goal: attraction of talent, recruitment and selection, as well as the orientation and integration of new professionals.

As a global company, we have specific policies approved by the Board of Directors that regulate the selection activity ([Recruitment and Selection Policy](#) and the [Equal Opportunity and Reconciliation Policy](#)), as well as a master recruitment and selection process that applies at the global level. We also rely on local practices in order to ensure that the best and most diverse pool of talent is attracted and selected in line with activities appropriate to each specific territory and legal system.

In 2018, Iberdrola took various actions in this area, including the following:

- Attending job forums and holding talks and conferences with students to share the value of our company with youth, encouraging them to participate in our selection processes. Numerous activities were attended at various prestigious universities in the countries where Iberdrola has a presence, reaching a target audience of approximately 18,000 students.
- Restructuring of all of the company's pages on professional social media, the purpose of which is to attract talent and promote the brand as an employer.



- Revision and automation of the selection and on-boarding process with the upcoming inclusion in 2019 of a new software tool (*Success Factors*) that will help to improve the experience of internal and external candidates, employees, hiring managers and human resources teams.
- Extraction of key data from the selection and on-boarding process to detect areas for improvement in each process. This information is shared with the local Human Resources teams each month so that they can make comparisons with the other countries and have a global view of each indicator.
- At Iberdrola España and ScottishPower, there is a training course for the hiring managers who participate in the selection process, providing training in four modules: the selection process, impartiality in the process, labour regulations and skills-based interviews. With this training, we increase knowledge of the process and strengthen our policy whereby we always ensure the selection of the best candidate, always observing equality of opportunity and promoting non-discrimination.
- At Neoenergia, a feedback programme has been developed for professionals who participated in the process and have not been selected for the position in question, in order to improve for future candidates.
- Weekly email of vacancies published internally to the group of officers, department heads and team leaders to encourage mobility within the company, as well as for career development and personal and professional growth.

Actions to attract young talent

Especially noteworthy in this area is the Universities Program, *Iberdrola U*, which focuses its efforts on strengthening the relationship between the company and the academic world through a number of resources and activities aimed at attracting talent, transferring knowledge and contributing to our society.

Iberdrola has signed agreements for this purpose with major universities in the countries in which it has a presence.

- Massachusetts Institute of Technology (MIT) in the United States.
- Monterrey Technology Institute in Mexico.
- University of Strathclyde in the United Kingdom.
- Universidad Pontificia de Comillas and Universidad de Salamanca in Spain.
- Hamad bin Khalifa University in Qatar.

Iberdrola U currently reaches approximately 200,000 students, 20,000 professors and 1,500 scholarship fellows, and is based on five lines of action: support for university chairs, development of R&D projects, training through student scholarships, internal training of Iberdrola employees and support for young entrepreneurs.

Specifically, through the Young Entrepreneurs initiative, Iberdrola held 9 “hackathons” and “bootcamps” in 2017-2018 with the presence of 1,000 entrepreneurs and the help of more than 200 mentors. There were also 23 more workshops and more than 3,200 hours of mentoring were provided to the students.



There was also a continuation of the following projects:

- Training programmes at the company directed towards vocational students, as well as university students, in order to complete their education within the professional environment. In total, 544 vocational students and 858 university students throughout the world have had the opportunity to engage in training at Iberdrola Spain, ScottishPower, Avangrid, Neoenergia and Iberdrola Mexico.
- International scholarship programmes for master's studies, with which students obtain financial support to complete their studies. In 2018, Iberdrola granted 66 scholarships for Master's studies, with students from Brazil, Spain, Mexico, the United Kingdom and the United States having had the opportunity to study in different countries.
- Mentoring programmes for students from the Iberdrola scholarship programme, with which they can not only develop skills and abilities relevant to the professional area but also work towards their career goals.
- Continuation of the development plan of the junior professional program, in 2018 pursuant to which an extensive group of recent graduates were incorporated into different areas of the company in Mexico, Spain, the United Kingdom and the United States.

All of these scholarship programmes form part of the actions that Iberdrola has taken to attract young talent. The limited number of profiles make it difficult to achieve numerical equality with respect to gender in the hirings that occur in the industry. This is something on which Iberdrola is actively working, taking action at all of its subsidiaries to increase the attraction of women towards technical careers and thus increase the critical mass of available talent.

Finally, with a view to improving opportunities for internal selection, Iberdrola makes available to the group's professionals a unique employment channel, where each of them can view and apply to fill internal job vacancies that match their profile.

New hires	2018		2017		2016	
	Men	Women	Men	Women	Men	Women
By age, in numbers						
Up to 30 years old	1,351	377	1,012	295	962	281
Between 31 and 50 years old	1,235	328	1,353	318	771	290
Over 50 years old	87	35	189	43	108	22
By age¹⁷, in %						
Up to 30 years old	32.15	32.04	26.39	27.09	24.90	25.66
Between 31 and 50 years old	8.44	6.72	9.65	6.50	5.68	5.83
Over 50 years old	1.19	1.84	2.26	2.10	1.27	1.06
Total number	2,673	740	2,554	656	1,841	593
Total¹⁷ in %	10.23	9.30	9.74	8.17	7.10	7.27

202-2

Iberdrola's approach is to promote and favour the hiring of employees in the geographic boundaries within which it does business, also encouraging these individuals to reach executive positions in the corresponding companies. In 2018, 98.85% of executive officers at the companies of the group were local, defined as anyone with management responsibilities in the same geographic area as the one they come from, thus excluding professionals of other nationalities who are assigned there temporarily under an international mobility programme.

¹⁷ Of the headcount of this group at year end.



The management approaches described in the “Diversity and Equal Opportunity” and “Non-discrimination” sections of this report are applied to both remuneration as well as the selection of professionals. The current collective bargaining agreements at the companies of the Iberdrola group ensure equality in starting wages for men and women.

202-1

Entry level wage compared to legal minimum wage (%)	2018	2017	2016
Spain	136.54	140.72	150.63
United Kingdom	113.01	125.52	127.32
United States	146.00	125.00	137.50
Brazil	128.74	135.18	N/Av.
Mexico ¹⁸	449.12	464.09	480.24

Average remuneration (base plus variable salary) by age groups and gender

Iberdrola (EUR) ¹⁹	Remuneration men/ Remuneration women		Men		Women		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Up to 30 years old	92.7	98.0	22,208	25,076	23,953	25,579	22,591	25,188
Between 31 and 50 years old	89.1	94.5	42,685	46,569	47,882	49,299	43,991	47,287
More than 50 years old	111.0	110.2	67,787	68,259	61,064	61,914	66,378	66,973
Total	97.3	100.9	45,990	49,089	47,278	48,639	46,293	48,983

Average remuneration (base plus variable salary) by professional category

Iberdrola (EUR) ¹⁹	Total		
	2018	2017	2016
Management team ²⁰	119,185	124,675	123,497
Middle managers and skilled technicians	53,798	56,009	55,304
Skilled workers and support personnel	32,008	34,617	34,233
Total	46,293	48,983	49,360

¹⁸ In Mexico, the minimum wage is generally not used as a reference for market wages; it is applied in sanctions by the labour authority, fines and limits on tax deductibility.

¹⁹ Companies included: Iberdrola S.A., subsidiaries of: Iberdrola Spain, ScottishPower, Avangrid, Neenergia and Iberdrola Mexico.

²⁰ The management team includes up to the level of team leaders.



As regards the on-boarding and integration of new professionals, the new global on-boarding programme has been launched for a group of professionals who recently joined the company in Spain, the United Kingdom, the United States, Brazil and Mexico. This new programme is intended not only to facilitate their on-boarding and inclusion into the company, but also to strengthen their professional development. A new virtual itinerary has been created within this programme in “Landing Page” format which includes all elements that a new employee needs to land at Iberdrola. It has an orientation video, general information about Iberdrola, general courses on the energy business and specific courses on compliance, human rights, social responsibility and cybersecurity, among other topics. This bundling of orientation training is completed with other resources like a new section of the employee portal and a guide for managers.

Employee turnover

Personnel leaving the company ²¹	2018		2017		2016	
	Men	Women	Men	Women	Men	Women
By age, in numbers						
Up to 30 years old	293	117	242	113	254	106
Between 31 and 50 years old	839	317	638	288	614	242
Over 50 years old	1,694	382	1,072	336	1,063	216
By age²², in %						
Up to 30 years old	6.97	9.94	6.31	10.38	6.58	9.68
Between 31 and 50 years old	5.73	6.50	4.55	5.88	4.53	4.86
Over 50 years old	23.27	20.04	12.80	16.45	12.50	10.36
By seniority, in numbers						
Up to 10 years	925	320	810	308	766	293
Between 11 and 20 years	386	165	222	167	245	98
Over 20 years	1,515	331	920	262	920	173
By seniority²², in %						
Up to 10 years	7.59	8.06	6.18	7.18	6.12	7.37
Between 11 and 20 years	6.85	7.66	3.93	4.16	3.92	4.11
Over 20 years	18.28	18.01	12.32	10.90	11.20	9.64
Total number	2,826	816	1,952	737	1,931	564
Total²² in %	10.82	10.25	7.44	9.18	7.45	6.91

²¹ Information by geographic area can be found in Annex 1 Supplementary Information.

²² Of the headcount of this group at year end.



Turnover at the company ²³	2018	
	Men	Women
By age, in numbers		
Up to 30 years old	93	24
Between 31 and 50 years old	270	74
Over 50 years old	309	70
By age²⁴, in %		
Up to 30 years old	2.21	2.04
Between 31 and 50 years old	1.84	1.52
Over 50 years old	4.24	3.67
By seniority, in numbers		
Up to 10 years	248	70
Between 11 and 20 years	46	17
Over 20 years	378	81
By seniority²⁴, in %		
Up to 10 years	2.03	1.76
Between 11 and 20 years	0.82	0.69
Over 20 years	4.55	4.41
Total number	672	168
Total²⁴ in %	2.57	2.11

Average seniority of workforce (years) 2018	Men	Women	Total
Spain	20.60	15.81	19.64
United Kingdom	16.54	14.65	15.90
United States	14.16	13.84	14.07
Brazil	7.90	7.27	7.78
Mexico	6.39	4.56	6.05
Other countries	6.65	5.51	6.32
Iberdrola total	13.99	12.57	13.66

²³ Information by geographic area can be found in Annex 1 Supplementary Information.

²⁴ Of the headcount of this group at year end.



International mobility programmes

The Iberdrola group's global mobility programmes form part of the set of human resources tools that contribute to the development of talent, transmitting and strengthening the culture of the group and offering opportunities for professional growth in an international environment that attracts, motivates and retains the professionals who will ensure the sustainability of the business.

In 2018 these programmes were redefined to promote the creation of a global community of talent that contributes to attaining the group's objectives, to transmit and strengthen the company's culture and to offer opportunities for professional growth that attract, motivate and retain the professionals who will ensure the sustainability of our business. During the year, 425 employees participated in the group's international mobility programmes in their various forms.

2018 also saw the continuation of the *Job Swap Opportunity Program*, which seeks to facilitate development opportunities for the group's professionals, allowing them to face new professional challenges and responsibilities, thus increasing their global view and knowledge of the business, as well as generating more versatile profiles and strengthening mobility and internal communication. Through this programme, two employees have the opportunity to temporarily swap their positions for a period of 9 to 12 months, whether within the same organisation, within the same business, between business and corporate area or between different countries. In addition to continuing the *Job Swaps* programme initiated in 2017, 7 employees participated in this initiative at the global level during 2018.

Furthermore, in order to favour opportunities for internal promotion and international mobility, in 2018 there was continued use of the unique employment channel mentioned above, with the publication of 3,337 vacancies, 70% of which were filled internally.

Under the new homogeneity objectives in the Human Resources model, the management team of Iberdrola and its subsidiaries totals 783 people at year-end 2018, with a voluntary turnover rate of 1.75%.



Stable labour environment. Commitment to quality employment

Collective bargaining agreements

102-41

To properly frame labour relations, the companies of the Iberdrola group have collective bargaining agreements or specific equivalent agreements to govern aspects relating to the management of people.

Generally speaking, the collective bargaining agreements of the Iberdrola group apply to all employees working under an employment relationship and for the account of the companies of the group, regardless of the type of contract entered into, the professional group to which they are assigned, their occupation or the job performed.

However, issues relating to the corporate organisation, the law of each country or even usage and custom in each country lead to certain groups being expressly excluded from the scope of collective bargaining agreements (for example, executives in Spain are not covered by the agreement). This is why there is not 100% coverage, as indicated in the table below:

Employees covered by a collective bargaining agreement	2018	2017	2016
Number of employees	26,900	26,643	27,010
Percentage of employees	78.94	77.78	79.25

In the companies of the group there are 2 collective bargaining agreements in Spain, 3 in the United Kingdom, 12 in the United States, 11 in Brazil, 3 in Mexico, and 1 in the other countries. A breakdown by geographic area is available in Annex 1 Supplementary Information.

These agreements have specific monitoring mechanisms, such as the committees and sub-committees of the Collective Bargaining Agreement in Spain, the *ScottishPower Company Consultative and Negotiating Machinery Constitution* in the United Kingdom, *The Open Items Forum*, update meetings, safety expert panels, Strategic Safety Board and the *Joint Union Management Partnership Committee* in the United States, which serve to regulate labour, safety and health, and pension issues and consult with employees and with representatives on social matters within the company, as well as to ensure compliance with commitments made.

402-1

The different organisational changes and significant events that occur are officially reported in compliance with the various legal provisions that apply at both the global and the local level within the labour relations of the companies of the group. These notifications are made via the various channels and forums enabled for the purpose, such as monitoring committees formed by management and employee representatives, intranet, notices to interested parties, unions, etc.



- In Spain, organisational changes are governed by both the *Workers Statute* and by the collective bargaining agreements, and generally provide for a period of at least 15 days.
- In the United Kingdom, when a significant event occurs, interested parties are notified within a minimum period of 4 weeks, as provided by law as well as the collective bargaining agreements.
- In the United States, notice requirements are governed both by collective bargaining agreements and labour laws. When organisational change or significant events occur that may impact union employees, union leaders are routinely provided with advance notice.
- In Brazil, organisational changes at Elektro are governed by the collective bargaining agreement, which provides guidelines on how these changes should occur, always with prior notice to the union institutions. The deadline is defined by the area itself, depending on the type of operational change.
- In Mexico, significant operations are reflected in the collective bargaining agreements and notice is provided an average of two to three months in advance.

Benefits

401-2

Iberdrola offers a set of benefits to its employees, including:

- Life insurance
- Medical insurance
- Disability insurance
- Maternity/paternity leave
- Pension fund
- Remuneration in the form of company shares

Information by geographic area can be found in Annex 1 Supplementary Information.

For employees of companies party to the *7th Collective Bargaining Agreement* in Spain, ScottishPower, Avangrid, Neoenergia and Iberdrola Mexico, which represent 98% of the workforce, there are no significant differences between benefits provided to part-time employees and benefits provided to full-time employees.

201-3

The features of the contributions to pension plans at the various countries of the group are described below by country:

Spain

The companies signing the *7th Collective Bargaining Agreement* jointly sponsor a voluntary employee pension plan in which 98% of the workforce participates. The periodic contributions made under said Collective Bargaining Agreement are determined as a percentage of each employee's annual pensionable salary. Iberdrola does not have any unmet financial commitments pending with respect to this plan.

United Kingdom

98% of the workforce participate in the pension plans of the workforce in one form or another:

- The defined-benefit plan has two pension plan structures, based on company and seniority.
- The defined-contribution plan has a pension scheme that is based on a percentage of each employee's annual pensionable salary. This scheme is optional for employees and is co-funded by the company and employees.

United States

- The Networks Business has twelve defined-benefit plans, for which the company makes the contribution, with benefits being based on salary and years of service. It also has defined-contribution plans with distinct and separate operations. Employees can make contributions as a percentage of their pre-tax salary (generally up to 50%). Approximately 90% of the workforce are members of these defined-contribution plans.
- The Renewables Business has a corporate defined-benefit plan, with contributions assumed by the company and benefits determined based on salary and years of service. It also has a defined-contribution plan with three different types of company contributions. Employees can make contributions as a percentage of their pre-tax salary. 100% of the workforce are members of these defined-contribution plans.

Brazil

After the integration of all of the businesses of the company Elektro Holding into Neoenergia on 24 August 2017, the pension plan scheme is as follows:

- At Elektro, the Networks Business has a defined-benefit plan and a mixed plan (70% of salary as defined benefit and 30% as defined contribution). 83% of the workforce are members of both plans. For the companies of Elektro Holding, a defined-contribution plan was implemented by means of which employees may make contributions as a percentage of their salary, with the business contributing the same amount.
- The distributors Coelba, Celpe and Cosern have various defined-benefit plans and defined-contribution plans. 99% of the workforce are members of both plans.

Mexico

The commitments to the organised employees of Iberdrola Mexico, arising from the auctions by the Federal Electricity Commission, in which Iberdrola is required to apply a Collective Labour Agreement for organised staff, are provisioned as internal funds. A defined-contribution pension plan was implemented in 2015, with 60% of the non-organised workforce with pension plan rights signing up.

EU15

Employees eligible to retire	In the next 5 years (%)			In the next 10 years (%)		
	2018	2017	2016	2018	2017	2016
Iberdrola total	12.59	16.21	12.04	21.70	27.60	25.30

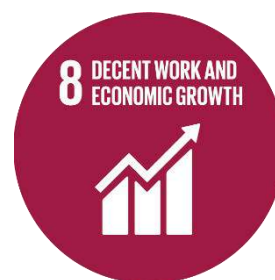
A breakdown by professional category and region can be found in Annex 1 Supplementary Information.



II.2.

Workplace Health & Safety and Personal Development





- A safe work environment
- Professional training and development
- Diversity and equal opportunity



A safe work environment

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 403

Policies and commitments

The [*Occupational Safety and Health Policy*](#), approved by the Board of Directors in 2007 and last amended in October 2018, describes the principles that should guide the behaviour of the group's companies in this area.

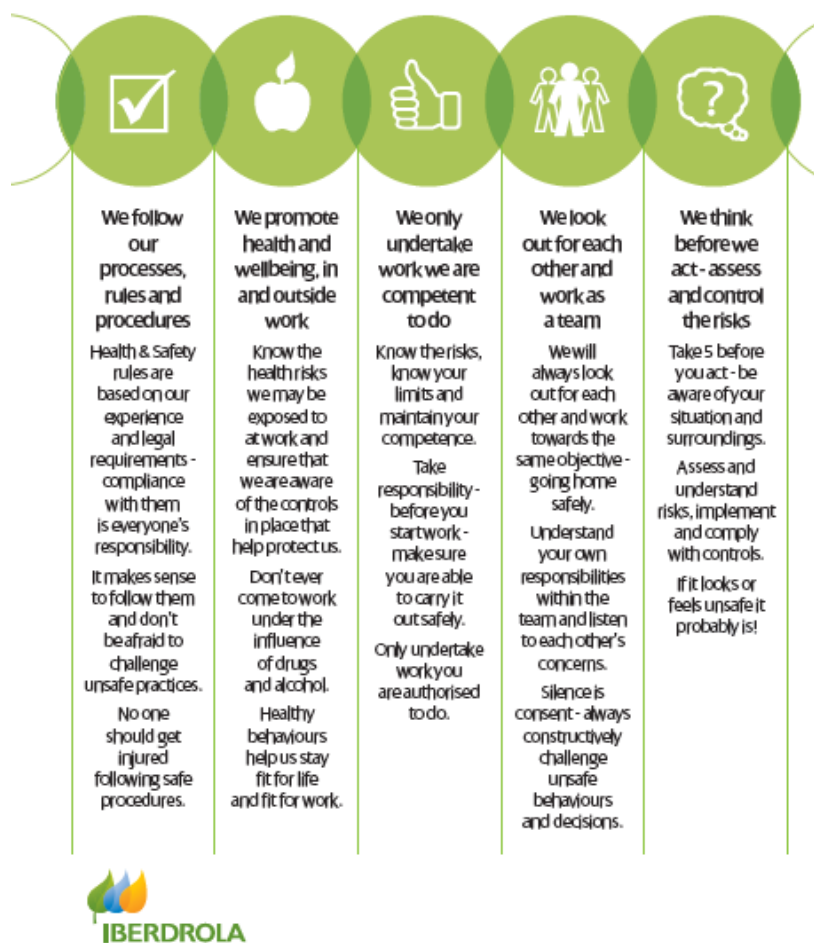
To reduce the number of accidents and improve workplace safety conditions, apart from this policy, Iberdrola also has a Global Occupational Safety and Health System, which is aligned with corporate policy and the strictest of international standards and incorporates the group's best practices from all of the countries where it has a presence.

This Global Occupational Safety and Health System is the group's tool for continuous improvement, whereby the lessons learned from all events that occur are used to create a global knowledge base to prevent them from being repeated in any part of the Iberdrola group. Furthermore, the System is based on the principle that the group's contractors are its collaborators, and Iberdrola involves them in its occupational safety culture.

In alignment with such Global System, group companies are equipped with specific procedures making up the respective local safety and health systems, which are implemented within each company and externally audited. These systems develop the principles that the company has adopted to ensure compliance with legal requirements and to comply with expectations for the ongoing improvement of activities in this area.



Our 5 Health & Safety Essentials...



The health and safety requirements established for the workforce are set forth in the collective bargaining agreement of each company (when applicable), in the procedures making up the Occupational Risk Prevention Management System, and in the internal regulations of each of the group's companies.

As regards contractors and subcontractors, the group's contracting terms, which can be found in the [contracting terms of the group](#) section of the website, specify the requirements to be met by firms wishing to participate in an award process. In addition, the particular conditions regarding occupational risk prevention are set forth in documents of specific requirements in each country, which are also contractual documents.

EU18

The company thus believes that 100% of the employees of subcontracted companies, regardless of their category, have received appropriate safety and hygiene training.

By way of example, the following are some of the safety and health requirements specified in the contracting terms that apply in all countries of the group:

- Subcontracted employees who have specific duties to monitor and control occupational risk prevention must provide evidence of having received the training established for such purpose under the law applicable thereto.



- Subcontracted employees shall have the necessary training to deal with the risks of the facilities and of the work to be performed.
- During the performance of the work or service, the contractor must adopt such measures as are necessary to comply with its obligations and those of the companies to which the contractor has subcontracted such work or services.
- The contractor shall be responsible for safety conditions during the period of execution of the works or performance of the service, as well as for any supplementary measures that are required for the proper performance of the subject matter of the contract.

Certifications

In the area of occupational risk prevention, the group has the following evaluation and monitoring mechanisms, which go beyond the legal requirements in each of the countries in which the group has a presence.

- The occupational health and safety management systems of the group's companies in Spain, the United Kingdom, Brazil²⁵, Mexico, Portugal, Greece, Hungary and Romania have OHSAS 18001 certification.
- In the United States, in 2018 UIL and Avangrid Renewables subsidiaries joined in the OHSAS 18001 certification already existing at Avangrid Networks since 2016.

Objectives

For financial year 2018, safety and health goals have been established for the entire group, as well as by country and by business, based on the improvement of accident rates, for both its own and contracted personnel, a continuation of annual planning, and the evaluation and implementation of improvements in management systems.

Particular goals have also been established for the businesses, such as obtaining or maintaining OHSAS 18001 certification, the creation of safe behaviour improvement plans, as well as the quantification of risk detection and of monitoring measures implemented.

Responsibilities

The main responsibility for taking preventive action lies with the company, and therefore, with its organisational hierarchy, which is required to introduce prevention standards, guidelines and policies into all of its activities and decisions, and across all levels of the organisation with executive or decision-making abilities.

In order to assist the company in achieving this end, there is a health and safety organisational structure made up of an Iberdrola Prevention Area within the Human Resources Division in most countries.

In accordance with the principle of integration of occupational risk prevention, the hierarchical/functional organisation of each company is entrusted with giving effect thereto and is responsible for complying with and enforcing health and safety rules within its area of activity.

²⁵ Neoenergia has a Safety and Health Management System that defines work procedures and instructions, which is available on its intranet. Elektro and the Wholesale and Retail and Renewables Businesses are certified under OHSAS18001. For companies included within Iberdrola's ownership for purposes of the Management System, Neoenergia plans to obtain OHSAS18001/ISO45001 Certification for the distributor Cosern by 2019, for the distributor Celpe by 2020 and for the distributor Coelba by 2021.



There was a strengthening in 2018 of the Global Health and Safety team, under the Human Resources Area, with the following duties:

- Exchange of good practices among all countries.
- Participation and leadership in the Distribution, Wholesale and Renewables GPGs.
- “*Global H&S Assessments*” programme (internal audits based on Iberdrola’s health and safety standards) in all countries.
- Launch of the “*5 essentials of safety*” campaign at the global level.
- Work with new Offshore Health and Safety team to establish the prevention management system.
- Subcontractors: Prepare and agree on “*Pre-qualification and Post-evaluation Procedure*” among the Health and Safety, Procurement and Businesses departments at the global level.
- Launch and management of “*Global Practice Groups*”.

Occupational safety and health committees

403-1 403-4

All companies of the group have occupational safety and health committees, under different names, to establish channels for consultation and participation with the employee representatives in this area, to monitor indicators, and to plan and take measures to correct deficiencies and to improve the Safety and Health System. The committees are described below by country:

Spain

In Spain, the companies that are signatories of the *7th Collective Bargaining Agreement* have a central committee that coordinates the activities of the thirty-seven local safety and health committees to which all work centres and administrative units are assigned. All were created in accordance with the Occupational Risk Prevention Act and are formed with equal representation between the company and the workers. These committees regularly consult with the workers’ representatives on all safety and health issues that affect them.

In 2018, the committees met on a quarterly basis and were the most important consultation and participation control bodies in the area of occupational risk prevention, as well as the forum where formal agreements on the matter were reached with the trade unions.

The Prevention Coordination Committees are responsible for the definition, promotion, coordination, monitoring and control of policies, standards, plans and activities in the area of occupational health and safety, among their management levels, hierarchical/functional organisation and the Prevention Service.

United Kingdom

At ScottishPower, a Health and Safety Committee is responsible for the strategy, the guidelines and management in this area. It is made up of members of each one of the management teams of the businesses and of the health and safety team, and meets quarterly. The committee is supported by the officers of each business, the Health and Safety Department and the Health and Safety Forums. The forums meet regularly and are made up of employees representing each of the businesses, members of the Health and Safety Department and worker representatives.



United States

There are various levels of safety committees representing 100% of the employees at Avangrid. The Health and Safety Committee is made up of the CEO and other officers and meets regularly to review strategic issues, performance and initiatives. At the Networks Business, the Executive Safety Committee and the Strategic Safety Board, along with the Safety Panels (committees made up of employees and safety experts) and the employee safety teams, review risk-related work and the safety activities that have been undertaken. Worker representatives and executives are also involved through their participation in the committees and safety meetings. At the Renewables Business, safety is reviewed regularly at the meeting of the executive committee and at the Central Committee with representatives of all the renewables plants to review the status of health and the achievement of the safety objectives in all regions.

During the pre-qualification project, all contractors of Avangrid are asked questions regarding the participation of their employees in health and safety committees and meetings. 74% of the high-risk contractors involved in operation and construction activities have Health and Safety committees, and 93% of the contractors have documented the safety meetings of their employees.

In the United States, leadership in health and safety has been strengthened with the following initiatives:

- Cintellate (accident management tool) implemented at Avangrid.
- Safety training for particular positions of responsibility at the company (“HOP” and “Leadership Training”).
- *Risk Reduction Plans.*

Brazil

Neoenergia has a Health and Safety Management System that defines work procedures and instructions, which is available on its intranet. All of the businesses are certified under OHSAS18001, except for the companies included within Iberdrola's ownership for purposes of the Management System, which is planned to be certified under OHSAS18001/ISO45001 by 2019 in the case of Cosern, 2020 for Celpe and 2021 for Coelba.

To ensure the evolution of a safety culture, the companies have a Safety Committee made up of the group's management team to join in strategic health and safety actions, which ensures the effectiveness of the activities and the communication of risk prevention actions as a value that informs all of its activities.

Apart from the seven local committees by business and company, the companies have more than 92 internal committees for the prevention of accidents, the latter of which are made up 50% of company representatives and 50% of worker representatives.



A “Zero Accident Plan” was implemented at Neoenergia in 2018, with the following lines of action:

- Improve the evaluation, supervision and monitoring of contractors.
- In-source key maintenance personnel.
- Strengthen the Occupational Risk Prevention leadership and culture.
- Improve training of internal staff on Occupational Risk Prevention.
- Strengthen operational procedures (operations in the electric system).
- Creation of internal procedure for giving notice of these improprieties to the government authorities - intensify record-keeping.
- Intensify public awareness campaigns.
- Investment to maintain and improve the grids (protection, insulation, etc.).

The number of fatal accidents among contractors in 2018 was considerably reduced in Brazil as a result of this programme.

Mexico

Iberdrola Mexico has a mixed safety and health committee at each facility, governed by the Mexican NOM-029-STPS standard and by the collective bargaining agreement. There is also a Safety Committee (COSE) made up of the heads of safety and environment at each facility and coordinated by the Generation Division. Organised workers have a collective bargaining agreement that deals with safety issues like EPIs, safety organisation, worker representation, handling of accidents and professional diseases, application of health and safety law, etc.

Other countries

In other countries the Renewables Business has safety management systems duly certified under OHSAS 18.001:2007, there are committees with the participation of the company and employees that deal with occurrences in the area of health and safety at the end of each month and reporting on noteworthy activities and plans for future actions.

The implementation of a prevention management system is commencing in the other countries of the Wholesale and Retail Business.

In house staff represented on health and safety committees (%)	2018	2017	2016
Iberdrola total	98.61	98.53²⁶	95.70

At contractors²⁷, 46% of the staff are represented on safety and health committees. Information by geographic area can be found in Annex 1 Supplementary Information.

²⁶ In Mexico, there has been a recalculation of the data from 2016 and 2017, including the Renewables and Engineering businesses.

²⁷ Does not include the United Kingdom, which will be included in the analysis in future years.

**Injury and absenteeism rates.****403-2**

Injury rate among group personnel ²⁸	2018	2017	2016
Number of accidents	399	455	472
Men	363	376	407
Women	36	79	65
With fatality	0	0	0
Men	0	0	0
Women	0	0	0
With leave	80	104	108
Men	75	101	96
Women	5	3	12
Without leave	319	341	364
Men	288	265	311
Women	31	76	53
Number of fatalities	0	0	0
Men	0	0	0
Women	0	0	0
Number of lost days	3.929	4,374²⁹	2,877
Men	3.806	4,318	2,534
Women	123	56	343
Injury rate (IR)	1.37	1.75	1.82
Men	2.26	2.20	2.12
Women	0.21	0.22	0.84
Severity index	0.07	0.07	0.05
Men	0.12	0.09	0.06
Women	0.01	0.00	0.02

²⁸ Methodology for calculating the indicators:

- Injury rate (IR) = (number of accidents with leave*1,000,000)/hours worked.
- Severity index = (number of calendar days lost per accident, as from first day of leave/hours worked)*1,000.

²⁹ In 2017 there was a lower number of accidents with leave but a higher mayor number of lost days.



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Absenteeism among group personnel ³⁰	2018	2017	2016
Number of missed days per year	13,981	11,447	15,734
Men	9,371	7,420	10,217
Women	4,610	4,027	5,517
Number of lost days	166,561	189,025	199,665
Men	109,612	125,955	130,461
Women	56,939	63,070	69,204
Number of lost hours	1,663,424	N/Av.	N/Av.
Men	1,109,664	N/Av.	N/Av.
Women	553,760	N/Av.	N/Av.
Absenteeism rate (AR)	4,615.21³¹	N/AV.	N/AV.

Information is provided by geographic area in Annex 1 Supplementary Information.

The table below shows the accident and absenteeism rates of subcontracted employees:

403-2

Injuries and absenteeism among subcontracted personnel	2018	2017	2016
Number of accidents	570	631	438
Men	549	614	N/Av.
Women	21	17	N/Av.
With fatality	3	13	4
Men	3	13	N/Av.
Women	0	0	N/Av.
With leave	174	309	268
Men	171	307	N/Av.
Women	3	2	N/Av.
Without leave	396	309	166³²
Men	378	294	N/Av.
Women	18	15	N/Av.
Number of fatalities	3	13	4
Men	3	13	N/Av.
Women	0	0	N/Av.
Number of lost days	9,661	11,927	10,194
Injury rate (IR)³³	1.72	3.10	2.70

³⁰ Absenteeism rate (AR) = (missed days due to absenteeism, as from first day of leave/days worked)*200,000.

³¹ The data for Spain and Mexico has been recalculated due to a change in methodology, the information for 2016 and 2017 cannot be recalculated due to a lack of data. Therefore, the information for Spain, Mexico and Iberdrola total is not comparable.

³² Does not contain information from Neoenergia.

³³ Injury rate (IR) = (number of accidents with leave*1,000,000)/hours worked.



As mentioned previously in this section, the number of fatal accidents among contractors in 2018 was considerably reduced in Brazil as a result of the implementation of the Zero Accident Plan at Neoenergia.

Management of health and safety is organised in accordance with the guidelines set out in the OHSAS 18001 standard, as described in the management approach for this section, ensuring that the group has monitoring and evaluation mechanisms in all operations that go beyond legal requirements.

Occupational diseases

The Iberdrola group's companies monitor the health of their employees for prevention purposes, using in-house or outsourced medical services that are responsible for monitoring the health of employees through regular medical check-ups.

In general terms, the group considers that employees are not exposed to specific occupational or work-related diseases in the course of their work that may be considered to have a high level of incidence or to carry a high risk.

403-3

Occupational disease rate (ODR) among own personnel ³⁴	2018	2017	2016
Men	0.01	0.03	0.00
Women	0.00	0.00	0.03
Total	0.01	0.02	0.01

³⁴ Methodology for calculating the indicators (per GRI standard):

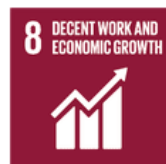
- Occupational disease rate (ODR) = (number of occupational disease cases/hours worked)*200,000.



Professional training and development

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 404

Policies and commitments

Iberdrola recognises the importance of intellectual capital to the company in its [Knowledge Management Policy](#). In implementing this policy, which is intended to disseminate and share the knowledge existing within the company by fostering ongoing learning and cultural exchange, Iberdrola reaffirms that the company's intellectual capital depends on its people, its operational and organisational structures, and its internal and external relationships with all Stakeholder groups. At Iberdrola, learning is thus permanent, ongoing and aligned with the strategy of the group.

At Iberdrola, training and development are considered to be a key factor to the success of the organisation. This understanding is embodied in the design of specific programmes to equip Iberdrola's professionals with the qualifications needed to perform their roles, and to foster a culture of development, value creation and ongoing improvement that allows them to assume new responsibilities in the future. These plans are validated by the heads of the businesses and by the Human Resources Division.

The commitments assumed with the start-up of these plans and programmes are summarised below:

- Alignment with the strategic goals of the company.
- Professional improvement for job performance.
- Better professional development, fostering personal advancement and employability.
- Adjustment of human resources to technological and organisational changes.
- Adaptation of new employees to the company.
- Ease of access to an international job framework.

Specific activities

Iberdrola's commitments to the training and development of its professionals extend to all professional categories, all levels of responsibility, and without distinction as to gender.

In 2018 we launched various global initiatives in the training management area:

- Definition of a global master process for training management in order to harmonise this management among all countries.



- Launch of a unique global learning and development portal, called Learning Meeting Point (LMP), so that employees can directly access all of these virtual training and development tools.
- Availability to employees of a new area with many freely accessible self-study resources in virtual format.
- Recognition of international mobility programmes as an instrument favouring the exchange of experience and knowledge, professional development, the firm establishment of a group culture, and employee retention.

404-2

The Iberdrola group believes that professional development contributes to achievement of the company's results and improving the efficiency of the organisation, by equipping employees with the skills and competencies they need to perform their work efficiently today and preparing them to undertake greater responsibilities and challenges in the future.

All of Iberdrola's training and development activities are based on the 70/20/10 learning model. This model is supported by the theory that 70% of a professional's learning comes from experience and on-the-job training, 20% is acquired through conversations with other people and evaluations, and only 10% comes from structured courses and programmes.

Other significant training and development activities during the year:

- The Iberdrola Campus has hosted numerous courses and development programmes in all knowledge areas and for all Iberdrola groups. It has also been the location of a large number of corporate events. These facilities have become a leading training centre for the company, and work is progressing on the second phase of the project.
- There has been a continuation of the language programmes, offering Spanish, English and Portuguese classes to employees from the different countries.
- Global initiatives relating to virtual training include the launch of the following courses for all employees: "Equality at Iberdrola", "Campaign against Cancer", "New European Data Protection Regulation (GDPR)", "Human Rights at Iberdrola", "Procurement Policy and Procedure", training seminars within "TEAMS (digital platform for collaborative work)", training seminars on "Climate Change", and training seminars on our *Code of Ethics*, among others.
- Iberdrola has various programmes aimed at those who have been identified as high-potential professionals, including the two-and-a-half year *MBA in the Global Energy Industry* offered by Universidad Pontificia de Comillas in Madrid and the Strathclyde University Business School in Glasgow. This is a global programme with participating professionals from Spain, the United States, the United Kingdom, Brazil and Mexico. In 2018 the third promotion successfully ended the second year of the programme and the selection process has been carried out for the fourth promotion, which will begin in January 2019.
- For technicians and middle managers, Iberdrola has a global skills-based development model implemented through a process that permits the formation of Personal Development Plans (PDPs) for these professionals. Through various development resources such as on-site activities, workshops, online resources or jobsite actions, the programme allows employees to work in annual periods on the development of their professional skills. Although each country locally adjusts to offer the development plans defined in the PDPs, it is important to note that the SAVIA programme (the programme



in which the PDP process takes shape in Spain) celebrated its 10th year in 2018, coinciding with its fourth edition.

In addition to the resources available in the skills-based development model, Iberdrola continued offering specific skills development programmes in 2018 to ensure that employees not only have the necessary training to perform their tasks efficiently but are prepared to assume new responsibilities in the future. These activities are provided locally and are adapted to the particular culture and characteristics of each country.

- Within the global process of evaluating leadership skills and identifying employee potential, there was a new analysis of the group in 2018. In this analysis, there has been another review of the group of talent to categorise the career plans of the high-potential group, the management group and the technical group. Another new development in 2018 was the definition of promotion goals, internal movement, job swaps and international mobility for the high-potential group, focusing not only on identifying this group, but also offering them challenges, and generating opportunities for learning through exposure to new experiences. In the area of talent management, there have been development meetings with professionals in the various countries in which Iberdrola has a presence in order to improve knowledge about their skills, interests, professional aspirations and development needs, all in order to determine the development activities to be carried out with each of them.
- The development activities include offering external Coaching to various professionals in Spain, the United Kingdom and the United States.
- There has been a continued application of mentoring within the two existing global programs, the *Early Career Global Program (ECGP)*, which is intended to help with the adjustment and integration of junior professionals from the United States, Mexico, Brazil and the United Kingdom to their new responsibilities in Spain, as well as to strengthen their professional development with the support of an internal mentor from the company, and the “50 Hires” programme. The scholarship students in our International Master’s Scholarship Program were also included in our mentoring programme in 2018.
- There has been work to consolidate a programme for new team managers in order to strengthen the abilities and skills required in the management of teams of these professionals in the first stages of their career. This programme has been globally designed but followed a local implementation in order to adapt it to the needs of each of the countries. It thus has different names based on the country involved: “DINAMO” in Spain, “*Leadership Fundamentals programme*” in the United Kingdom, “*AMP’D Leading People*” in the United States, “*Lidera*” in Brazil and “*Liber*” in Mexico. All of them have a modular structure combining different development resources such as visits to facilities, workshops and online resources, as well as jobsite activities.

2018 saw the continuation of various working sessions, mainly with ScottishPower, Avangrid, Neoen and Iberdrola Mexico, primarily in order to exchange knowledge, information and experience in the training and development areas. Along these lines, the Annual Development Meeting of the Executives and Talent area was held at the Iberdrola Campus in San Agustín de Guadalix (Madrid) in 2018.

Training for executives

The Executive Management and Talent Unit worked during 2018 on coordinating and supervising the global talent management process in the various countries; it also attends to all management training and development needs through the Management School, with the following noteworthy programmes conducted in 2018:



- *Energising Leadership Programme*, taught by ESADE Business School. Geared towards management trainees with high potential and/or executives who are beginning their careers. 2018 saw the 10th anniversary of the design and administration of this well-established programme in the catalogue of the Management School.
- *Leading in the Age of Disruption*, given by Financial Times – Instituto de Empresa CLA. This programme, held for the first time in 2018, allowed participants to be able to understand the context in which they are operating, how it affects the reality of the company, their environment and individual reality, and to discover what new skills they need as leaders to succeed in this new context.
- *Driving Leadership Transformation Programme*, jointly taught by IESE and IMD Business School. This programme is directed towards established executives who have a track record with the group and who have already taken the Global Leadership Programme. The main goal is to complete and strengthen previously-acquired knowledge.
- All countries have continued to provide various executive development programmes at the local level.
- Various executives from Spain, United Kingdom and the United States participated in their respective local coaching programmes.
- ScottishPower is readjusting its training and development catalogue for executives in accordance with the needs detected in the Climate Survey.
- Avangrid signed an agreement with Yale University to offer up to ten places in open executive development programmes.

404-1

Employees and hours of training by professional category and gender	2018		2017		2016	
	Men	Women	Men	Women	Men	Women
Hours of training						
Management team	19,504	5,871	21,477	5,225	19,734	4,766
Middle managers and skilled technicians	371,927	164,251	355,838	132,073	440,544	129,480
Skilled workers and support personnel	914,036	112,077	895,808	96,690	649,260	121,210
Total	1,305,467	282,199	1,273,123	233,988	1,109,538	255,456
Average hours of training per employee						
Management team	29.15	34.73	18.06	28.09	33.62	35.83
Middle managers and skilled technicians	36.71	35.54	33.55	26.96	40.46	33.22
Skilled workers and support personnel	56.49	33.74	56.16	30.16	51.92	55.40
Average	48.38	34.78	48.54	29.16	42.79	31.32

The differences between men and women are a result of the different specific training for the diverse professional profiles of the workforce, and are not due to discriminatory policy. Information by geographic area can be found in Annex 1 Supplementary Information.



Labour climate survey 2018

The Global Human Resources Division carried out a process of designing and unifying the commitment surveys of all the countries of the group in 2018, thus generating a single more effective model, since a single survey for the entire group allows for the sharing of results among countries, the plotting of action plans and the adoption of best global practices. The five countries participated in the design, with the support of an outside consultant.

The global surveys were gradually launched in the various countries from February to April 2018. There was an extensive communication campaign that was widely accepted, as 78% of the employees invited to participate answered the survey (25,744 of 32,981 invited employees). This high level of participation allowed for subsequent work with a very reliable database. The survey is 100% confidential, ensuring the anonymity of the respondents at all times.

Communication of the results to team leaders has increased their knowledge of their teams and of their management work. These results have led to the development of action plans to strengthen the more highly valued areas.

Employees receiving performance and career development reviews

404-3

As stated in Iberdrola's [Human Resources Framework Policy](#), employee performance evaluations and communication of the results thereof are considered to be fundamental aspects of their professional development. Some of the basic principles of conduct relating to this aspect described in said policy are:

- Perform periodic evaluations of the performance of the employees of the group.
- Communicate the results thereof to the employees evaluated so as to favour their professional development.

At the Iberdrola group, employees are included in formal performance review processes, which vary based on the internal level of the employees and their corresponding responsibility, as well as the country in which they are located.

Employees can be reviewed through two types of processes, based on the level of responsibility relating to their position:

Executive officers:

- Goals review ("What"): measurable, quantifiable and specific goals to be achieved over the course of the review period, relating to the goals of the company.
- Performance review ("How"): review of conduct during the achievement of the goals.

Employees who are not part of the management team:

- Performance review ("How"): employees are reviewed on the basis of a number of personal competencies.

These processes are based on a corporate SAP-based tool that allows management of the Human Resources processes relating to the review. In this way, all users involved in such processes (employee, evaluator and Human Resources team) can work in real time and globally. However, the main advantage of this tool is that it allows for the global handling of all participants, unifying the focus and applicable standards.



Employees with performance reviews (%)			
Men (%)	80.70	83.58	85.13
Management team	89.41	94.57	97.11
Middle managers and skilled technicians	93.21	96.20	98.23
Skilled workers and support personnel	72.64	74.91	73.13
Women (%)	83.28	86.00	86.18
Management team	85.22	90.10	98.14
Middle managers and skilled technicians	91.82	95.23	94.31
Skilled workers and support personnel	71.25	72.15	72.95
Iberdrola average	81.30	84.15	85.38

Information by geographic area can be found in Annex 1 Supplementary Information.

Diversity and equal opportunity

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 405

The development of labour relations based on equal opportunity, non-discrimination and respect for diversity are key goals of Iberdrola's [Human Resources Framework Policy](#) and [Equal Opportunity and Reconciliation Policy](#) approved by the Board of Directors, which promote the commitments of equal treatment between men and women and support for employees with diverse abilities, promoting their effective employment.

Diversity and inclusion: sum of cultures and talents

At Iberdrola, we work for cultural diversity and we take actions to raise awareness about functional diversity. The companies of the group are committed to the creation of an inclusive environment because each person can contribute their attributes, which entails great wealth. Thus, in the various countries in which it operates, the company promotes equal opportunity and respect diversity, effective equality between men and women in access to employment, training, promotion and working conditions, and provides support to workers with diverse abilities, facilitating their integration into the workplace.

Iberdrola has procedures in place to prevent any discrimination for reasons of race, colour, gender, language, religion, political opinion, national or social origin, social status, membership in an indigenous community, disability, health, marital status, pregnancy, sexual orientation or other personal condition that is unrelated to job-performance requirements.

The following specific activities should be noted:

- In the United Kingdom, ScottishPower has created 4 new employee networks: SP Connected Women, In-Fuse LGBT+, Future Connections and SP Carers, each of them



sponsored by a representative of the ScottishPower Management Committee. ScottishPower has also continued its collaboration with well-known entities such as Employers Network for Equality & Inclusion, Equate, Working Families, ENABLE, POWERful Women, Stonewall and Carer USA. The British subsidiary has once again sponsored the *National Diversity Conference of Scotland*, which brought together representatives from the business and educational world, as well as NGOs, in order to share ideas regarding diversity and encourage the organisations to create a more inclusive and diverse environment. At the conference, ScottishPower and other attendees offered some of their more positive experiences in this area. During the year, ScottishPower has offered workshops directed towards a group of senior leaders in order to define and spread awareness of the Diversity and Inclusion Strategy for 2019 and 2020.

- In the United States, Avangrid has continued its collaboration with various initiatives supporting diversity, like Troops to Energy jobs to foster the inclusion of veterans in the workforce; and it forms part of a consortium, along with other services companies, to discuss good practices to achieve this goal.
- As regards diversity in Spain, the group has held the *Hello/Hola* and *My Guest (Mi invitado)* cultural exchange programs for the children of employees in Spain, the United Kingdom and the United States.

Gender equality

Iberdrola's Corporate Governance System articulates the company's firm commitment to equal opportunities, from which derives the commitment to gender equality in four management areas: recruitment and selection, salary terms, professional training and development, and communication. Six areas of action are specified:

- Promote equality within and outside of Iberdrola.
- Analyse positive measures to correct inequalities.
- Ensure that women participate in all areas of consultation and decision-making.
- Eliminate career obstacles for women.
- Favour the professional development of women within the group.
- Encourage measures of reconciliation and flexibility under the perspective of gender parity.

Iberdrola has taken on the targets of SDG 5 "Gender Equality", and has therefore implemented a number of actions, policies and procedures that contribute to the achievement thereof both directly (through its corporate policy, which focuses on the creation of a favourable framework of labour relations based on equal opportunity, non-discrimination and respect for diversity) and indirectly (through awareness-raising and the promotion of equality outside of the organisation itself). Some specific examples for achieving SDG 5 are:

- Iberdrola promotes the reconciliation of professional and personal life, as well as parity in the performance of household chores, through the provision of facilities for the care of ill family members, children and flexible working hours. Iberdrola supports the concept of family co-responsibility.
- Iberdrola is decisively committed to equality in its governance bodies, as well as in positions of responsibility at the executive level.
- Iberdrola defends effective gender equality not only with the management of its human team, but also, for example, by supporting female sports and the selection of STEM (Science, Technology, Engineering and Mathematics) careers by young students.



WE PROMOTE EQUALITY-FOCUSED ACTIVITIES



We promote gender equality, ensuring that men and women have the same opportunities for personal development and growth.



Agreements with notable universities to achieve gender equality, goal number 5 of the Sustainable Development Goals approved by the United Nations.



Holding events to drive professional growth and leadership among women in the energy sector.



Structuring the recruitment process to avoid personal preferences. Job opportunities available to all staff through the employee portal.

The commitment to gender equality has progressed over the years and has materialised in various initiatives:

- In 2007 Iberdrola Spain introduced measures to support maternity by allowing pregnant women to have 15 days off prior to delivery and one year of reduced working hours at 100% salary, guaranteed.
- In 2008 Iberdrola Spain agreed with its workforce to make the shortened workday universal, which consisted of condensing the workday with no stop for lunch in order to leave the work centre early. The initiative, which was unprecedented at a large industrial company, was an inflection point in Spain, as it was the first in the country to attempt full work and family reconciliation.
- In 2016 Iberdrola's Board of Directors strengthened as a strategic objective the development of labour relations based on equal opportunity, non-discrimination and respect for diversity, as set out in the group's *Equal Opportunity and Reconciliation Policy*.
- At year-end 2018, 36% of Iberdrola's Board of Directors are women, which makes it one of the IBEX-35 companies with the largest number of women on the Board. The company has also committed to a woman as the new CEO of Iberdrola Spain to lead this subsidiary.
- Iberdrola has been included in the Bloomberg Gender-Equality (GEI) Index, which recognises companies that have policies favouring gender equality and best practices in the area of work/life balance. The company is the only Spanish energy company included in this index.

Iberdrola currently has various initiatives and collaborations with institutions that support respect for the principle of equality in both the private and public arena.

At the group level, the company is a member of the European Round Table, an initiative at the EU level bringing together 50 chairs and executive directors of European multinational companies in order to design and defend policies creating a strong, open and competitive European Union. Within this initiative, Iberdrola works in the Social Changes working group, focusing on issues relating to the European Union's most valuable resource, its people. One of its four action areas is the promotion of the representation of women in leadership positions, focused on monitoring figures and milestones mainly promoted and driven by the more than 50 members of the initiative.



Other examples of collaborations and initiatives in the main countries in which it operates are:

Spain

- To put the principle of diversity and equal opportunities into effect, the 7th Collective Bargaining Agreement includes an Equality Plan within the framework of labour relations (hiring, training, promotion, remuneration, etc.). Said Plan describes the numerous reconciliation measures made available to employees, which is a non-monetary supplement to remuneration.
- Sponsorship of the event "Commitment to equality with the UCM".
- Work with the Diversity Charter.
- Sponsorship of female sport through Women's Universe (*Universo Mujer*) (described as case study later in this section).
- Delivery of "Women Who Shine" awards.
- International Day for the Elimination of Violence against Women. To commemorate this day, Iberdrola, together with the Spanish Home Office (*Ministerio del Interior*) carried out the "Don't look the other way" campaign in order to raise awareness and work with all of society to stop this social disgrace. The initiative includes videos recorded with 360° technology showing various episodes of chauvinistic violence that turns the citizen viewer into the leading character in various events. This campaign has also been presented internally to the employees.

United Kingdom

- "Gender Pay Gap", a report describing the salary gap, has been published in the United Kingdom in compliance with British law. ScottishPower has also set a goal of exceeding 40% women in middle management positions and 30% women executives by 2022.
- In collaboration with Equate Scotland, there has been a launch of Women Returner, a comprehensive support programme for female employees with STEM careers who have been inactive for two or more years, whatever the reasons.
- Joining in a new coalition on gender diversity to increase the number of women at upper levels and as middle managers in the energy industry in the United Kingdom. The new coalition is made up of eight major companies in the industry.
- Member of Women's Engineering Society (WES), a professional network of women in the technology and engineering area that offers inspiration, support and development to future professionals in the field, and is a member of Employers Network for Equality and Inclusion and of Working Families.
- Organisation of an event in collaboration with two Scottish organisations to encourage children to select the scientific path with a view to attracting young women towards STEM careers.
- Member of POWERful Women (PFW), an organisation that promotes diversity in the energy sector, and of which ScottishPower's CEO is an ambassador. As a result of this collaboration, in 2018 ScottishPower joined a programme of tutoring and career support for 40 women in the industry.
- Participation in BITC's Opportunity Now campaign, in the National Women in Engineering Day, in Telegraph's Top 50 Women in Engineering campaign and in the "Top 50 Women in Engineering 2018" event.



United States

- Collaboration with universities and local organisations to promote diversity, including the WomENERGY programme, focused on discovering and strengthening the talent of women at Avangrid through an action plan to train future leaders of the company based on five main pillars:
 - o forging collaborations with associations promoting the role of women;
 - o emphasising future leaders, the girls of today;
 - o designing development, sponsorship and tutoring programmes;
 - o respecting and disseminating the value of diversity and inclusion; and
 - o creating networks for acquiring talent.

Brazil

- There has been a conference on female empowerment “Empodere-se”, which analyses the current challenges and victories of women, and the “Estrelas” even to celebrate Women’s Day, in which employees of Neoenergia gave a talk on female empowerment, as well as leading an internal campaign.
- The attraction of women to the electric market to balance gender presence is promoted through the “*Escola de Electricistas*”.
- There is also six-month maternity leave and the hiring of 24-hour legal, financial and psychological support professionals.

Mexico

- Organisation of the “*Mujeres con Energía*” event with the participation of a group of 40 women leaders from Iberdrola Mexico, which also had a “job and personal competitiveness” workshop given by the Instituto Tecnológico Autónomo de México (ITAM) and the sponsorship of female football.

Furthermore, in cases of discrimination or conduct that could in any way hinder the egalitarian development of the professional career of men and women, Iberdrola has implemented a number of measures in the form of corporate policies, local policies, working groups and monitoring.

At the local level, there is the Diversity and Equality Governance Committee in the United Kingdom and the Equal Opportunity Committee in Spain, the principal mission of which is to engage in an appropriate review of the measures implemented to ensure equal opportunities and non-discrimination. A policy against workplace sexual harassment, a policy promoting a non-discriminatory work environment, and a policy on equal employment opportunities have been implemented in the United States. A policy on equal remuneration has been defined in Brazil.



Defend salary equality

Salary equality

Iberdrola guarantees respect for this right and has made it one of the commitments included in the Equal Opportunity and Reconciliation Policy. Monitoring salary equality is one of the keys to ensure the creation of an inclusive and respectful culture without differentiation based on gender, age, race or any other personal factor.

The remunerative structure for all categories of professionals and responsibility levels within the group is designed under the standard of gender neutrality.

Difference between salary gap and salary equality

It is important to understand the difference between the concepts of salary gap and salary equality:

- The salary gap shows the difference between the average salary received by men and women.
- Salary equality is the right of men and women to receive the same salary for the same work.

There is no salary gap at the Iberdrola group

The average salary of men and women within the consolidated group is quite similar. The ratio between the salary of men and that of women was 97.3% in 2018 and 100.9% in 2017, allowing for the conclusion that there is no salary gap within the group.

The underlying cause of the salary gap at certain age groups is the smaller presence of females within the staff, a common situation in the energy sector, which is accentuated in management and technical positions. This reality is more notable due to the scarcity of women specialising in STEM careers.

To mitigate this reality, Iberdrola is working in the following areas:

- On equitable professional development through the implementation of specific training plans for women.
- On the promotion of scientific careers among youth and women students, who will go on to form part of the talent pool that Iberdrola will access in the future.
- On the promotion of measures of reconciliation that equally benefit men and women, so that they can exercise co-responsibility in family duties and thus establish the conditions required for parity.

Iberdrola's defense of salary equality in the last two decades and its commitment to the reduction of the salary gap is seen in the segmentation of average remuneration by age groups and gender.



405-2

Iberdrola ³⁵	Remuneration men/Remuneration women	
	2018	2017
Up to 30 years old	92.7	98.0
Between 31 and 50 years old	89.1	94.5
More than 50 years old	111.0	110.2
Total	97.3	100.9

Reconciliation of professional and personal life

The principles of conduct of the [Equal Opportunity and Reconciliation Policy](#) include the implementation of reconciliation measures that promote respect for the personal and family life of its professionals and facilitate the achievement of an optimal balance between the latter and the work responsibilities of both genders, particularly emphasising those intended to foster respect for the rest periods of its professionals and to avoid professional communications outside of working hours, when possible.

As stated above, it should be noted that in 2008 Iberdrola Spain agreed with its workforce to make the shortened workday universal. There are also various options offered in Spain for employees on non-school days like extra-curricular children's classes and summer camps for children of employees, especially taking into account those with different abilities. There has also been a continuation of the "Iberdrola Parents' School", which offers employees the opportunity to participate with their children in various programmes. There was the launch in 2018 of the first edition of the "Starters Bootcamp" programme, where adolescent children of employees had the opportunity to proactively and innovatively discover and develop key skills for their professional future at the San Agustín Campus.

In the United Kingdom, flexible work practices and policies have been implemented, promoting balance between work and non-work commitments. Apart from formal arrangements, flexible work without the limitations of formal arrangements is promoted, developing a culture of confidence and respect. This range of policies and practices includes:

- Improve leave and payment for caring for parents.
- Special leave for employees with responsibilities to care for third parties.
- Development leave for employees who want to take a career break.
- Health and well-being programme that offers a wide range of support and counselling regarding physical and mental well-being.

Avangrid also has the goal of facilitating the reconciliation of professional and personal life. Employees have access to needs-based flexible hours and tele-work options.

In Brazil, the companies of the Neoenergia group are concerned about the well-being of their colleagues, promoting reconciliation of personal and professional life. This includes an initiative in which all computers have a warning system that is activated after the 8-hour work period. Some companies of the group also have flexible working hours. Maternity leave is expanded to six months, two more than guaranteed by law. Some other benefits are: education incentives,

³⁵ Companies included: Iberdrola S.A., subsidiaries of: Iberdrola Spain, ScottishPower, Avangrid, Neoenergia and Iberdrola Mexico.



co-participation in academies and associations, discounts through the Neoenergia benefits club (*Clube Neo*).

At Iberdrola Mexico, the flexible work hours are available to the work force and vacation days beyond what is required by Mexican law are offered. The company allows for a reduced workday due to maternity or other family reasons. Employees are entitled to reduce their normal working hours by 1 hour during the breastfeeding period, at the beginning or end of the workday. All workers can enjoy a period of maternity leave prior to giving birth, and after the legal maternity leave employees are entitled to a leave of absence with the right to return to the job. Special working hours are given for maternity provided that the established number of hours are covered.

401-3

Leave and return to work due to paternity/maternity	2018		2017		2016	
	Men	Women	Men	Women	Men	Women
Employees entitled to maternity/paternity leave (no.)	26,117	7,961	26,229	8,026	25,925	8,157
Employees entitled to maternity/paternity leave (%)	100	100	100	100	100	100
Number of employees taking parental leave	441	444	345	440	434	463
Number of employees that returned to work after parental leave ended	516	366	363	349	N/Av.	N/Av.
Number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work	373	337	328	411	N/Av.	N/Av.
Return to work rate	117.01 ³⁶	82.34	105.22	79.32	N/Av.	N/Av.

Functional diversity

The main goals in this area during 2018 have focused on:

- The development of labour relations based on equal opportunity, non-discrimination and respect for diversity.
- The fostering of diversity and the social inclusion of vulnerable groups, particularly persons with diverse abilities, through the Corporate Volunteer Programme, which affords our employees an opportunity to participate in various solidarity initiatives to raise awareness of these groups and to improve the quality of their life. More detailed information can be found in the "Corporate volunteering programme" section of Chapter II.5.

To put the principle of diversity and equal opportunities into effect, in Spain the 7th Collective Bargaining Agreement includes an Equality Plan within the framework of labour relations (hiring, training, promotion, remuneration, etc.), which guarantees such principle. Within this Plan, an Equal Opportunity Committee has been created with the main mission of engaging in an appropriate review of the measures implemented to ensure equal opportunities and non-discrimination, and to encourage the inclusion of new activities in this area. A number of appropriate measures are also established for workers with disabilities in order for them to

³⁶ Greater than 100% because employees who were entitled to leave in 2017 returned to work in 2018.



adjust to and access the work position, based on the requirements and characteristics thereof and on the needs in each specific situation, which facilitates their integration.

In addition, in order to comply with the principle of non-discrimination for reasons of diverse abilities, arrangements were made to obtain disability certificates for those employees who applied for them. 75 families have also benefited from the Family Plan, which is intended to facilitate the social and workplace integration of family members with a disability who are the dependent of an employee.

In turn, Iberdrola continues collaboration with the Diversity Charter, of which it has been a signatory since 2009, and has the category of patron member; as such, it respects prevailing legal provisions in terms of equal opportunity and non-discrimination, and puts diversity policies into practice.

Finally, donations have been made to entities or foundations whose purpose is professional training, entry into the job market or the creation of employment for persons with disabilities; and contracts have been signed with special employment centres, in excess of the amount required by law for investment in alternative measures, thus promoting protected employment.

In the United Kingdom, ScottishPower wagers on policies supporting people with disabilities to help ensure equal opportunity in employment. It has received the Disability Confident Standard award and holds one of the highest positions in the Carers Scotland ranking. It also began work in 2018 with Enable Scotland and Strathclyde Business School to offer qualified training to disabled youths in order to facilitate their integration into the labour force. The British subsidiary offers them a total of eight days of mentoring at its offices, which has broadened their professional horizons. This collaboration was awarded *Best Learning & Development Initiative* during the annual *National Diversity Awards for Power*, as well as the *Youth Employment Award* during the *National Diversity Awards for Scotland 2018*. It has also continued its work with the Business Disability Forum.

In the United States, Avangrid has four specific diversity policies: equal opportunity in access to employment, support for disabled persons or disabled veterans, promotion of a non-discriminatory work environment and combating sexual harassment in the workplace.

In Brazil, Neoenergia has continued the "*Programa Novo Olhar*", a pilot project to promote the labour insertion of Down Syndrome youth at the company through a mentoring system.

Iberdrola Mexico has financial assistance for the children of employees with physical and/or mental disabilities in order to be able to achieve full integration into society.

The following table shows the number of disabled employees within the group:

Employees with disabilities 2018			
Iberdrola total ³⁷	257	145	402

³⁷ Does not include employees in the United Kingdom or United States. The company has chosen not to request this information in the United Kingdom. In the United States, the employee has the option not to report on their disability, and at year-end 2018 no employee decided to exercise their right to share this information.



Iberdrola, sponsor of women's sports in Spain

In 2016, after its agreement with the Ministry of Education, Culture and Sport, Iberdrola became the first company with a global commitment to encourage female participation in all areas of sport. It continues to promote equality through female sports within the framework of the [Women's Universe Programme](#), working with different national federations.

The main goals of this project are to promote gender equality, drive the success and practice of women's sport and foster healthy habits from a young age. The company has thus become the main driver behind the "Woman's Universe" programme to develop initiatives that contribute to improvement and social transformation through the values of female sports. In this context, Iberdrola was a pioneer in making a global commitment to promoting the participation of women in all areas of sport.

In 2018 Iberdrola renewed its commitment to support the various national federations, including:

- by promoting and increasing female participation in all areas of sport.
- by the existence of programmes to promote sport at the grassroots level and other social projects.
- by their extraordinary level of success achieved and high participation rate.

Specifically, support for 16 federations has been ratified: gymnastics, badminton, handball, boxing, ice sports, hockey, karate, swimming, rugby, canoeing, triathlon, table tennis, surfing, volleyball and football. Together with each of the federations, Iberdrola also supports activities to promote women's sport like educational campaigns at high schools and national competitions.

In 2018 Iberdrola also organised five stages of the [Women, Health and Sport Tour](#), touring various Spanish cities with the aim of promoting women's sport and transmitting the concepts of effort and improvement via the practice and exhibition of various disciplines.

In short, by supporting women's sports, Iberdrola reinforces its commitment to the promotion of talent, effective equality and social development, which form part of the company's key pillars. Its support for values such as teamwork and overcoming challenges materialises through various projects with the aim of reinforcing the social and cultural dimension of sport and activating support for women's sport.



II.3.

Fight against Climate Change and Protection of Biodiversity





- Iberdrola and sustainable management
- Efficiency in the use of natural resources
- Use of materials
- Efficiency in energy consumption
- Reduction of emissions
- Rational use of water
- Waste management
- Protection of biodiversity
- Environmental safety



Iberdrola and sustainable management

The fight against climate change and the protection of the environment are goals that define Iberdrola as a company, with leadership in the development of clean energy and respect for the environment being significant aspects of its business model, a competitive element that distinguishes it in the industry as one of the leading companies worldwide.

Corporate policies

Iberdrola has a [General Sustainable Development Policy](#) that is further developed in detail by four specific corporate policies for environmental management, all approved by the Board of Directors:

- [Sustainable Management Policy](#)

The group has transformed its business model in recent years to make it more sustainable, achieving development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

To continue leading this transformation, the group follows a strategy with the following main pillars:

- leadership in the fight against climate change,
- development of clean energies that contribute to the decarbonisation of the economy,
- development of products that are increasingly competitive, cause the lowest possible environmental impact and are capable of assuring its customers of reliable supply.

This *Sustainable Management Policy* reflects the main principles of conduct regarding management that all companies of the group must comply with and that are a framework of reference for achieving the Sustainable Development Goals (SDGs) approved by the United Nations, as well as certain commitments that affect specific areas of group activity.

- [Environmental Policy](#)

Iberdrola, aware of the importance of the environmental dimension in carrying out its business mission for its customers and shareholders and for other significant Stakeholders with whom it interacts, commits to promoting innovation in this field and eco-efficiency (reduction of the environmental impact per production unit), i.e. to gradually reduce the environmental impacts of their activities, facilities, products and services, as well as to offer, promote and investigate eco-efficient solutions within their market.

The group optimises the management of water and hazardous and non-hazardous waste through systems that set objectives and goals on, among other aspects, waste reduction, the use of best practices in water usage and the use of recycled materials, thus contributing to the transition towards a circular economy.

102-11

Iberdrola's [Environmental Policy](#) establishes company's the principles of environmental conduct, defining its commitments. They set out the precautionary principle in environmental matters. The practical application thereof is reflected in the wager on more efficient and cleaner technologies and processes that contribute to confronting climate change and other environmental challenges, with a precautionary approach that allows for greater respect



towards biodiversity and a more sustainable use of natural resources, from a broad circular economy perspective.

- [Policy against Climate Change](#)

Climate change is one of the most important challenges that humanity must face in the 21st century. The use of fossil fuels has caused a considerable increase in greenhouse gas emissions, which have accelerated global warming.

Iberdrola recognizes the seriousness of the threat that this global warming entails, which must be faced in a collective and coordinated manner by governments, multilateral agencies, the private sector and society as a whole.

Along these lines, the company commits to assuming a position of leadership in the fight against climate change, to promote a corporate culture focused on promoting awareness-raising among all of its Stakeholders regarding the magnitude of this challenge and the benefits associated with resolving it, identifying specific actions in the area of mitigation and adaptation.

This commitment is consistent with the goals of the Paris Agreement, with goal thirteen of the Sustainable Development Goals (SDGs) approved by the United Nations.

- [Biodiversity Policy](#)

The scientific community unanimously agrees in noting that there is currently a serious decline in biodiversity as well as a degradation of ecosystems. This loss of biodiversity, a direct consequence of the impact of human activities, is occurring more rapidly and generally, which entails serious environmental, economic and social risks.

Iberdrola is fully aware of these risks and of its responsibility as a leading company in the electricity sector, and works to adopt the measures allowing for the identification and eradication thereof, with a proactive attitude promoting biodiversity that goes beyond strategies of mitigating or containing damages.

Management of natural capital

The [Environmental Policy](#) contains the commitment to integrate the environmental dimension and respect for the natural environment into the strategy of the group. The company conceives of respect for the environment as one of the corporate values that determines its entire business strategy, as it is key to the configuration of a sustainable energy model.

The development of clean energy and investment in smart grids and in other energy efficiency technologies are the company's basis for protecting natural capital.

Iberdrola considers this environmental dimension as a priority in planning its businesses. This compels it to promote innovation, eco-efficiency and the gradual reduction of environmental impacts in the activities of the group, in order for energy to become a sustainable driver of the economy.

The commitment to renewable energy is the best way to approach this challenge, reducing the consumption of raw materials as well as the intensity of greenhouse gas emissions.

With a presence in disperse regions, especially due to its Networks and Renewables Businesses, the company also pays special attention to the protection of the biodiversity of the



habitats in which its facilities are located, as explained in the “Protection of biodiversity” section of this chapter.

Circular economy

In its commitment to the environment and sustainable development, Iberdrola considers the circular economy to be a pillar of sustainability. Since 2014 Iberdrola has included in its management a focus on the life cycle, which is the basis for the transition towards the circular economy.

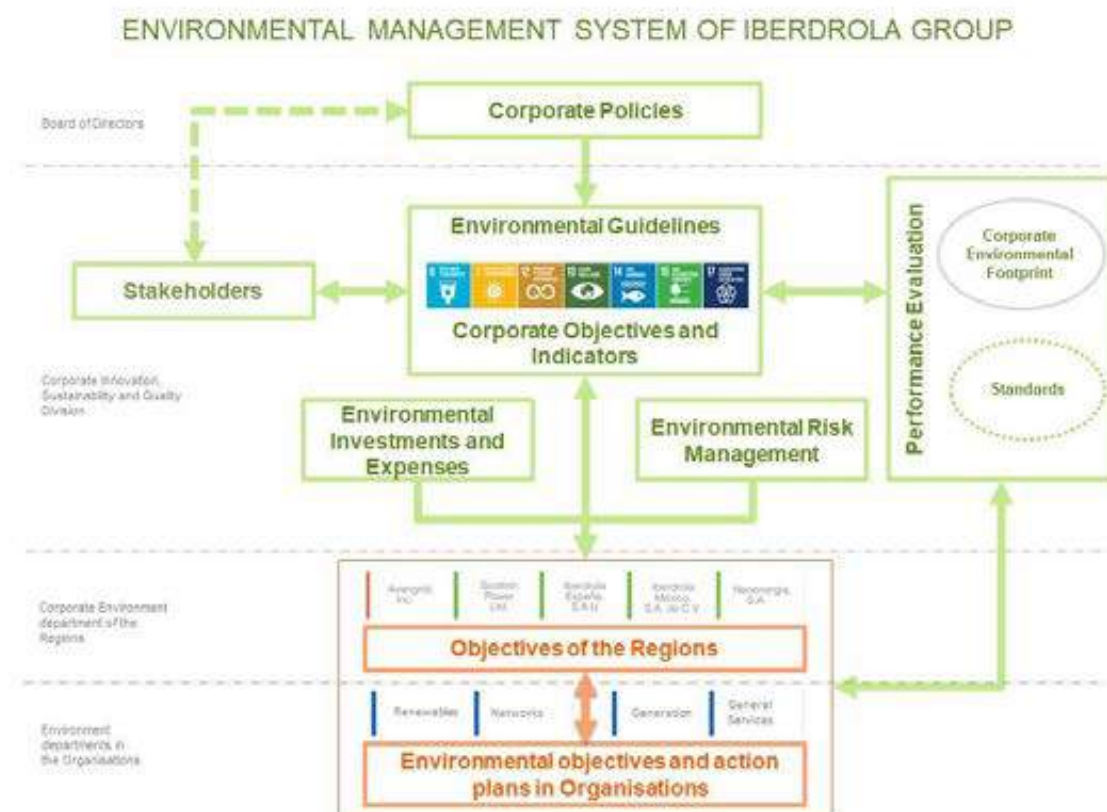
In 2017 Iberdrola signed the Spanish government’s circular economy agreement with the Ministry of Agriculture, Food and Environment (*Ministerio de Agricultura Alimentación y Medioambiente*) (MAPAMA), now Ministry for the Ecological Transition (*Ministerio para la Transición Ecológica*) (MITECO).

The group has committed to the circular economy, prioritising the reduction in intensity of resources, and wagering on decarbonisation and electrification of the economy, efficiency, R&D+i, digitalization, environmental traction and maximising waste recovery.

Environmental management system

The commitments made in the policies take shape in the Iberdrola group’s Environmental Management System. This system allows for alignment of the environmental dimension within the group’s sustainability model, integrating the Sustainable Development Goals and articulating the mechanisms to measure and evaluate the group’s environmental performance from the Life Cycle perspective, including in the management thereof the concept of circular economy and of natural capital.

The group’s Environmental Management System establishes a common, homogeneous, integrated and benchmark environmental framework for all of the Organisations. The system facilitates the development of an on-going, global and homogeneous diagnostic regarding the environmental behaviour of the company in each of its management levels.



The System thus translates the corporate environment policies into environmental guidelines, which are deployed by the organisations of Iberdrola in environmental objectives and targets. Environmental guidelines aligned with the SDGs that define Iberdrola's strategic environmental lines are:

- Protect the environment and stop the loss of biodiversity.
- Combat climate change and its effects.
- Guarantee sustainable modes of production and consumption.
- Revitalise partnerships with Stakeholders for sustainable development.

102-11

The precautionary principle set out in the *Environmental Policy* takes shape through its environmental management system. Through its Environmental Management System, Iberdrola thus identifies the environmental risks and opportunities of the group and manages them through specific instruments of prevention and mitigation of risks, and action plans for opportunities.

Apart from reducing environmental risks and identifying opportunities, the management system also contributes very positive aspects, including:



- Identification of environmental aspects throughout the entire life cycle and the impact thereof on the environment by calculating the Corporate Environmental Footprint (CEF).
- Exploitation of synergies between businesses and improvement of internal tools that result in a simplification of procedures.
- Improved environmental training and awareness-raising of employees. (A total of 12,537 hours of environmental training has been provided).
- Improved environmental training at suppliers.
- Strengthening of relations with Stakeholders.

The Iberdrola group's environmental management system is based on regional and organisational management systems for the various activities, businesses and regions of the group. The environmental function is thus distributed among all organisational and hierarchical levels of the group, from the Chairman's Office down to each person with local power over his or her surroundings. This complies with the "subsidiarity" principle of the *Environmental Policy*, pursuant to which all matters relating to the environment are dealt with and resolved in each region by the affected business, although they must all be included in Iberdrola's environmental management system.

Corporate Environmental Footprint (CEF)

Measurement of the global environmental performance of the group



Iberdrola's environmental management includes calculation of the CEF, which evaluates the effects of the company's activities on the environment from the lifecycle viewpoint (ISO/TS 14072:2014 standard). The objectives of the CEF are:

- To quantify, homogenise and unify the group's environmental performance.
- To determine the effect of Iberdrola's activities in the different environmental impact categories.
- To help monitor the organisation's environmental performance and allow for tracking of the objectives of the businesses and of environmental improvements.
- To identify and assess the environmental aspects having the greatest significance for Iberdrola's activities.

For more information, see [Iberdrola's Environmental Footprint](#).



Certifications

Iberdrola's environmental management system is a strong system under the premise of continuous improvement, demonstrated by means of various certifications and verifications based on international standards (ISO14001, EMAS, ISO14064), and always validated by leading certification firms. They are the following:

- ISO 14001. The group's environmental management system groups together all of the partial certifications of each of the businesses and processes. 73% of the group's energy production is under this certification. Apart from generation, the group also has distribution and retail sale as well as its buildings and services under this standard.
- Eco-Management and Audit Scheme (EMAS). The thermal generation plants of the group have certificates under this standard.
- ISO 14064. Iberdrola verifies its greenhouse gas emissions under this standard.
- ISO TS 14072. Iberdrola verifies its Corporate Environmental Footprint under this standard, and is the only company in the industry to obtain this verification certificate.
- ISO 20121. Sustainable Event Management. Iberdrola certifies its General Shareholders' Meeting with this standard.

More information is available in the [Certifications and Verifications](#) section of the website.

Expenses and investments

Iberdrola generally considers all expenses or investments regarding projects that have a clear environmental impact, whether direct or indirect, to be environmental expenses or investments, as classified below:

- Treatment of emissions, which includes expenses or investments relating to emissions treatment equipment or systems.
- Treatment of waste, which includes investments and expenses relating to the management and treatment of waste, both hazardous and non-hazardous.
- Reduction of environmental impact through the removal of pollution or pollutants from the environment, soil, groundwater, sediment or surface water.
- Environmental prevention, which considers investments in new renewable energy facilities.
- Environmental management, which encompasses investments and expenses relating to the management of the environment that are not included in the above categories.

All of this is aimed at emphasising environmental activities and initiatives, which are undertaken in order to move towards a more sustainable energy model.

The expenses and investments of an environmental nature made by Iberdrola during 2018 to preserve the environment of the area in which it operates are set forth in the following tables:

Environmental investments and expenses (€ thousand)	2018	2017	2016
Environmental investments	2,132,586	2,239,917	2,262,237
Environmental expenses	549,666	513,233	527,140



Reserves and insurance coverage for environmental risks

Iberdrola made 100 million euros of investments to prevent environmental risks (fires, spills, protection of avifauna, etc.) in 2018. It also makes accounting reserves to cover the materialisation of potential environmental risks.

Iberdrola also has coverage to cover the occurrence of environmental risks in the insurance that it has obtained. The main corporate insurance that the company has obtained with environmental coverage is:

- Environmental Liability Insurance: Contractual limit of 130 million euros per incident and in the aggregate per year.
- Civil Liability Coverage for Sudden Accidental Pollution in the general civil liability policy: Limit of 500 million euros per incident and in the aggregate per year.

Environmental Grievance Mechanisms

Iberdrola makes grievance mechanisms and tools and the management processes associated therewith available to its Stakeholders. All of this is described in the "Introduction" section of Chapter II.5.

Specifically focused on the environmental aspects of its activities, Iberdrola has an email mailbox medioambiente@iberdrola.es, which serves as a channel of communication with its Stakeholders, and which can be accessed in the [contact](#) section, offering the ability to ask questions, provide suggestions, place concerns or make complaints. The mailbox is included in the Environmental Management System of the company, and is certified under the ISO 14001 standard. 2,034 messages were received through this mailbox in 2018, of which only 3 were an environmental grievance, 2 of which were managed with those responsible and closed during the year. The third environmental grievance will be managed during 2019 as it was received at the end of December 2018.

In addition to the environment mailbox, and by way of supplement, Iberdrola can also receive messages relating to the environment through various channels that it maintains in [social media](#).



Efficiency in the use of natural resources

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Electricity generation is one of the main activities carried out within the group. Iberdrola has continued to wager for years on the most efficient technologies per unit of production, with the lowest environmental impact. This is reflected in the following activities:

- Commitment to the development of renewable sources, especially onshore wind, offshore wind and solar photovoltaic.
- Proposed closure of the last two coal plants (in 2018 coal generation represented 1.3% of the group's production), pursuing a business strategy of replacing conventional technologies with others offering production with lower emissions.
- Selection of products having a reduced environmental impact.
- Sustainable management and use of consumables, always respecting the natural environment and taking the necessary measures to reduce the risks of affecting it.
- Commitment to technologies with lower dependence on hydraulic resources.
- Sustainable management of water collected for cooling, optimising systems for reuse of water prior to return to the environment.



Use of materials

GRI 301

The consumption of fuel from non-renewable sources over the last three years is shown below:

301-1

Use of raw materials	2018	2017	2016
Coal (t)	736,670	1,205,609	1,746,457
Fuel (t)	44,155	48,376	45,117
Natural gas (Nm ³)	11,657,294,804	12,293,944,087 ³⁸	11,832,458,331
Gas-oil (m ³)	62,081 ³⁹	15,217 ³⁸	29,520
Uranium (kg)	44,625	65,407	56,915
Waste derived fuel (WDF) (t)	2,983	2,666	1,800

One can see the reduced weight of coal consumption in 2018, and a reduction thereof over the last 3 years as a result of the closing of the thermal coal generation facilities.

The use of waste derived fuel (WDF) represents 0.02% of all fuel consumed at thermal plants during the year. **301-2**

The use of fuel (%) during 2018 by country was as follows **301-1**:

Distribution of fuel consumption 2018 (%)	Coal	Fuel oil	Natural Gas	Gas oil	Uranium	WDF
Spain	100	100	13	7	100	100
United Kingdom	0	0	9	0	0	0
United States	0	0	5	0	0	0
Brazil	0	0	6	0	0	0
Mexico	0	0	68	93	0	0
Other countries	0	0	0	0	0	0

One can see that the consumption of gas is mainly concentrated in Mexico. In this country, the combined cycle gas plants have transitioned over the last decade from an electric system operated by the CFE and based on very old and polluting plants to a system highly weighted towards renewable sources, as provided by the industry reform they are undergoing. Iberdrola has a broad portfolio of renewable projects in the country, which portfolio continues to be developed.

Apart from fuels, there is also consumption to a much lesser extent of chemical products (in water purification, filtering of gases, etc.), oil and grease (as lubricants to maintain equipment) and office paper. As to this last consumable, it should be noted that implementation of electronic billing continued during 2018 in Spain and the United States, involving a savings of 474 t of paper compared to the prior year.

³⁸ Data recalculated with respect to the data published in 2017.

³⁹ Shutdowns of the plants in Mexico for maintenance work increased the use of gas-oil at those plants.



Efficiency in energy consumption

GRI 302

The Iberdrola group ensures optimisation in the use of energy throughout its entire energy chain (production, transmission, distribution, supply and end use), contemplating energy efficiency from a three-fold perspective:

- As an electricity generator and distributor, it seeks to improve efficiency by introducing the most advanced technologies, equipment and digitalization.
- As an energy consumer, Iberdrola promotes the on-going improvement of energy efficiency across all its activities (offices and buildings, vehicles, water, mobility, employee awareness, etc.).
- As an electricity supplier, it hopes to contribute to a more efficient use of energy by consumers, through information, promotion and supply of solutions and technologies that help them improve their energy efficiency and reduce the environmental impact of their energy habits and consumption.

Energy intensity

302-3

The intensity of fuel consumption at the thermal generation plants (tep/GWh) in relation to net output and the intensity of internal energy consumption is shown in the following two tables:

Fossil fuel consumption (tep/GWh) ⁴⁰	2018	2017	2016
Total	174	189⁴¹	189

Intensity of internal energy consumption (GJ/GWh)	2018	2017	2016
Total	2.75	3.26⁴¹	3.10

The energy intensity of the group has been reduced as a result of the growing weight of renewable production. It should be kept in mind that the variability of wind and hydroelectric resources as a result of climate factors might cause a slight uptick in intensity in certain years (in 2017, due to the drought in Spain), as explained by the following data:

⁴⁰ Conversion factor used: 1GJ= 0.023888889 Tep.

⁴¹ Data recalculated with respect to the data published in 2017.



Generation technologies	% energy output		
	2018	2017	2016
Renewables	42.4%	36.7%	39.6%
Onshore wind	25.1%	24.7%	23.1%
Offshore wind	1.1%	0.6%	0.0%
Hydroelectric	15.9%	11.4%	16.3%
Photovoltaic solar and other	0.3%	0.00%	0.2%
Nuclear	16.2%	16.9%	17%
Combined cycle	34.8%	39.3%	36%
Cogeneration	5.5%	5.0%	5%
Coal	1.1%	1.9%	3%

As seen in the table above, the increase in renewable generation and the decrease in combined cycle and thermal coal production has caused energy intensity to decrease by 15.6% since 2017.

Energy consumption within the organisation 302-1

Energy consumption within the organisation (internal consumption) includes the consumption of energy at all of the Iberdrola group's facilities, buildings and offices, and is calculated as:

Energy consumption within the organisation (GJ) = Fuel consumption + Energy purchased - Energy sold (non-renewable) - Steam sold.

The fuel consumption figure in terms of energy (GJ) is obtained from direct measurement of the fuel used at each facility based on its calorific value (NCV):

$$Consumption(GJ) = Fuel\ consumption\ (kg) \times PCI \left(\frac{MJ}{kg} \right) / 1000$$

The value of the energy purchased or sold is obtained by direct measurement at the facilities, buildings and offices.

$$Consumption(GJ) = \sum building/facility\ consumption\ (MWh) \times 3.6\ GJ/MWh$$



Energy consumption within the organisation in recent years is shown in the following table:

302-1

Energy consumption within the organisation (GJ) ⁴²	2018	2017	2016
Fuel consumption	705,935,390	760,201,810	764,386,296
By type of fuel			
Natural Gas	415,501,034	462,114,731	442,096,346
Uranium	265,340,801	262,902,924	274,800,068
Coal	20,786,260	33,020,919	45,338,800
Fuel-oil	1,801,267	1,899,317	1,919,103
Gas-oil	2,408,430	175,699	173,154
WDF	97,598	88,220	58,826
By type of technology			
Generating plants ⁴³	630,823,781	691,154,673	693,437,227
Cogeneration	74,427,358	68,440,622	69,893,794
Non-generating plants ⁴⁴	631,635	606,515	1,055,275
Energy purchased	11,154,560	11,664,660	13,951,277
Standby and pumping	10,443,459	10,886,544	13,096,768
Buildings	711,101	778,116	736,428
Energy sold (non-renewable)	301,836,963	312,791,322	309,683,361
Steam sold⁴⁵	14,694,432	18,527,684	26,484,009
Total⁴²	400,558,556	440,547,464	442,170,204

Reduction of energy consumption 302-4

Two fundamental blocks for reducing energy consumption are considered; on the one hand the energy savings from reduction in fuel consumption and on the other those associated with energy efficiency.

The consumption of fossil fuels for the generation of 237,008,460 GJ was avoided in 2018 through the generation of renewable energy and the supply of steam to industrial customers.

302-4

Reduction of energy consumption by the generation of renewable energy and steam				
Areas	Energy type	Energy saved (GJ)		
		2018	2017 ⁴⁶	2016
Renewables	Annual primary energy savings through the production of renewable energy	222,314,028	182,689,200	205,089,621
Cogeneration	Annual savings through the supply of heat energy (steam) within the group	14,694,432	18,511,200	26,484,009
Total		237,008,460	201,200,400	231,573,630

⁴² Energy consumption within the organisation (GJ) = Fuel consumption + Energy purchased - Energy sold (non-renewable) - Steam sold.

⁴³ Combined cycle, conventional thermal and nuclear plants.

⁴⁴ "Non-generating" facilities are Daldowie (thermal drying) and Hatfield (gas storage) in the United Kingdom.

⁴⁵ The reduction in the value of steam sold during 2017 is due to the sale of the cogeneration plants in Brazil.

⁴⁶ Data recalculated with respect to data published in 2017, decreased renewable generation and the sale of the cogeneration plant in Brazil.



The reduction in energy consumption is equal to the savings of primary (non-renewable) energy generated by the production of renewable energy and cogeneration. This value of the energy saved is obtained by direct measurement at the output terminals of the facilities.

$$Consumption(GJ) = \sum generation (MWh) \times 3.6 GJ/MWh$$

Various measures were implemented in 2018 to improve energy efficiency at buildings and infrastructure. The energy savings produced by these measures is presented below:

Reduction of energy consumption associated with increases in efficiency				
Areas	Item	Energy saved (GJ)		
		2018	2017	2016
Efficiency in the distribution network	Savings due to efficiency in the grid	2,824,279	4,273,557	2,337,062
Efficiency in generation	Savings due to efficiency improvement at plants	9,117	44,744 ⁴⁷	936
Efficiency at buildings	Savings due to efficiency at buildings	672	76,000	N/Av.
Total		2,834,068	4,318,301	2,337,998

Savings due to efficiency measures of the electricity grid

Energy savings from network efficiency derive from actions the company takes to control or reduce losses, including:

- Updates and modifications to reduce the length of lines through construction of new substations and increases in the power of existing substations, increases in voltage and improvement of power factor, implementation of remote management, and maintenance work.
- Improvements in contract management and supply point inspections: replacement of electromechanical meters with electronic meters, inspection of facilities and regulation of customers and clandestine connections.
- Increase in top-level reviews and strengthening of field activities with supply point inspections to reduce administrative and non-technical losses.

⁴⁷ The increase in savings over 2016 is due to the placement into service of more efficient equipment at the generating plants in 2017.



The table below shows transmission and distribution network losses:

EU12

Transmission and distribution network losses (%)	2018	2017	2016
Transmission			
United Kingdom	1.52	2.12 ⁴⁸	1.13
United States	4.68	4.72 ⁴⁹	4.71
Distribution			
Spain	6.60	6.70	6.89
United Kingdom	6.43	6.32	6.22
United States	5.25	3.59	4.79
Brazil ⁵⁰	13.21	12.24	12.46

Loss reduction programmes are implemented each year in all regions to improve the reliability and availability of the supply network, which has made it possible to reduce, or at least maintain in most cases, the level of losses.

Efficiency in thermal generation

As in prior years the company continues to take action to improve the efficiency of the plants, avoiding leaks, decreasing emissions, reducing internal consumption, optimising start-up time and procedure and installing recirculation systems, among other things. The calculation of savings from efficiency in generation is obtained by measuring the reduction in consumption of fuel by MWh due to the improvements made.

The table below shows the average performance of the thermal generation facilities:

EU11

Average performance ⁵¹ at thermal generation facilities (%)	2018	2017	2016
Combined cycle	54.22	53.57	51.82
Conventional thermal	34.28	34.38	33.00
Cogeneration	55.62	53.81	56.14
Total	53.83	52.76	51.08

Combined cycles, which are the most efficient thermal technology, represent 60% of the group's thermal production⁵², as derived from the information reported in the "Key operational figures" section of Chapter I "About Iberdrola" of this report.

Information on the average performance of the thermal generation facilities in the various countries is described Annex 1 Supplementary Information.

⁴⁸ Derived from surcharges on lines from adjustment due to closing of Longannet.

⁴⁹ 2017 and 2016 data recalculated due to new methodology.

⁵⁰ All Iberdrola group networks in Brazil are classified as distribution.

⁵¹ Average of efficiencies weighted by the annual production of each thermal power plant.

⁵² Includes nuclear generation.



Efficiency at buildings

Iberdrola continues to implement energy efficiency measures at the buildings and offices of the company all over the world. Energy audits of the buildings allow it to determine the actions to take at the buildings: optimising acclimatisation (heating and air conditioning) performance, improving thermal insulation, efficiency in the lighting of buildings, and automation of the facilities associated therewith.

The savings by application of these measures compared to the prior year was 672 GJ.

Reductions in energy requirements of products and services

Iberdrola fosters efficiency, gradually reducing the environmental impact of its products and services. It also offers advice to its customers, encouraging and researching eco-efficient solutions.

In addition to electricity and gas, Iberdrola sells new products and services to encourage energy and financial savings by its customers, efficiency, and care for the environment.

302-5

Energy savings of green products and services (GJ)	2018	2017	2016
Photovoltaic solar energy	20,336	1,899	605
Energy audits and plans	46,545 ⁵³	100,375	199,980
Gas maintenance service	875,326	790,441	809,507
Other savings and efficiency activities	99,970	158,113 ⁵⁴	87,459
Green energy supplied	42,700,000 ⁵⁵	49,874,302	51,764,036
Total	43,742,176	50,925,130	52,861,587

More information about these and other initiatives is available at the websites of [Spain](#), [Brazil](#), [United Kingdom](#), United States (through [NYSEG](#), [RG&E](#) and [CMP](#)) and [Portugal](#).

Energy consumption outside of the organisation **302-2**

The most significant consumption of energy outside of the organisation is consumption associated with the transport of fuel by motorway, with trips to/from work by group employees, and with business travel (planes and motorways). All of this information forms part of scope 3 of the calculation of greenhouse gas emissions. Energy consumption outside of the organisation is estimated based on the distances travelled by each means of transport and is transformed by means of conversion factors from official sources⁵⁶. The energy consumption for these items is around 847,440 GJ.

⁵³ The energy audits and plans are in effect for 5 years, giving rise to the reduction they produce

⁵⁴ Recalculated data.

⁵⁵ No data available from Brazil as at the date this report is issued.

⁵⁶ Defra: Department for Environment, Food and Rural Affairs (United Kingdom).



Reduction of emissions

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 305

Iberdrola recognises the fight against climate change as a strategic pillar of its activity in its corporate governance system, and has updated its [Policy against Climate Change](#) in 2018. To put this commitment into practice, Iberdrola has a climate action plan with various lines of action dealing with both mitigation and internal adaptation to climate change, its active participation in the global agenda, the promotion of a corporate culture focused on promoting awareness-raising and the engagement of all of its Stakeholders in this area. This work is coordinated through an internal working group, which integrates the various areas of the company involved in this area.

As part of its climate action, Iberdrola has ambitious emission reduction objectives that will bring us to be emission neutral by 2050 and which are recognised as Science Based Targets (SBTi). It also has an investment plan and innovation policies focused on decarbonisation of the energy mix and consolidating our leadership in renewable energy, smart grids and clean technology, and is progressing with its commitment to implement the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Furthermore, it is working to participate in domestic and international institutions, entities and events to support the definition of climate policies and promote the significant participation of the private sector, contributing with analyses and positions on decarbonisation strategies.

Iberdrola has once again registered its footprint with the Carbon Footprint, Carbon Offset and Carbon Dioxide Absorption Projects Register of the Spanish Ministry for Ecological Transition (*Ministerio para la Transición Ecológica*) (MITECO).

The main source of direct emissions, which contribute to the company's Greenhouse Gases (GHGs), is the emission of CO₂ arising from combustion at the thermal generation plants.

Other atmospheric emissions deriving from the combustion of fossil fuels are NO_x, SO₂ and particulates. These are trending downward thanks to improvements in combustion processes.

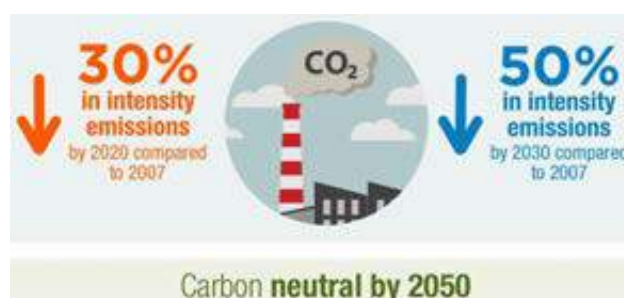
More information is available in the [climate change and emissions](#) section of the website.



Leaders against Climate Change

The electric industry plays a key role in achieving the purpose set out in the historic Paris Agreement to limit the increase in the planet's temperature to below 2° C. The Iberdrola group, a world leader in the fight against climate change (goal 13 of the Sustainable Development Goals (SDGs)) and an active participant in the various Climate Conferences, is fully aligned with this international agreement. Iberdrola is publicly committed to maintaining its position as one of the leading European companies with the lowest CO₂ emissions per kWh produced.

Iberdrola has thus set itself an environmental goal to reduce the intensity of its CO₂ emissions to 50% below those of 2007 (to below 150 grams of CO₂ per kWh) by 2030, and to be carbon-neutral by 2050. These goals have been recognised as being based on science in accordance with the Science Based Targets initiative (SBTi).



The strategy to achieve this target is based on gradually reducing the intensity of GHG emissions through a commitment to close its last two coal plants and continuing to pursue electricity generation based on renewable sources, progressively introducing more efficient and less carbon-intensive technologies at existing facilities, and improving the energy efficiency of its activities.

In its commitment to maintain a position of leadership in the fight against climate change, Iberdrola has established the following foundations for action:

FOUNDATIONS FOR CONDUCT
1. Contribute to the mitigation of climate change and to the decarbonisation of the energy model.
2. Support international climate change negotiation processes and significant private sector participation in the global agenda.
3. Maintain global leadership in renewable energy, smart grids and efficient technologies.
4. Integrate climate change into internal decision-making processes as well as in the analysis and management of long-term risks for the group.
5. Actively foment a culture that promotes the efficient and responsible use of energy.
6. Promote climate training and awareness-raising among stakeholders and the adoption by suppliers of similar policies.

68% of the group's total installed capacity was emission free by year-end 2018. Some of the milestones reached during the year include the conclusion of the STAR Project for digitalization of networks in Spain, the inauguration of the Wikinger offshore wind farm, which will avoid the annual emission of almost 600,000 tons of CO₂, and the sale of conventional generation assets in the United Kingdom, which makes ScottishPower the first 100% renewable energy company in this country.



Commitment and raising awareness against Climate Change

During 2018 Iberdrola has shown clear leadership in the private sector's participation in the principal milestones of the global climate agenda, including: the Katowice Climate Change Conference (COP 24), the events associated with the United Nations General Assembly, the activities of the *Marrakech Partnership for Global Climate Action* and the various phases of the *Talanoa Dialogue*.

The *Talanoa Dialogue* is a space for debate designed to encourage the participation of governments and civil society in the achievement of the climate goals agreed to at the 2015 Paris Conference. Iberdrola is the only Spanish company and the only energy company present at the debates both during the technical and political phase of this Dialogue, having also participated in the organisational sessions at the European level. On all these occasions, the company has offered a constructive view⁵⁷ regarding the opportunities arising from compliance with the climate goals through a sustainable energy model.

Iberdrola's support for an ambitious focus on decarbonisation of the economy became quite visible in a [public position paper](#) submitted by the *Corporate Leaders Group at the Climate Action Summit in San Francisco*. In this Declaration, its members (including Iberdrola) supported climate policy frameworks that will lead to an economy with net zero emissions by 2050. Support for this Declaration is in addition to a multitude of public positions within the framework of the various organisations with which we work (*We Mean Business*, *World Business Council for Sustainable Development*, *World Economic Forum*, etc.) and those promoted by governments or international bodies (e.g. the Support for the Electro-Mobility Declaration⁵⁸ launched by the COP Presidency).

In the area of awareness-raising, we know that fight against climate change, and all that it entails, is the work of all of us. Achieving it will require greater awareness and an increased disposition towards action by all of society's players. As part of this commitment, in 2016 Iberdrola included a *Plan to Raise Social Awareness on Climate Change* as an additional linchpin of its action for the climate, which it has since been carrying out with various activities directed towards different public audiences.

This plan consists of four main focus points for action to be implemented globally:

- 1) internal action directed towards employees,
- 2) external communication through the development of specific products, climate awareness-raising events and dissemination activities,
- 3) actions directed towards youth due to their particular importance as present and future consumers, and
- 4) establishment of alliances with the public and private sector as an accelerator and enhancer of action.

⁵⁷ Iberdrola's formal contribution to the Talanoa Dialogue is available at the following link: <https://unfccc.int/documents/65018>

⁵⁸ <https://cop24.gov.pl/PRESIDENCY/INITIATIVES/DRIVING-CHANGE-TOGETHER-PARTNERSHIP/>



The most notable activities performed during 2018 include:

- A global online course on climate change, its causes and solutions, which was completed by more than 16,150 employees by its close in June 2018.
- Together with the youth and student association AIESEC, we have carried out the Climate Volunteers programme, a revolutionary experience in which we gave the opportunity to 29 youth from the various countries in which Iberdrola does business to live a global volunteer experience, working on social projects relating to climate action in Brazil, Colombia and Costa Rica.
- On-site school workshops on climate change by Iberdrola volunteers, more than 150 of which were presented during the 17-18 school year, reaching approximately 6,000 students in Spain, Mexico and Brazil.
- Technical advice and support on the dissemination of the documentary "Vigilantes del Planeta" (Vigilantes for the Planet), which was broadcast on various Spanish television stations and in various countries of the Americas, and was seen by more than one million viewers in 2018.
- Collaboration with the Centro Superior de Estudios de la Defensa Nacional (CESEDEN) in preparing a Strategy Workbook focused on climate change and its impact on defence⁵⁹.

For the third consecutive year, the *Moving for Climate NOW* awareness-raising initiative took place, organised by Iberdrola and Red Española del Pacto Mundial (Spanish Global Compact Network). This third year, the electric bicycle route covered 650 km from Vienna to the Katowice COP24 conference, where the cycling team, made up of more than 40 people from various organisations and countries, delivered a statement with a call to action and climate aspirations to the authorities of the UN Climate Change Secretariat and of the COP24.

As a result of all these activities, the organisation InfluenceMap (a British non-profit organisation) has once again put Iberdrola in the A-List of positive global leaders on climate change in its 2018 report. InfluenceMap notes the active and positive pressure of Iberdrola on the energy and climate policies of the European Union, also noting its desire to reduce the EU's GHG emissions in line with the objectives of the Paris agreement, as well as to defend the financial instruments helping to finance the transition towards renewable energy.

Another recognition of this work was the award given to Iberdrola by the *Climate Reality Project Awards* in the "Companies" category for its valiant efforts in the fight against climate change and for putting this issue on the first line of the social agenda.

⁵⁹ http://www.ieee.es/en/publicaciones-new/cuadernos-de-estrategia/2018/Cuaderno_193.html?_locale=en



Intensity of greenhouse gas emissions

The intensity of CO₂ emissions is calculated based on direct emissions from the production facilities [see “Direct greenhouse gas emissions. Scope 1 (per GHG Protocol)” below] divided by the group’s net output, including steam. The following table shows this intensity.

305-4

Intensity of CO ₂ emissions	2018	2017	2016
Specific emissions from global mix (kg/MWh)	163	187	177
Specific emissions from global mix (kg/€) ⁶⁰	0.694	0.854	0.908

In 2018, CO₂ emissions per MWh generated remained among the lowest among domestic and international energy companies. It should be noted that Iberdrola’s emissions intensity in Spain was 82 kg/MWh in 2018.

Inventory of Greenhouse Gas Emissions (GHGs)

Iberdrola’s inventory of emissions is calculated using the emissions set forth in disclosures 305-1, 305-2 and 305-3. In April 2018, for the ninth consecutive year, Aenor verified Iberdrola’s greenhouse gas emissions inventory, covering the direct and indirect emissions from all activities, pursuant to the UNE ISO 14064-1:2006 standard.

Set forth below is the inventory (as of the date of approval of this report) to be submitted for verification in 2019 pursuant to the *Greenhouse Gas Protocol* of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI).

CO ₂ equivalent emissions to be verified in 2019 (t)	Spain	United Kingdom	United States	Brazil	Mexico	Total
Scope 1: Direct emissions	4,958,842	2,242,114	1,202,792	1,310,724	14,930,626	24,645,098
Scope 2: Indirect emissions	1,081,958	532,699	377,332	486,073	1,773	2,479,834
Scope 3: Other indirect emissions	1,581,743 ⁶¹	3,343,814	9,101,788	4,473,919	2,872,670	21,373,934

Updated information is available in the [Greenhouse Gas \(GHG\) Inventory](#) on the corporate website.

⁶⁰ Direct emissions from energy generation facilities (305-1) compared to net revenue in €.

⁶¹ Information on energy sold is not available as at the date of approval of this report.

**Direct greenhouse gas emissions. Scope 1 (per GHG Protocol)**

Direct emissions are those from sources of GHGs that are owned or controlled by the company. They include:

- Emissions from electric power generation facilities (fuel consumption).
- Emissions from non-generation facilities (storage of gas and sludge drying).
- Fugitive emissions of methane (CH₄) (storage and transport of natural gas).
- Fugitive emissions of sulphur hexafluoride (SF₆) in distribution networks.
- Emissions from facilities that provide services to buildings (fuel consumption).
- Emissions from mobile combustion sources, associated with road transport of employees with fleet vehicles for work purposes.

The emission factors used in calculating each of these emissions are obtained from official sources.

Iberdrola has reduced its direct emissions (Scope 1) by 8% over the last two years⁶² from 26,691,055 to 24,645,098 t CO_{2eq}. This is mainly due to the reduction of emissions at the thermal generation plants, which decreased 8.3% since 2016, as shown in the following table:

305-1

CO ₂ emissions at production facilities Scope 1 (t)	2018	2017	2016
Thermal generating plants ⁶³	20,329,419	23,027,444	22,812,513
Cogeneration	4,005,405	3,693,748	3,728,577
Total	24,334,824	26,721,192⁶⁴	26,541,089

68.2% of the group's installed capacity is emission-free. Direct emissions other than the above emissions from production facilities are less than 1% of the total of Scope 1.

305-1

Other Scope 1 emissions (t CO _{2eq}) in 2018	2018	Source of emission factors
Non-generation emissions (Gas storage and sludge drying)	44,858	DEFRA ⁶⁵ : United Kingdom.
CH₄ Fugitive Emissions (Gas storage and transmission)	178,519	IPCC ⁶⁶
SF₆ Fugitive Emissions (Electricity distribution)	35,340	IPCC
Emissions at buildings (Fuel consumption)	10,126	MITECO: Spain. DEFRA: United Kingdom, Mexico and Brazil. EPA ⁶⁷ : United States, Mexico and Brazil.
Emissions from mobile combustion (fleet vehicles)	30,181	DEFRA: Spain and United Kingdom. EPA: United States, Mexico and Brazil.
Total	299,024	

⁶² Considered the base year for calculating the greenhouse gas emissions inventory.

⁶³ The emissions data for the thermal generating plants includes the consumption of an auxiliary group of nuclear plants, which is not included in the breakdown of Annex 3.

⁶⁴ Data updated in the verification of the GHGs.

⁶⁵ DEFRA: Department for Environment, Food and Rural Affairs (United Kingdom).

⁶⁶ IPCC: Intergovernmental Panel on Climate Change.

⁶⁷ EPA: Environmental Protection Agency (United States).



For more information, go to the [climate change and emissions](#) section of the corporate website.

Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol)

Indirect emissions are those emissions deriving from the company's activity but generated by other entities, including emissions from the generation of electricity acquired for the company's consumption. These emissions are:

- Emissions associated with the consumption of electric energy by standby systems during shutdowns at the thermal, renewable and nuclear plants and during pumping at the hydroelectric plants.
- Emissions associated with the consumption of electricity in buildings.
- Emissions associated with network losses.

The emission factor of the generation mix of the respective country is used to calculate CO₂.

- Spain: Red Eléctrica de España
- United Kingdom: DEFRA
- United States: U.S. Energy Information Administration
- Mexico: SEMARNAT⁶⁸
- Brazil: Ministry of Science, Technology and Innovation for Brazil

There will be work in 2019 on the additional calculation of the footprint according to the "market based" methodology as requested by some environmental experts.

Iberdrola has reduced its direct emissions (Scope 2) by 45% over the last two years⁶⁹ from 4,503,670 t CO_{2eq} to 2,479,834 t CO_{2eq}. This is mainly due to the improvement in efficiency of the facilities and distribution networks made in recent years.

305-2

Scope 2 emissions (t CO _{2eq})	2018	2017 ⁷⁰	2016
Emissions associated with network losses.	1,763,941	2,464,981	3,714,179
Emissions from consumption of electric energy during shutdowns and pumping	666,791	897,732	749,628
Emissions associated with the consumption of electricity in buildings	49,101	52,484	39,863
Total	2,479,834	3,415,197	4,503,670

More information is available in the [GHG Report](#), which is audited annually under the ISO 14064 standard.

Other indirect greenhouse gas emissions. Scope 3 (per GHG Protocol)

Iberdrola has incorporated the life cycle perspective into its management model, which includes knowledge of the long-term impacts of the value chain. New elements are thus included each year in the calculation of its Scope 3, indirect emissions that are a result of the company's activities at sources not owned or controlled thereby. They include the following:

⁶⁸ SEMARNAT: Secretaría de Medio Ambiente y Recursos Naturales (Secretary of the Environment and Natural Resources) in Mexico.

⁶⁹ Considered the base year for calculating the greenhouse gas emissions inventory.

⁷⁰ Data updated since those published in the 2017 Sustainability Report according to audit performed in 2018.



- Emissions associated with the transport of employees for work purposes (hire vehicles and personal vehicles, planes, trains and ferries) (Category 7 GHG Protocol).
- Emissions associated with the transport of employees *in itinere*, from their home to their work place (Category 6 GHG Protocol).
- Emissions associated with the transport of fuel (Category 4 GHG Protocol).
- Emissions associated with the supply chain (Category 1 and 2 GHG Protocol).
- Emissions associated with energy purchased from third parties for sale to end customer (Category 3 Activity D GHG Protocol).
- Emissions arising from upstream (suppliers) and downstream (customers) activities (Category 3 Activity A GHG Protocol). Excludes transport of fuel, as this is specified in Category 4 and emissions scope 1 and 2.

The emission factors used in calculating each of these emissions are obtained from official sources. More information is available in the [GHG Report](#), which is audited annually under the ISO 14064 standard.

Scope 3 emissions were the following in 2018:

305-3

Scope 3 emissions (t CO _{2eq})	2018	2017	2016
Emissions from employee business travel	15,907	21,033	15,311
Emissions associated with the transport of fuel ⁷¹	71,290	92,167	88,743
Emissions associated with the supply chain ⁷²	1,789,382	1,636,912	705,499
Emissions associated with the transport of employees from their home to their work place ⁷³	62,288	79,703	70,495
Emissions associated with energy purchased from third parties for sale to end customer ⁷⁴	15,864,855	18,761,881	17,457,573
Upstream (WTT) emissions from fuel acquired and consumed	3,570,211	3,893,731	N/Av.
Total	21,373,934	24,485,427	18,337,621

Emissions from employee travel per employee in 2018 were 0.45 t CO_{2eq}.

⁷¹ Calculated for the transport of fuel by motorway, train and ship. Fuel transport activities in 2018 only occurred in Spain.

⁷² Estimated based on the Supplier Awareness and Greenhouse Gas Measurement Campaign that Iberdrola sends to the group's suppliers.

⁷³ Estimated using a survey is sent each year to the employees of the Iberdrola group in order to record their emissions through an emissions calculation tool.

⁷⁴ The energy purchased for sale to the end customer is calculated based on the difference between the energy supplied at market prices and the internally produced energy. The emissions from such energy result from CO₂ emissions obtained by applying the emission factor of the generation mix of the corresponding country and adding it to the upstream emissions of such energy, using the DEFRA WTT (Well To Tank) emission factor.



Reduction of GHG emissions

Initiatives to reduce emissions are undertaken through a broad range of products and services promoting energy efficiency and savings. Some examples of actions taken in 2018 are given below:

305-5

Areas	Actions and initiatives	CO ₂ avoided 2018 (t)
Renewables	Primary energy savings through the production of renewable energy	16,122,652
Cogeneration	Savings through the supply of heat energy (steam) within the group	559,326
Network efficiency	Savings from distribution network efficiency in Spain, the United Kingdom and Brazil	114,023
Commercial	Energy savings and efficiency from green products and services (Spain, United States and Brazil)	2,683,218
Group	Use of videoconferencing (t CO _{2eq})	5,450
Total		19,484,669

There were 50,923 videoconferences in 2018 that avoided employee travel, entailing a reduction of approximately 5,450 t of CO_{2eq}.

In total, the emission of 19,484,669 t CO₂ was avoided, equal to the amount of CO₂ absorbed by 975 million trees over the course of a year⁷⁵.

The operating regimen of the group's production facilities led to the level of CO₂ emissions described in the section "Direct greenhouse gas emissions. Scope 1 (per GHG Protocol)". The section "Reduction of energy consumption"⁷⁶ and "Direct greenhouse gas emissions. Scope 2 (per GHG Protocol)" provide additional information in this area.

⁷⁵ The estimated amount of CO₂ absorbed by an average tree 20 kg. of CO₂ per year.

⁷⁶ In addition to the reductions described in "Reduction of energy consumption", the group's nuclear production prevented emissions of 5,089,685 t CO₂, taking into account the emission mix. Source: RRE.

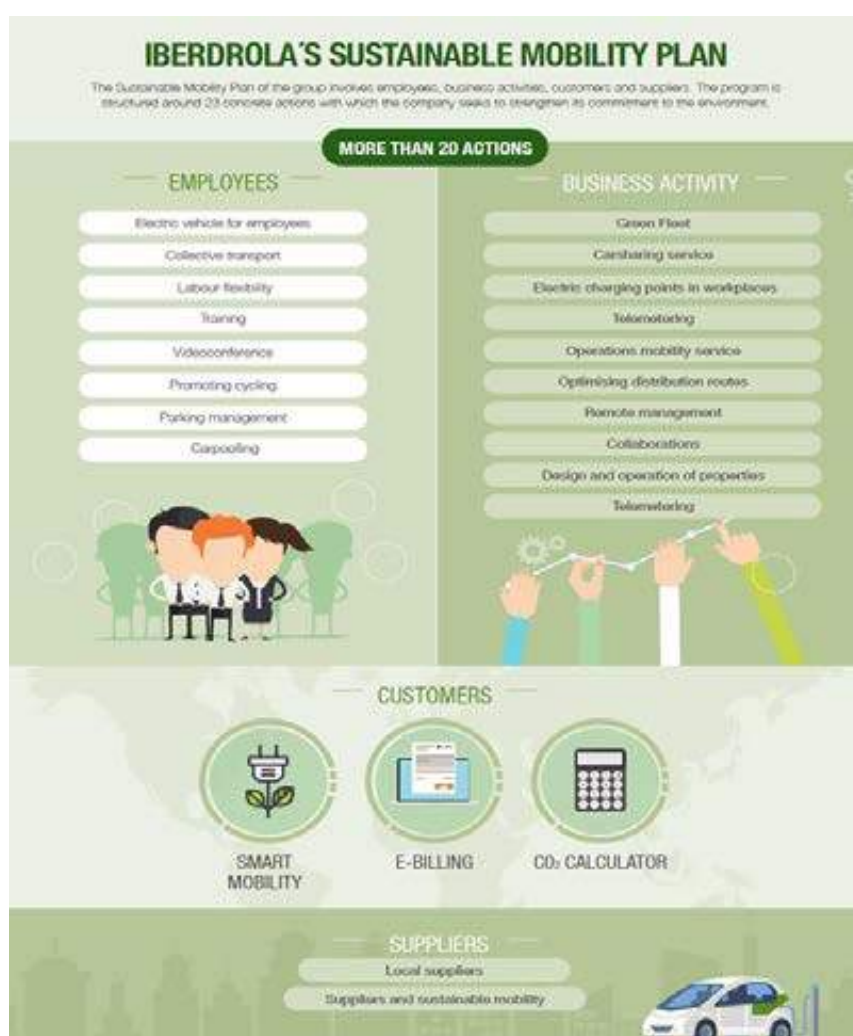


Sustainable Mobility Plan for employees

A Sustainable Mobility Plan has been developed in order to reduce emissions relating to employee travel and travel from home to work, contributing to a rational use of the means of transport. This plan is included in the commitment made by the company in its [Sustainable Management Policy](#).

The inclusive nature of the programme involves employees, the business activity, customers and suppliers, covering approximately 23 specific actions in which the company seeks to strengthen its wager on sustainability.

These initiatives include Iberdrola's launch of a new edition of the *Electric Vehicle for Employees* programme in Spain and the United Kingdom and the pilot project launch in the United States, which consists of special advances and financial assistance for the purchase of electric vehicles. Thanks to this initiative, the local emission of 277 t CO_{2e} in employee travel to the work place in Spain and the United Kingdom was avoided in 2018.





Allocation of CO₂ emissions allowances or equivalent

EU5

Only the generation facilities located in Europe are subject to an emission rights trading system, for which reason this indicator does not affect the thermal generation facilities in Mexico, Brazil or the United States.

The facilities located in Europe (Spain and United Kingdom) have not received free trading rights since 2013, for which reason they have to acquire the necessary rights at auction to offset the emissions produced.

Only the Tarragona Power facility has been assigned 24,394 emissions rights, within the emissions trading system (ETS) market.

After closing its last coal plant in the United Kingdom, Iberdrola also intends to close the last two coal facilities that are currently in operation in Spain.

Other atmospheric emissions

305-7

Emissions⁷⁷ of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and particulate matter are also created by the burning of fossil fuels. The changes in the generation profile discussed in the emissions section tends to reduce them with the incorporation of renewable energy and the support of modern technologies for monitoring combined cycles. This management focus is supplemented with a plan to invest in improvements in the combustion process and in the dismantling of less environmentally-efficient units.

To comply with *Directive 2001/80/CE*, which limits the atmospheric emissions of SO₂, NO_x and particulates from large combustion facilities, investments have been made in combustion control systems at the thermal plants, both in Spain and the United Kingdom.

Emissions of oxides of nitrogen (NO_x)

NO _x emissions (t)	2018	2017	2016
Generating plants	6,549	7,613 ⁷⁸	12,934
Cogeneration	6,202	8,539	8,037
Total	12,751	16,152	20,971

Intensity of NO _x emissions (kg/MWh)	2018	2017	2016
Specific emissions from global mix	0.085	0.113	0.140

⁷⁷ These emissions are obtained either by direct measurement or through conversions of fuel consumption using emission factors from official sources.

⁷⁸ The reduction in 2016 is due to the closing of the Longannet thermal plant.

**Emissions of sulphur dioxide (SO₂)**

Sulphur dioxide (SO ₂) emissions (t)	2018	2017	2016
Generating plants	2,733	4,143	6,510
Cogeneration	782	1,249	578
Total	3,515	5,392	7,088

Intensity of SO ₂ emissions (kg/MWh)	2018	2017	2016
Specific emissions from global mix	0.023	0.038	0.047

Emissions of particulates

Particulate emissions (t)	2018	2017	2016
Generating plants	745	1,114	1,067
Cogeneration	141	158	141
Total	886	1,272	1,208

Intensity of particulate emissions (kg/MWh)	2018	2017	2016
Specific emissions from global mix	0.006	0.009	0.008

Emissions of ozone-depleting substances**305-6**

Ozone-depleting substances have a very limited presence within the Iberdrola group, and are located primarily in fire-extinguishing equipment (Halon) and some cooling systems (chlorofluorocarbons, CFCs). These systems and equipment are maintained in accordance with the provisions of applicable laws and regulations.

The only atmospheric emissions originating from these products would be those arising from potential losses, which are identified by the volumes used to recharge the equipment. Although Iberdrola's goal is to eliminate the presence thereof in its facilities, these substances continue to be used where their use is authorised and a better market substitute has not been found. Thus, 39.5 kg of CFC-11 equivalent was recharged in 2018, consisting of: 34.4 kg of CFC-11 equivalent in Spain and 5.1 kg in Mexico.

Emissions of mercury (Hg) and other compounds

The emission of mercury (Hg) during 2018 from the combustion of coal was 29.8 kg.

Furthermore, 335.03 t of volatile organic compounds (VOCs) were emitted in Spain, the United Kingdom, Mexico and the United States; and 4.30 kg of hazardous air pollutants (HAPs) were emitted in the United States.



Rational use of water

GRI 303

Water is a basic and irreplaceable natural resource in many of Iberdrola's activities. The company's awareness of this dependency and of the risks arising from water shortages has led it to set itself the objective of ensuring an increasingly rational and sustainable use of this resource.

The main actions taken by the group for a more sustainable use of water are:

- Limiting the volume of withdrawal and consumption of inland water in all technologies.
- Establishing and controlling limits on ecological flows at the hydroelectric generation reservoirs.
- Continually improving processes at facilities to reduce consumption and impact.
- Avoiding withdrawal of water in water-stressed areas.
- Reusing and recycling water at facilities.
- Conducting awareness-raising campaigns to achieve a more efficient and responsible use of sanitary water by employees at offices.

Total water withdrawal by source

The following table breaks down the group's total water withdrawal by source:

303-1

Source of gross water withdrawal (hm ³)	2018	2017	2016
Surface water (sea, rivers, lakes, reservoirs, wetlands)	1,966	1,962	1,839
Groundwater	1	2	1
Rainwater directly withdrawn and stored	0	0	0
Purified wastewater	15	15	13
Municipal water supply or supply from other water companies	4	5	6
Total	1,986	1,984	1,859

Total water withdrawal is the sum of the various sources, and is obtained by direct measurement (flowmeters) or by estimating the performance of the water withdrawal pumps.

The 99.5 of total water withdrawn is used in cooling process and other auxiliary services of the generation plants. The rest of the water withdrawn (0.5%) is consumption in offices and other uses.



The group's use of water is summarised in the following table:

Water use ⁷⁹	2018	2017	2016
Total water use (hm ³)	89	80	82
Water use/overall production (m ³ /GWh)	610	597	573
Water use/overall sales (m ³ /\$k)	2.14	2.15	2.35
Water use/overall sales (m ³ /€k)	2.53	2.56	2.79

The following shows the total intake and discharge of water at the thermal generation facilities (coal, combined cycle, nuclear and cogeneration) in 2018.

Water use in generation (hm ³)	Total thermal generation 2018
Withdrawal	
Withdrawal for standby process and services	12
Withdrawal for cooling	1,973
Discharge	
Evaporation of water used for cooling	80
Discharge into receptor environment ⁸⁰	1,897
Water use (withdrawal less discharge)⁸¹	87
Percentage of water returned	96%

After use in cooling and other auxiliary processes, 96% of the water withdrawn at thermal generation and cogeneration facilities returns to the receptor environment in a physical/chemical condition allowing it to be utilised by other users without affecting the natural environment. The other 4% has been consumed and/or retained in the various processes, or returned to the environment in the form of steam generated in the cooling systems of the thermal power plants.

The following table shows the different sources of withdrawal for cooling:

Source of withdrawal of cooling water	Gross water withdrawal (hm ³) ⁸² 2018	Gross water withdrawal (%) 2018
Sea and salt water	1,229	62%
Rivers and groundwater	336	17%
Lakes and reservoirs	395	20%
Purification of wastewater	9	1%
Total	1,969	100%

All water withdrawal is strictly regulated by government authorities, which assign permits and determine the maximum permissible volumes of withdrawal to ensure that there are no significant impacts.

⁷⁹ Use of water is defined as water withdrawn minus water discharged into the natural environment.

⁸⁰ The total discharge figure includes the return from cooling, the return of water used in processes, and rainwater collected at some thermal facilities without an independent storm sewer system.

⁸¹ Withdrawal less discharge into the receptor environment is considered water use.

⁸² Gross water withdrawal: total volume of gross water withdrawal for cooling.

**303-2**

No withdrawals are made that significantly affect water resources or habitats relating to the water withdrawal points. The Iberdrola group does not have any plants located in areas considered to have water stress. As can be seen in the preceding table, 62% of the water withdrawn is salt-water or brackish water. These areas can be seen in the [FAQ](#).

Water cycle in hydroelectric generation⁸³

Water used for hydroelectric generation is not considered withdrawn and thus it is analysed separately. The table below shows net water used in hydroelectric generation in Spain, the United Kingdom and Brazil, defined as turbinéd water less pumped water.

Water use in hydroelectric generation (hm ³)	2018	2017	2016
Net water use	245,918 ⁸⁴	49,824	101,368
Volume of pumped water	2,710	2,807	3,623
Annual increase of reservoir water	2,547	-1,179 ⁸⁵	-1,941

Additional information, such as withdrawal locations and discharges from the thermal facilities, can be found at [Water use](#).

Water reused**303-3**

At the thermal plants with closed or semi-open cooling systems, water withdrawn is reused in the cooling towers an average of approximately three to five cycles per m³ before being purged. The total volume of this reuse was approximately 2,253 hm³ in 2018.

Water recycled

At some of the thermal generation plants in Spain, Mexico and the United States, waste water is also used in their cooling systems.

Use of waste water or recycled water in cooling systems		
	hm ³	% of total country
Mexico	11,397	4%
United States	3,284	95%
Spain	79	0.01%

In addition, at some of ScottishPower's wind farms the control buildings have rooftop rainwater collectors and storage tanks to use the water.

⁸³ Hydroelectric generation in the United States, which is 1.15% of installed hydro capacity, is not included (information not available).

⁸⁴ 2018 was a year with high levels of precipitation and high hydroelectric generation in Spain.

⁸⁵ Substantially reduced net water volume due to low precipitation in Spain during 2017.



Effluents management

GRI 306

Withdrawal, use and return to the environment is the water cycle needed for the generation of power at the thermal generation plants. The quality of this returned effluent is strictly controlled and is kept below the maximum acceptable values established by the government based on the characteristics of the withdrawal and discharge point (sea, reservoir or river).

Ensuring compliance with law and seeking methods to minimise the risk of spills is applicable to all of Iberdrola's facilities, including generating plants, renewable facilities and distribution substations.

Iberdrola has treatment plants and water quality measurement systems at its facilities that allow it to ensure a return to the environment (sea, reservoir or river) in the desired condition, reducing the risk of polluting discharges through the use of preventive control tools:

- Consolidated systems for reporting anomalies and incidents in order to establish plans to minimise spillage risks, by implementing predictive, preventive and corrective actions that ensure the proper condition of the water.
- Certificates in ISO 14001 and EMAS, as tools for continuous improvement.

The company also has emergency plans and protocols to ensure proper and rapid response in the event of discharges or spills with negative effects on the surrounding environment.

The thermal power-generation plants treat residual water before discharging it into the natural receptor environment.

- Water from the process undergoes physicochemical treatment, which includes the separation of hydrocarbons and temperature monitoring.
- Wastewater is treated in compact treatment systems with biological aerobic processes.
- Coal plants have a treatment system for slag from the plant, and a decantation/coagulation process that prevents the entry of particulate coal or coal in suspension into the receptor water.

After being treated, the process water and the sanitation wastewater are diluted with the water returned from the cooling system and are discharged into the receptor environment, with continuous monitoring of various parameters (temperature, turbidity, conductivity, etc.). An accredited organisation analyses these discharges and regularly reports to the government.

In Mexico, the combined cycles have separate and independent networks for industrial and sanitary water. The latter receive final treatment in biodigesters whereas industrial water is discharged into the natural environment or sent to municipal treatment plants or to the customer for treatment. The La Laguna power plant captures sanitation wastewater for all processes, for which reason the water discharged by this facility is of better quality in some parameters than the water that is collected.



The data regarding the discharge of water into the environment for all facilities and offices is as follows:

306-1

Total water discharged (hm ³)	2018	2017	2016
Ocean	1,221	1,289	1,171
Rivers	325	249	274
Lakes and reservoirs	348	360	326
Purification network	6	6	5
Total	1,900	1,904	1,776

Water collection and discharges by the facilities during 2018 were within the limits indicated by the relevant comprehensive environmental permit for each facility, and no anomalies were detected that could materially affect water resources or related habitats.

306-5

The company's activities can even be beneficial for the ecosystem, as seen in the following examples:

- In Spain, above and beyond the Integrated Environmental Authorisation requirements, at times additional quality control analyses are conducted on water upstream from hydroelectric generation facilities, with a view to improving, where necessary, the quality of this water once it has passed through the plant and is returned to the environment (see disclosure 304-3).
- In Mexico the discharge from the Altamira III and IV plant has been re-directed over the Garrapatas estuary, which is allowing it to recover its salinity and thus the specific characteristics of this habitat and the species of fauna and flora adapted thereto. This estuary was losing its brackish nature due to salt-water entry being blocked after the construction of a pipeline, with the resulting desalination of the ecosystem.

For more information, see the [Water Usage](#) section of the corporate website.



Waste management

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 306

Iberdrola's goal is to reduce the generation of waste for any process or activity (construction, operation, maintenance of facilities and work centres), and to prioritise recycling and the reuse thereof. Iberdrola commits to the concept of "circular economy" for all players within its activities, having joined the Circular Economy Pact of the Spanish Ministry for Ecological Transition (*Ministerio para la Transición Ecológica*) (MITECO).

The management of waste conforms to the following principles:

- Minimise the generation of waste at source.
- Maximise the reuse, recycling and recovery of waste.
- Promotion of awareness-raising campaigns regarding the minimisation of waste.
- Specific treatment and management of hazardous waste.

306-2

Two types of waste are differentiated within the Iberdrola group's activities:

- Waste arising during the energy production process.
- Waste generated at facilities and offices.

The various areas and businesses of the company perform activities to minimise waste and improve waste management, within the framework of the certified environmental management systems.

Waste from the production process

1. Fly ash and slag

In the generation process at coal plants, fly ash and slag are the most typical types of waste. The following table shows the production and reuse thereof:

Production and reuse of ash at Iberdrola's thermal power plants	2018	2017	2016
Ash produced (t)	92,440	174,523	256,399
Ash reused (t)	61,459	76,034	87,260
Percentage of product reused (%)	66	44	34

Reused ash was used for the production of cement as filling in infrastructure work and to produce compost.



2. Nuclear waste

Further to its commitment to transparency of information for Stakeholders, Iberdrola provides additional information on its nuclear plants (*General Radioactive Waste Plan*, Enresa⁸⁶). The processes of reduction, reuse, segregation, recycling and recovery is applied to radioactive waste in the safe management thereof.

Iberdrola's nuclear power plants are included within the *Environmental Radiological Monitoring Programme* of the Nuclear Safety Council of Spain, the purpose of which is to monitor the dispersion in the environment of controlled discharges from facilities and to determine and monitor radiological quality throughout the country⁸⁷.

Low-low level and low-medium level radioactive waste generated during 2018 is shown in the following table:

Hazardous waste generated at nuclear facilities 2018	Net output (GWh)	Low low level waste		Low medium level waste	
		Produced (m ³)	Produced (m ³ / GWh)	Produced (m ³)	Produced (m ³ / GWh)
Cofrentes nuclear plant	8,823	32	0.004	163	0.018
Partially-owned nuclear plants	14,713	255	0.017	311	0.021

As to high level waste, 99 spent fuel assemblies were generated during 2018.

Other waste

1. Hazardous waste

Hazardous waste that is generated is regularly delivered to authorised handlers for proper processing. Not all of the waste generated is deposited or recycled immediately, as there are temporary warehouses for hazardous waste at the facilities.

Hazardous waste generation (t)	2018	2017	2016
Produced	13,169	9,193	10,579
Deposited and/or incinerated	4,161	3,023	2,148
Recovered, recycled, reused	8,839	7,288	7,353

Hazardous waste produced includes PCBs, batteries, dissolvents, lighting, etc. The company has minimisation, reutilisation and recycling plans as well as awareness-raising campaigns to promote good environmental practices by its employees.

There are residual PCBs at the group's facilities in Spain, the United States and Brazil. However, no pyralene transformers with more than 500 ppm of PCBs remain. The company's policy is to eliminate equipment containing PCBs from its facilities. 168 t of oil with pyralene in Spain, 2 t in the United States and 135 t in Brazil were managed during 2018.

⁸⁶ Enresa: Empresa nacional de residuos radioactivos, S.A.

⁸⁷ For more information, see the technical report issued by the Nuclear Safety Council "Environmental radiological monitoring programmes. 2014 Results" ("Programas de vigilancia radiológica ambiental. Resultados 2014"), available at www.csn.es.



2. Non-hazardous waste

Non hazardous waste generation (t)	2018	2017	2016
Produced ⁸⁸	549,146 ⁸⁹	1,053,671	978,845
Deposited and/or incinerated	247,256	543,254	443,752
Recovered, recycled, reused	294,845	449,920	470,832

Non-hazardous waste produced includes inert waste from construction and demolition, electronic equipment, wood, metals, plastics, paper, etc. The company has minimisation, reutilisation and recycling plans as well as awareness-raising campaigns to promote good environmental practices by its employees.

To promote the reuse of waste, Iberdrola has been working for several years on the optimisation of the management and recovery in value thereof, selling it to companies that put it back on the market after transforming it. During 2018, this exercise produced income of 2,449,758 euros from the sale of non-hazardous waste.

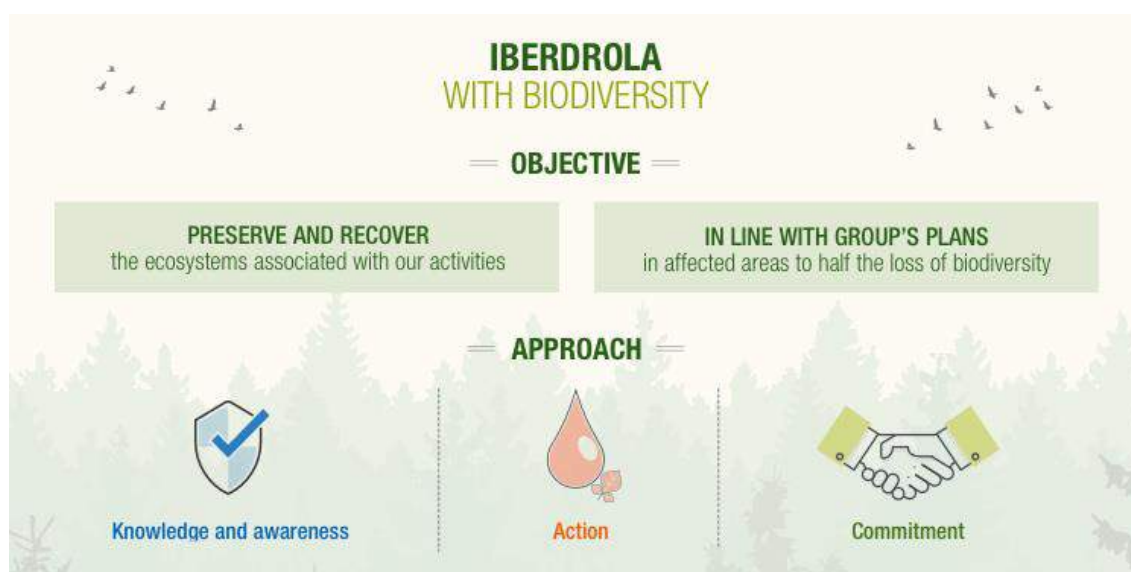
⁸⁸ Total value of waste produced, also includes the total value of waste managed.

⁸⁹ Due in large part to the reduction in inerts because of lower construction activity in the United Kingdom.



Protection of biodiversity

Contribution to SDGs of the performance described by the indicators of this section



GRI 304

Biodiversity is a fundamental component of natural capital, and can be affected by the company's activities. The company considers it to be one of the fundamental assets for the Iberdrola group's creation of value, and a fundamental asset for all of its Stakeholders.

During their respective life cycles, generation, transmission, distribution and sales activities cause interactions with various ecosystems, landscapes and species. Therefore, these ecosystems occupy a leading role in the business strategy through the [Biodiversity Policy](#), approved by the Board of Directors, defining four priority lines of action:

- Encouragement of the protection, preservation and sustainable use of natural capital.
- A preventive focus on the environmental impact evaluations of new projects and the adoption of best practices throughout the entire life cycle.
- Engagement with the Stakeholders, considering their needs and expectations regarding biodiversity for the integration thereof in action plans, and collaborating with research projects.
- Commitment to internal and external training, awareness-raising and communication regarding the significance of biodiversity.



Various instruments are used to carry out these lines of action, including:

- [Biodiversity Policy](#), applicable in all of the geographic areas in which the Iberdrola group does business, the basic principles of which are developed by various lines of action.
- [Stakeholder Relations Policy](#) and the company's Stakeholder Relations Model.
- [Corporate Environmental Footprint](#), allowing for evaluation of the group's impact on biodiversity.
- The environmental management system of the group and its organisations, certified under ISO 14001 or EMAS, which implement biodiversity commitments in action plans establishing the monitoring and control thereof.
- Environmental committees with the environmental heads of the organisations dealing with biodiversity risks and opportunities.
- Biodiversity plans based on avoiding and/or mitigating impact, restoring natural capital (if required), assessing impacts, organising the relationship with affected Stakeholders, and awareness-raising.

Biodiversity plans		
Cross-sectional plan	Sub-Plan for understanding the environment.	
	Sub-Plan for communication.	
Principal plans	Reduction of direct impacts on biodiversity	Plan for direct protection of fauna.
		Plan for direct protection of flora.
		Plan for improvement of habitats.
	Reduction of indirect impacts on biodiversity	Plan for edaphic environment management.
		Plan for hydrological environment management.

102-11

Based on the precautionary principle, Iberdrola wagers on knowledge of the environment and encouragement of the restoration of natural capital, participating in various studies to understand the behaviour of species in the habitats in which it operates, like the "Bird Migration" project⁹⁰, the objective of which is to study the migratory movements of birds in Spain, and studies focused on the assessment of eco-systemic services, like the pilot *Cumbernauld Living Landscape Pilot Project: Natural Capital Assessment*.

There is also a collaboration on preparing a Practical Guide to Ecological Restoration⁹¹, a methodological tool intended to guide decisions to encourage Ecological Restoration in actions to strengthen and recover natural capital.

Iberdrola also applies mitigation hierarchy (avoid, minimise, remediate and, as a last option, compensate) in the environmental impact assessments (EIAs) that it performs for new projects. These analyse alternatives, with a view to avoiding placing new infrastructure in protected areas or areas with a high biodiversity value, even if they are not officially protected. Before beginning the process, Iberdrola consults the various Stakeholders regarding new projects and

⁹⁰ Collaborative project of Fundación Iberdrola and Sociedad Española de Ornitología, SEO/BirdLife.

⁹¹ Mola, I., Sopeña, A. and de Torre, R. (editors). 2018. Guía Práctica de Restauración Ecológica. Biodiversity Foundation of the Ministry for the Ecological Transition. Madrid. 77 pp (available at <https://ieeb.fundacion-biodiversidad.es/content/guia-practica-de-restauracion-ecologica>)



incorporates best construction practices, going beyond applicable legal requirements in each case. Afterwards, and during construction, Iberdrola continues to work together with the Stakeholders, seeking for the environmental impact to be as low as possible, and restoring the affected areas.

Iberdrola identifies and evaluates the potential impacts of new projects in this way, through the EIA processes. The following links show some examples in [Spain](#), [SP Networks](#), [SP Renewables](#) and [Avangrid](#).

304-2

The following table shows the actions that might have more significant impacts during the various phases of a project:

Actions during the phases of a facility's life cycle	
Construction phase	Entry of vehicles and machinery.
	Opening of pathways and changes in vegetation.
	Prolonged human presence (which temporarily affects the behaviour of species of fauna, and is generally reversible).
	Changes in landscape.
Operation phase	Emissions.
	Changes in the natural system of rivers and barrier effect of hydroelectric developments (affecting the ecosystems and habitat of certain species).
	Animal mortality due to collisions and electrocution.
	Changes in vegetation to maintain power line corridors, etc.
	Discharges and spills.
Decommissioning phase	Use of machinery and vehicles to remove and demolish existing facilities.
	Prolonged human presence (which temporarily affects the behaviour of species of fauna, and is generally reversible).



Based on these actions, we can single out a number of significant potential effects on biodiversity, arising from the activities, products and services of the group:

Potential impacts	
General impact	Loss of habitat and species.
	Increase in greenhouse gases and climate change.
	Pollution of the atmospheric, edaphic and/or aquatic environment.
Impact on avifauna	Electrocutions.
	Collisions.
Impact on terrestrial fauna	Electrocution, trapping, etc.
Impact on ichthyofauna	Changes in water quality.
	Discharges/spills into hydrological environment.
Impact on flora	Production and spreading of fires.
	Deterioration in the edaphic environment.

If significant impacts are identified during the evaluation process, the project is modified to the extent possible, and the best available techniques and any measures identified as necessary are employed to correct and minimise these impacts. Where full avoidance or mitigation is not possible, remedial measures are implemented.

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The following table shows the principle activities in this regard during 2018:

Country	Technology	Actions	Results
United Kingdom	North Wales Wind Farms Connection Project	The planting of 13,231 m ² of forests and brushwood and planting of 8,970 m ² of brushwood is proposed. A total of approximately 7,993 m ² would be left for natural regeneration. This planting will be monitored for a period of 5 years.	North Wales Wildlife Trust has been designated to make the more than £100,000 in environmental improvements in the areas of the North Wales Wind Farms Connection.
	Wind farms	Continued management of the Habitat Management Plans, managing more than 93 km ² to date, with the monitoring of species like the hen harrier (<i>Circus cyaneus</i>), blackcock (<i>Tetrao tetrix</i>) and crested newt (<i>Triturus cristatus</i>).	Improvement of the conditions of the offset habitats. Example of management serving as a guide for other projects.



Country	Technology	Actions	Results
United States	Power lines and substations	The CCTP project resulted in the conversion of 0.26 acres of forest wetlands into bush and the permanent loss of 0,096 acres of wetland for the substation. To mitigate these impacts, 0.8 acres of forest wetland improvements, 0.16 acres of improvement to 160 linear feet and improvement to 1.23 acres of highland areas. Preservation of 2.19-acre mitigation area.	These improvements were completed at the end of 2018, consisting mainly of plantings. Annual reports are required to document the success of the improvements for 5 years.
		12.6 acres of wetlands were created within a 36-acre parcel to offset the elimination of portions of forest wetlands. General mitigation index of 1 : 1.5 for the cleaning of forest wetlands in NY.	The recently created wetland has areas with ponds, shrubbery and tree plantings. Annual reports are required to document the success of the improvements for 5 years.
		The disturbed areas in the RARP transmission line project will be restored and planted. The additional mitigation for this project will include the conversion of forest wetlands and <1 acre of permanent fill in a wetland area.	Mitigation work will be performed in 2019.
	Wind farms	Continued monitoring and maintenance of habitats (grasslands, meadows, wetlands, deserts, etc.) within and around the area thereof.	Improvement of adjacent habitats and protection of associated fauna.
Brazil	Baguari (hydroelectric)	Recovery of 1.77 km ² of forestry commenced in September 2018	Improvement of adjacent habitats, strengthening of soil absorption capacity and reduction of risk of losses due to erosion.
	Corumbá (hydroelectric)	With the reforestation of 295,000 trees in 2018, there has been a total of approximately 1,300,000 trees since it began.	One also sees a significant improvement in the quality of the soil, in the physical and chemical structure, increasing the rainwater absorption ability and reduction in erosion and compacted soil layers.
	Dardanelos (hydroelectric)	Strengthening of natural recovery in 5 ha and reforestation of the area around the plant.	Improvement of adjacent habitats, strengthening of soil absorption capacity and reduction of risk of losses due to erosion.
	Baixo Iguacu (hydroelectric)	192.1 ha will be reforested to establish connectivity with the forest areas of Iguazú National Park (<i>Parque Nacional del Iguazú</i>) (PNI) with the areas to be expropriated and reforested in the Direct Influence Area (DIA) of the Baixo Iguazú HPP, covering the biodiversity corridor.	Creating an ecological corridor to connect the remaining existing forests in the Area of Influence of the site of the National Park at Iguazú (PNI) together with the actions described in the Biodiversity Corridor Consolidation Programme at the Baixo Iguazú plant.



Country	Technology	Actions	Results
	Power lines	Reforestation of degraded areas with plants at various stages of growth. There will be compensatory reforestation with native species from the region in accordance with the environmental permits for the installation and operation of transmission lines (69 kV to 138 kV), substations (69 kV to 138 kV) and distribution networks (13.8 kV to 34.5 kV). 70,000 plants were replanted in 2018, out of the 168,000 that have been planted since 2017.	There is constant natural regeneration as a result of maintenance work connected to the presence of fragments of native vegetation on the banks of the Aguapeí river, factors that favour the recovery of a large number of native species.

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Iberdrola currently has group infrastructure in protected areas or areas with great biodiversity value, most of which was built prior to such declarations of protection by the government authorities.

Facility	Location with respect to protected area	Affected surface area/length	Type of protection ⁹²
Spain			
Reservoirs	Inside	30,758 ha	Biosphere reserves, Ramsar wetlands, Nature 2000 Network, national parks and nature parks.
Power lines	Inside	19,314 km	Nature 2000 Network, Ramsar wetlands, National Parks, Natural Parks and Biosphere Reserves.
Substations	Inside	144 units	Nature 2000 Network, Ramsar wetlands, National Parks, Natural Parks and Biosphere Reserves.
Transformer centres	Inside	8,793 units	Nature 2000 Network, Ramsar wetlands, National Parks, Natural Parks and Biosphere Reserves.
Wind farms	Inside	374 ha	Nature 2000 Network
United Kingdom			
Power lines	Inside	3,677 km	NSA, SPA, SAC, Ramsar, NNR, SSSI.
Substations	Inside	367 units	NSA, SPA, SAC, Ramsar, NNR, SSSI.

⁹² Names of principal protected areas:

SPA: Special Protection Area for birds, pursuant to the *EC Birds Directive*.

SCI: Site of Community Importance, pursuant to the *EC Habitats Directive*.

SAC: Special Area of Conservation, pursuant to the *EC Habitats Directive*.

Ramsar: Wetlands of international importance, pursuant to the treaty signed in Ramsar.

SSSI: Site of Special Scientific Interest (UK).

NSA: National Scenic Areas (UK).

NNR: National Nature Reserve (UK).



Facility	Location with respect to protected area	Affected surface area/length	Type of protection ⁹²
Transformer centres	Inside	8,608 units	NSA, SPA, SAC, Ramsar, NNR, SSSI.
Wind farms	Adjacent	3 ha	Nature 2000 Network and SAC, SSSI.
Wind farms	Partially inside	9,321 ha	Nature 2000 Network and SAC, SSSI.
United States			
Wind farms	Inside or nearby	0	Protected areas designated by each state, which may be Biosphere Reserves, forests, national parks or national wildlife refuges, and those with high ecological value even though they may not have the same level of protection.
Power lines	Partially inside	384 km	
Brazil			
Power lines	Inside	1,881 km	Environmental protection areas.
Substations	Inside	19 units	Environmental protection areas.
Transformer centres	Inside	4,388 units	Environmental protection areas.
Hydroelectric plants	Inside or nearby	293 ha	Areas protected by Brazilian law.
Mexico			
Generating plant	Adjacent	1 production centre	Environmental protection areas.
Wind farms	Adjacent	1 wind farm	Environmental protection areas.
Greece			
Wind farms	Inside	15.64	Nature 2000 Network.
Hungary			
Wind farms	near	1 wind farm	Near Nature 2000 Network areas.
Portugal			
Wind farms	Inside	1 wind farm	Nature 2000 Network area and Natural Park.
Romania			
Wind farms	Near	1 wind farm	Near Nature 2000 Network areas.

Iberdrola identifies threatened species included in the IUCN Red List and national and regional lists of the areas in which it does business through its environmental management systems and/or its monitoring programmes.

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IUCN Red List Classification	No. of species
Critically endangered (CR)	18
Endangered (EN)	74
Vulnerable (VU)	173
Near threatened (NT)	48
Least concern (LC)	247
Not on IUCN List	32

**Habitats protected or restored****304-3**

Based on the needs of each facility and during the life cycle thereof, Iberdrola carries out the following:

- Flora and fauna monitoring (especially of protected or vulnerable species).
- Forest treatments.
- Forestry restoration with indigenous plants.
- Landscape integration and accommodation, etc.

The various activities commenced in 2018 or prior years and that have continued during this financial year are shown below:

Spain:

Project/ Technology	Actions	Objectives
Power lines	Within the ALETEO project, the goal of which is to reduce the risk of damage to avifauna from pylons in protection zones, 4,127 pylons have been corrected and 6,659 are being adjusted.	Reduce the risk of damage to avifauna
	Performance of 132 environmental actions, before and during the construction of substations and power lines (restoration and accommodation of terrain, protection of vegetation, avifauna and the landscape, control of invasive species, training on fires and spills, etc.).	Reduce impact on biodiversity and ecosystem services.
	Performance of 1,152 preventive actions to protect fauna (modification and improvement of supporting services).	Reduce impact on fauna.
	Performance of 1,610 actions to improve the network to protect vegetation.	Reduce impact on flora.
	Management of 34.4 km ² of vegetation-covered surface to reduce the risk of fire at facilities.	
Hydroelectric plants	Limnological control of the most eutrophicated reservoirs in the Douro and Tagus basins (pollutant loads caused by agents unrelated to Iberdrola that travel along these rivers before they flow into the reservoirs).	Prevent potential impacts on fauna located downriver of reservoirs.
	Ensure turbined waters contain the minimum amounts of dissolved oxygen essential for aquatic life.	Avoid levels that are harmful to ichthyofauna.
	Performance of activities to prevent pollution, improve the environment and recover/restore the natural environment around the plants, including: restoring the ecological flow; environmental adjustment of canals; and environmental recovery around the town of la Rasa (dismantling of buildings and recovery of land).	Reduce impact on biodiversity and ecosystem services.
	Performance of studies on feasibility of devices for ichthyofauna to pass through the Doña Loba, San Lázaro, Cernado, Vozqueimado, Casteligo and Parafita waterwheels.	Reduce impacts and avoid levels that are harmful to ichthyofauna.



Project/ Technology	Actions	Objectives
	Replacement of auxiliary services transformers (with PCB-contaminated oil) with dry transformers.	Prevention of pollution and potential effects on flora and fauna.
	Maintenance and conformance of spill containment systems to prevent environmental pollution at Esla plant.	
	Collaboration of the Escombreras Combined Cycle plant with the “El Valle” Wildlife Recovery Centre in recovering birds like the bittern and kestrel for treatment and return to their natural habitat after any physical or psychic problems are treated.	Reduce impact on fauna.
Thermal plants	Perform an evaluation study of the ecological status of the Majaceite river in the area of the Arcos de la Frontera combined cycle plant using biological, hydro-morphological and physicochemical quality indicators.	Knowledge of the surroundings for proper action regarding the habitat.
	Performance of activities to prevent pollution, improve the environment and recover/restore the natural environment at the Lada Plant: measures to minimise outside noise, channel storm waters, research contaminated soil.	Prevention of pollution and recovery of the environment

United Kingdom:

Project/ Technology	Actions	Objectives
Thermal and gas storage plants	Implementation UK Biodiversity Action Plans (UK BAP) at each facility. E.g.: Create nesting, shelter and feeding habitat for native species. Provide habitat for nesting bird populations. Communication, enabling and monitoring of ecological activity. (More information is available at ScottishPower Wholesale Energy Markets and at www.iberdrola.com).	Recover and promote regeneration of natural habitats and of the flora and fauna characteristic of facilities' environments.
Wind farms	62 activities in 20 areas included in the <i>Habitat Management Plan</i> , mainly consisting of the monitoring of birds and follow-up on reforested areas, and 39 management activities like restoration, removal of invasive species, management of vegetation by grazing, etc.	Recover and improve terrain affected by construction activities. Reduce impact on fauna.
Galloway (hydroelectric)	Continued monitoring by means of the installation of antennae at the Loch Doon Vaki fishing port.	Maintenance of the two fish pathways at the Tongland, Earlstoun, Loch Doon and Carsfad reservoirs allows fish like Atlantic Salmon to cross potential barriers to their migration posed by the plan's reservoirs.
	Management of vegetation around the substation and control and elimination of the invasive <i>Fallopia japonica</i> species.	Improvement of adjacent habitats.

**United States:**

Project/ Technology	Actions	Objectives
	Water treatments in collaboration with land owners in two river basins, treating runoff from impermeable areas in the basins prior to its entry into the river.	Improve water quality and improve the aquatic habitat of the riverbank.
Power lines	Conditioning of power lines.	Minimisation of the impact on the nesting and reproductive processes of the osprey.
	Acquiring wetlands in financial collaboration with the organisation Ducks Unlimited, via financial collaboration, deriving from the <i>Auburn Transmission Project</i> .	Improve quality of the aquatic habitat and stimulate species.
Wind farms	Recover natural habitats and foster their regeneration, avoid the displacement of indigenous species, monitor species, raise awareness and train local communities. 20 monitoring and mitigation activities were carried out in 2018.	Reduce impact on flora. Raise social awareness of the area's rich biodiversity

Brazil:

Project/ Technology	Actions	Objectives
	Reforestation of affected areas.	
Hydroelectric plants	Continuation of environmental biodiversity conservation programmes based on the impacts of plant operation: monitoring of fauna (ichthyofauna, herpetofauna, avifauna, mammalian fauna, entomofauna, etc.); monitoring of flora in reforested areas; water quality control; monitoring of erosive processes, etc.	Ensure the success of programmes to recover and offset impact on Permanent Conservation Areas (APPs) and degraded areas (quarries, tips).

Mexico:

Project/ Technology	Actions	Objectives
Thermal plants	Development of the <i>Garrapatas Estuary Rescue Project</i> .	Improve the habitat, fostering indigenous species, and raise social awareness of the area's rich biodiversity.
	Development of the <i>Feline Support Project in the Altamira region</i> .	
	Follow-up of reforestation carried out during construction of the La Ventosa wind farm.	Ensure the success of reforestation work.
Wind farms	Commencement of reforestation of an area covering approximately 25 ha in the area of the La Venta III power line.	Improve the habitat.
	Commencement of reforestation of an area covering approximately 19 ha in the area of the La Venta III wind farm.	Improve the habitat.

For more information regarding the biodiversity protection measures taken by the Iberdrola group, see [Iberdrola and biodiversity](#), which sets out the management approach, strategies and progress in the activities conducted by the various businesses and regions in which the company has a presence. Also see Iberdrola's [Biodiversity Report 2014-2017](#).



Environmental safety

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Disaster/emergency planning and response

As in any industrial activity, situations of risk to the facilities or the public at large may occur at power generation plants and in electricity grids, either because of an accident or due to loss of electricity supply.

Where this occurs, the subsidiaries of the Iberdrola group and the companies in which the company has an interest have put contingency plans, procedures and other mechanisms in place in order to try to minimise the consequences. Such measures include preventive measures that have been jointly established with local authorities, as well as training both for its own and subcontracted staff and ongoing education, and regular safety drills with on-site audits.

The Wholesale and Retail Business and the Renewables Business have various documented emergency management procedures in place at its facilities: for example, in Spain and Mexico there is an *Emergency Response Organisation (Organización de respuesta ante emergencias) (ORE)* procedure, which involves personnel of all levels and is put into operation in the event of emergencies that jeopardise the assets of the company or its employees. In the United Kingdom, ScottishPower has a Business Continuity Management System for the management and minimisation of emergency situations, which is externally certified and audited under ISO 22301, and has implemented a *Black Start* plan coordinated with the Wholesale and Retail businesses to restore ScottishPower's transmission area. In the United States and Canada, each facility has a Prevention, Control and Countermeasures Plan, which includes preventive and reactive actions, and also has an Emergency Response Plan. There are also emergency plans at the generation plants in Brazil.

In addition, there may be specific plans based on each technology; for example, hydroelectric generation facilities also have an internal process to monitor a Reservoir Emergency Plan implemented at all of the Cuenca Units, which optimises the safety of people and of the facilities in the event of a serious rupture or breakdown of the dam and is known by civil protection authorities, municipalities and other government organisations.

Nuclear power plants have specific emergency plans in order to ensure that emergency systems are operational and to guarantee the safety of employees and the public, which include both an *External Emergency Plan (Plan de emergencia exterior)*, for which the governmental authorities are responsible (called the Nuclear Emergency Plan (*Plan de Emergencia Nuclear*) (PEN) of the Province in which each plant is located), and an Internal Emergency Plan (*Plan de emergencia interior*) (PEI), compliance with which is the responsibility of the companies that own the power plant. The PEI is known by the public authorities and municipalities of the region, which participate in its adoption and verify its effectiveness through annual emergency drills supervised by the Nuclear Safety Council (*Consejo de Seguridad Nuclear*) (CSN), as well as tests and internal exercises performed at the facility itself. The Basic Nuclear Emergency Plan



(*Plan Básico de Emergencia Nuclear*) (PLABEN) provides for an interface to coordinate both Emergency Plans.

Another example of emergency management is the cooperation of the company with the authorities responsible for the operation of the national electricity grids and of connections with other countries in order to deal with the possibility of a global supply failure. System operators are responsible for guaranteeing the reliable and safe operation thereof and for restoring service following severe incidents in a controlled manner and within the shortest possible time. To that end, they draw up detailed plans and procedures that determine the responsibilities and guidelines for action by geographic areas. Concurrently therewith, Iberdrola conducts tests at its facilities to ensure that the main generation centres can resume production in the event of a power grid failure.

The Networks Business also has various management plans and procedures to facilitate the restoration of electric service in the case of a major outage, such as the electric emergency plans of the distribution subsidiaries of Avangrid in the United States, like CMP's Service Restoration Plan, for which drills are performed every year. Also noteworthy are the operations centres of the distributors in Brazil, which standardise safety in operations and the procedures to restore supply and for the maintenance of the electricity system. Monitoring the system in real time controls the conditions of the electric system and responds to scheduled and emergency requests for service, ensuring the restoration of service as quickly as possible, while respecting safety and quality. In the United Kingdom, ScottishPower actively communicates with vulnerable groups during power outages to ensure that they are provided the assistance that may be required.

Significant spills

306-3

Iberdrola has an Environmental Management System, and prevention is one of its key objectives. To this end, multiple preventive measures have been implemented in all of the group's businesses. These measures are set out in organisational and technical manuals. Plans to minimise risk have been established in the group's various businesses (emergency guides and procedures, regular drills, etc.), as have reporting and environmental incident management systems; these are used to prevent and to control accidental spills and to inform the relevant authorities whenever necessary.

One example of safety and containment measures taken to mitigate damage are those implemented in Spain, where 889 preventive actions were performed in 2018 to prevent and mitigate the impact of potential spills. These included the construction of 19 oil collection reservoirs in case of a major discharge at the substations and 870 trenches/oil collection trays at transformer stations.

Of all the leaks and spills recorded within the Iberdrola group in 2018, 23 incidents were significant⁹³, with a total spill volume of 16.4 m³. All cases were resolved in a satisfactory manner thanks to the emergency response team; the contaminated area was cleaned with appropriate management of any waste. In the case of minor accidents or incidents that did not have permanent environmental impacts on the surroundings, it was not necessary to adopt corrective or compensatory measures.

⁹³ The term "significant spill" means a spill that causes damage to the external surroundings of the facility or a significant risk thereof and that must be reported to the governmental authorities. Small spills may occur within the facilities during the operation and maintenance thereof, which are properly handled and reported as required.



Environmental compliance

GRI 307

Iberdrola has a Global Environmental Management System that encompasses all of the partial certifications of each of the businesses that make up the group, reaching 80% of the group's production. Certified environmental management systems identify the legal requirements applicable to the activities carried out by the group and establish an assessment of compliance therewith for purposes of assurance. Below in disclosure 307-1 of this report, supplemental information is provided regarding ongoing environmental legal proceedings directed at companies managed directly by Iberdrola.

Incidents relating to the environment during 2018 involved the following fines and monetary sanctions:

307-1

Fines relating to the environment (€)	2018	2017	2016
Total amount of fines imposed	7,538,539	3,881,246	2,375,559

Of the total amount of fines imposed during the financial year, 6,510,236 euros were in Spain, 964.816 euros in Brazil and 63,486 euros in the United States. In Spain, 63% of the total amount were for three sanctions cases for the loss of three specimens of protected species in Spain. In Brazil, they were due to a breach of environmental conditions affecting ichthyofauna and improper pruning.

307-1

Non monetary sanctions, sanction proceedings and arbitrations (no.)	2018	2017	2016
Non-monetary sanctions	41	14	2
Proceedings commenced	212 ⁹⁴	57	86
Cases being resolved through arbitration or similar mechanisms	0	0	9

All non-monetary sanctions correspond to Brazil. The proceedings correspond to the network businesses in Spain and Brazil.

⁹⁴ Of the 212 proceedings commenced, 104 are in Spain. 82% of them are proceedings commenced without financial penalties, mainly in relation to actions to modify electric lines.



II.4.

Innovation, Digitalization and Quality for our Customers





- Products and services
- Digital transformation
- Innovation projects



Products and services

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Iberdrola operates an organisational structure in relation to its customers in which:

- the Networks Business manages the activities of transmission and distribution in Spain, the United Kingdom, the United States and Brazil, and the regulated sale of energy in the United States and Brazil and any other regulated activity that the group carries out in these four countries.
- the Wholesale and Retail Business manages non-regulated activities in Spain, the United Kingdom, Brazil, Mexico and continental Europe.
- for its part, the Renewables Business manages long-term power purchase agreements (PPAs) with large companies in the United States.

In the liberalised retail markets, Iberdrola mainly provides its customers with two products: electricity and natural gas, trying to ensure competitive supply, operational and service excellence, continuous improvement of efficiency in operations, together with safety and respect for the environment. Although the Iberdrola group engages in other activities (see “Main products and services” section), due to the nature and scope thereof, these activities are insignificant in connection with customers for purposes of the information presented in this report.

As a whole, the distribution companies of the group manage a total of 31.6 million energy supply points, of which 30.6 million correspond to electric power and 1.0 million to gas supply. This information is described in this report by type of supply point in the “Key figures” section.

Customer satisfaction

Iberdrola has various mechanisms to measure customer satisfaction levels and to gather their opinions, verify compliance with its quality standards within the customer service and sales channels, and implement suggestions for improvement. The most significant studies by country are:

- In Spain, in the Wholesale and Retail business, there are various mechanisms to measure the satisfaction level of users, including the *Voice of the Customer Study*. On a quarterly basis, it generally measures satisfaction with the service received by the customer and offers detailed information regarding attributes like agility, training and treatment within the channels, clarity of the invoice, management of claims, quality of supply, price competitiveness and electronic billing, whether for large customers, companies, small businesses or residential customers. Overall satisfaction in 2018



exceeded 7 out of 10 for the fourth consecutive time, with large customers being the segment most satisfied with Iberdrola.

For the most part, the studies use the *NPS (Net Promoter Score) Index*, which evaluates the recommendation that Iberdrola's customers would make on a scale of 0 to 10. This index has increased from 25.6 in 2017 to 27 in the third quarter of 2018.

There is also a Gas Maintenance Service Satisfaction Survey, conducted on a yearly basis, with 90% of customers satisfied (2 percentage points more than in 2017) and a Study on satisfaction with the Electrical Emergencies and Home Electric Protection Service, with an average satisfaction with the service of 8.5 and 8.4, respectively.

A Voice of the Customer Measurement Programme was also implemented in 2018 allowing for the centralisation of satisfaction surveys, and collecting unstructured information thanks to text analytics. All of the above allows for more agile detection of the opinion of customers and implementation of improvements.

Iberdrola engages in two types of studies with respect to the Networks Business: for new supplies, reaching 3.3 out of 5 in 2018, and for retailers of electric power and customers with direct rates: in this case the results for 2018 are at 3.7 for retailers and 3.8 for direct rates on a scale of 5.

- In the United Kingdom, customer satisfaction is measured by a series of internal and external studies within the *Customer Insight* department. These analyses include various satisfaction surveys that vary in frequency, from monthly to annually.

At the external level, the key comparative studies measuring the satisfaction of ScottishPower's customers as compared to its competitors are *uSwitch*, *Which?* (with annual surveys) and *UK-CSI*, which is published twice per year. These studies analyse specific areas like customer billing, campaign follow-up and complaints. ScottishPower obtained a general customer satisfaction rate of 70.6% (compared to 69.4% in 2017) in the *uSwitch*, from among more than 17,000 customers surveyed. *UK-CSI* places the British subsidiary as one of the 6 companies with the most improvement during the year, obtaining 70.5% in 2018 compared to 68% the year before.

The most significant internal analysis is *Pulse*, which is performed monthly and measures confidence, loyalty, ease of use, value, etc., showing an overall satisfaction level of 49 out of 100. The result is along the same line as other customer satisfaction studies like "*Which?*" Measures are being applied to improve the processing of customer complaints. At the internal level, there is also *YouGov*, which is used to compare the various competitors in terms of brand reputation and intent to purchase.

- In the United States, the subsidiaries of Avangrid measure service perception and customer satisfaction, which are evaluated through telephone surveys on a weekly basis. The companies of Avangrid obtained the following results in 2018: 90% (NYSEG), 91% (RGE), 88% (CMP), 96% (UI), 89% (SCG) and 85% (CNG). All of the distributors have fixed customer service quality standards, although only NYSEG and RG&E have regulatory targets, which are 89.5% and 88%, respectively.
- There are two types of annual satisfaction surveys in Brazil. The Brazilian Association of Electric Power Distributors (*Associação Brasileira de Distribuidores de Energia Elétrica*) (ABRADEE), in association with Fundación Instituto de Investigaciones Económicas (FIPE), is responsible for classifying and giving awards to companies



based on an evaluation of performance in the following areas: operational excellence, economic/financial management, customer assessment, social responsibility and management quality. The Perceived Quality Satisfaction Index (Índice de Satisfação da Qualidade Percebida) (ISQP) of the services is obtained through evaluations by the customer via surveys performed by Instituto Innovare, which evaluates the quality of the services provided, classified into supply of energy, information and communication, energy bill, customer service, image, etc., and the results obtained from the ISQP in 2018 are 63.2% (Celpe), 73.7% (Coelba), 81.1% (Cosern) and 78.7% (Elektro).

As to research by the National Electric Energy Agency (ANEEL), which measures the Customer Satisfaction index (IASC), the measurement of the attributes of perceived quality, perceived value, satisfaction, trust and loyalty have not yet been disclosed by the agency.

Supply quality

EU28

Improvement in the quality of the service is an essential element of electric supply and one of the main goals of Iberdrola's business activity. A quality system allows for the achievement of objectives linked to continuous improvement. The implementation thereof also involves strict internal and external audit procedures, which ensure compliance with the established quality standards.

Iberdrola monitors service quality in the various countries. However, the measures in each company are taken according to different rules, following the respective legal requirements or customs, for which reason the company does not currently have a homogeneous measure of service quality in the various countries in which it operates. The figures are as follows:

- Installed Capacity Equivalent Interrupt Number (Spanish acronym "NIEPI") is used in Spain.

NIEPI	2018	2017	2016
Spain	0.91	1.14	1.04

- Customer interruptions per 100 connected customers ("CI") is used in the United Kingdom.

CI	2018	2017	2016
United Kingdom	43.4	36.0	42.7

- System average interruptions frequency index ("SAIFI") is used in the United States.

SAIFI	2018	2017	2016
United States	1.22	1.15	1.15

- Equivalent duration of interruption by consumer unit (Portuguese acronym "FEC") is used in Brazil.

FEC	2018	2017	2016
Brazil	5.81	7.15	7.44

Throughout this "Innovation, digitalization and quality for our customers" chapter, additional information is offered regarding the development of smart grids to improve the quality of electric supply, among other things.

**EU29**

Similarly to the preceding section, the figures for average duration of electric supply outages are as follows:

- Installed Capacity Equivalent Interrupt Time (Spanish acronym "TIEPI") is used in Spain.

TIEPI	2018	2017	2016
Spain	44.6 min	52.7 min	54.0 min

It should be noted that the 2018 figure is the best historical record for the company in the country.

- Customer minutes lost per connected customers ("CML") is used in the United Kingdom.

CML	2018	2017	2016
United Kingdom	35.4 min	31.0 min	33.8 min

- Customer average interruption duration index ("CAIDI") is used in the United States.

CAIDI	2018	2017	2016
United States	2.07 h	1.91 h	1.84 h

- Equivalent duration of interruption by consumer unit (Portuguese acronym "DEC") is used in Brazil.

DEC	2018	2017	2016
Brazil	12.24 h	15.96 h	17.14 h

Marketing communications**GRI 417**

Iberdrola observes the laws and abides by the regulations governing its advertising and marketing communications, and adopts mechanisms and voluntary codes that cause such communications to be transparent and truthful, and the *Code of Ethics* also applies in this area for all employees regardless of their area of responsibility.

In Spain, Iberdrola is a member of the Association for Commercial Self-Regulation (*Asociación para la Autorregulación Comercial*) (Autocontrol), the Spanish Association for Digital Economy (*Asociación Española de la Economía Digital*) (Adigital), the Spanish Advertisers' Association (*Asociación Española de Anunciantes*) (AEA) and the Marketing Association of Spain (*Asociación de Marketing de España*) (MKT), and has subscribed to their respective codes of ethical conduct, which entails the assumption of a commitment to offer responsible advertising to society that complies with the codes of conduct, and accepts the decisions of an Advertising Jury (*Jurado de la Publicidad*) regarding complaints that may be filed by consumers or competitors with such body.

ScottishPower in the United Kingdom complies with all advertising rules and also follows a structured internal approval procedure for all advertisements, which includes legal aspects, prices, product development and marketing. All advertisements are approved by the legal department, which compares them to current advertising practices codes of the Advertising Standards Association to ensure compliance therewith. They also conform to the conditions of



supply license SLC 25 and SLC 7B for a more simple, clear and just market for domestic consumers and microentrepreneurs, treating all customers equally.

The companies of Neoenergia in Brazil follow the basic rules defined by advertising ethics in accordance with the principles of responsible advertising of the National Council on Advertising Self-Regulation (*CONAR-Conselho Nacional de Autorregulamentação Publicitária*) (Conar Statute), such as to not produce deceitful or abusive advertising that cause distress to customers or companies or that accentuate social or racial differences. They also follow the Rule on Management of Institutional, Commercial and Internal Communications and Relations, which give guidance regarding external communications and Advertising and the Corporate Policy on Social Media Usage.

The following table sets forth the incidents that occurred due to non-compliance regarding marketing, advertising, promotion and sponsorship during financial year 2018, when 5 incidents occurred in Spain resulting in a fine.

417-3

Incidents of non compliance concerning marketing, advertising, promotion and sponsorship (no.)	2018	2017	2016
Resulting in a fine	5	0	2
Resulting in a warning	0	0	0
Relating to voluntary codes	0	0	0
Total incidents	5	0	2

Information on and labelling of electricity sold**GRI 417****417-1**

As regards labelling, in Spain Iberdrola informs its customers about the source of the energy sold by the retail supplier and the associated environmental impact thereof by means of a label included in the electricity bills and in advertising to customers. This information is presented using standard model images and labels established by the National Markets and Competition Commission (*Comisión Nacional de los Mercados y la Competencia*) (CNMC), which also provides a breakdown of the mix of national production technologies to compare the average national percentages with those corresponding to the energy sold by the company together with the company's energy mix. The CNMC has launched a System for Guarantees of Origin of energy produced in order to create the labels and images. This information is also available in the [electricity labelling](#) section of the retail website.

In the United Kingdom, ScottishPower reports the origin of its energy each year and the environmental impact thereof. New customers receive this information as part of their *Welcome Cycle* communications, and existing customers receive this information in the *Important Information* section of each invoice or notice, in accordance with the guarantees of origin rules established by Ofgem. All information about the label is also available in the [Where we get our energy](#) section of the website.

There is no obligation to label electricity in the United States or Brazil. Gas is not currently labelled in the countries in which the company sells this product.



Finally, such additional information as may be of help for consumers to make a more rational, efficient and safe use of these products is set forth at the beginning of the “Digital transformation” section.

The following table sets forth the incidents related to information and labelling that occurred during financial year 2018, during which none have occurred.

417-2

Incidents relating to information and labelling (no.)	2018	2017	2016
Resulting in a fine	0	2	8
Resulting in a warning	0	0	0
Relating to voluntary codes	0	0	0
Total incidents	0	2	8

Health and safety of customers and of the general population**GRI 416**

For Iberdrola, the safety of the users of the network is of the utmost importance. For this reason, it makes information and training available to the various emergency services and security forces in order to explain possible conflicts that they may find in the performance of their work and how to act in situations involving electricity risks.

All stages of the life cycles of electricity and gas are highly regulated because they are basic products for the development of a country's economy and entail an improvement in the quality of life of people.

Therefore, in the *planning* stage for the facilities, the community participates through its social and political representatives in broad discussions concerning the energy model to be adopted in the country. During the *approval* stage, citizens can participate during public information periods, taking into consideration economic, environmental and health and safety aspects, as well as the reliability of supply, generating public policies that lay the groundwork for the companies within the Iberdrola group to adopt investment strategies that are consistent therewith.

In the countries in which Iberdrola engages in electric power *production activities*, there are extensive environmental and labour regulations aimed at ensuring that existing risks to human health and safety remain within the limits established thereby. The companies thus provide the information required to verify that the operating conditions established in the regulations and in the technical specifications for generation plants are observed in their construction, operation and maintenance.

Likewise, the electricity and gas *transmission and distribution* stages are subject to extensive regulations governing the construction, operation and maintenance of these facilities, and therefore the companies provide the human, physical and financial resources needed to minimise electricity risks and those associated with the handling of natural gas.

During the *retail* stage, the company also believes that the most effective way of protecting public health and safety in the use of power and gas is the provision of training and information to customers. There are also gas maintenance operating procedures to ensure safety in Spain. In the United Kingdom, devices have been developed to improve the safety of customers, such as carbon dioxide alarms, fire alarms and devices preventing hypothermia. In the United States,



the evaluation and control of electrical risks for customers is thoroughly regulated at the state level.

As a complement to the foregoing, the Iberdrola group voluntarily adopts various measures to improve aspects relating to product safety. Specific internal regulations have been developed at distribution networks in this regard and there are also training seminars for third parties so that they understand electricity-related risks (fire brigade, Guardia Civil, Civil Protection, Military Emergency Unit, students, etc.).

Finally, Iberdrola has various means to inform and train the public through actions and programs that are explained in more detail under the “Access to adequate information” section in this chapter. There are also direct channels of communication with customers, as described in the “Stakeholder engagement” section.

416-1

All processes required for the supply of electricity and gas at all stages, described above, ensure that such products arrive at the consumer with an appropriate level of assurance for their health and safety. The impacts on health and safety of 100% of the categories of major products and services are evaluated in order to make improvements.

The table below sets forth incidents regarding the impacts of products and services on the health and safety of customers during 2018, of which there were 0 incidents.

416-2

Incidents stemming from non compliance with regulations or voluntary codes regarding health and safety (no.)	2018	2017	2016
Resulting in a fine	0	6	1
Resulting in a warning	0	0	0
Relating to voluntary codes	0	2	0
Total incidents	0	8	1

EU25

Furthermore, as described above, the construction, operation and maintenance of electric infrastructure involves certain risks, which may at times give rise to incidents affecting people outside of the company. In most of the cases detected, the incidents are related to third parties working without safety measures in the areas around the distribution facilities, as well as accidental contacts with the network.

The following table shows the accidents of this kind that occurred during 2018. 6 of the persons who suffered accidents were in Spain, 15 in the United Kingdom, 17 in the United States and 151 in Brazil. Of the accidents that have occurred, 1 caused a fatality in Spain and 40 in Brazil.

Accidents of persons not belonging to the company (no.)	2018	2017	2016
Accident victims	229	333	261
Fatalities	41	50	45



The claims listed in the table below have been filed against companies of the group on these and other similar grounds not resulting in injuries and are following the relevant legal procedures applicable in each jurisdiction. Annual legal proceedings finished and pending by year-end 2018 amounted to 61 in Spain, 51 in the United States and 122 in Brazil.

Annual legal proceedings (no.)	2018	2017	2016
Settled and pending, stemming from those accidents	234	408	258

Electric and magnetic fields

The possible influence of electric and magnetic fields on the health of human beings has historically been a topic of certain public debate. However, the different studies performed in this regard show that there has been no identification of detrimental effects on human health with respect to the maximum emission figures established by applicable law. Iberdrola, inspired by the precautionary principle, applies the rules in this regard and is willing to work with the public authorities in adopting such preventive or mitigating measures as may be deemed appropriate to avoid risks or harm to health.

There are differences in the practices relating to this issue in the various countries in which the company does business:

In Spain, two reports are prepared regarding electric and magnetic fields at facilities, which are audited by Aenor: *Emissions of electric and magnetic fields at distribution facilities 2018* and *Radioelectrical emissions of relay stations 2018*. Both reports show that the emissions of electric and magnetic fields meet legal requirements and that all facilities are below the levels set by law.

In the United Kingdom and the United States, the facilities comply with applicable regulations and measurements are not taken at the facilities unless requested by the customer. However, they offer an advisory service and perform surveys that gather the concerns of customers. During 2018, 35 such requests were received in the United Kingdom from England, Wales and Scotland, and there was no pending action for breach of maximum levels. For the 35 requests for information, there were 32 field visits, and safety advice and information was given to the customer on 3 occasions. In the United Kingdom, there is also monitoring of applicable legislation, changes therein and research through working groups within the Energy Networks Association. In the United States, a complaint has been received through CMP for a dispute regarding electromagnetic field (EMF) levels.

In Brazil, the law requires a number of measurements and simulations of electromagnetic fields above 138 kV, which are below the reference values established under federal law, with one complaint being received during 2018 from the neighbourhood of the Setúbal substation of the municipality of Guararapes in the state of Sao Paulo regarding high levels of electromagnetic field emissions. Cosern has also been asked to measure a facility in the municipality of Caicó (Río Grande).



Access to adequate information

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Apart from commercial information, the safety of users of the electricity grid or the promotion of the efficient use of energy is an on-going concern at the companies of the group. To progress in all these areas, information and training plans, programmes and activities are developed in each geographic area.

Accessibility of information

The Iberdrola group's distribution and supply companies develop various initiatives to make communication with customers having specific difficulties, whether idiomatic or sensory, simpler and more agile. With these services, Iberdrola puts into practice its policy to guarantee equality of opportunity, non-discrimination and universal accessibility, within the framework of its focus on sustainable development, especially with respect to disadvantaged groups. This initiative is also due to the company's commitment to offer individualised services covering the needs of all customers.

Iberdrola continues to offer a pioneering sign language video-interpretation service in its customer service area thanks to the collaboration initiative with Fundación CNSE that began in 2012, and that was renewed in 2018. In this way, persons who are deaf or hard of hearing can contact the company through sign language interpreters, the application of which is available on the customer website and is also included in a tool for the exchange of written messages, thus covering the needs of all deaf persons, regardless of the degree or type of disability or whether or not they know sign language. Furthermore, the On-line Customer Office is available in Spanish, Basque (Euskera) and English, and the website is also available in English. Communications (invoices, letters, policies, etc.) are issued in ten languages: Spanish, English, Italian, German, French and Portuguese and the regional languages Valencian, Basque (Euskera), Gallego and Catalan.

The Accessibility Certificate issued by Ilunion Tecnología y Accesibilidad was renewed for the corporate website in 2017, proof of its commitment and of the work of auditing, consulting and certification of both the corporate and customer websites, and is available at [Accessibility Certificate](#). It thus complies with the Web Content Accessibility Guidelines 2.0 of the W3C (World Wide Web Consortium), as well as the requirements to satisfy the UNE 139803:2012 Standard governing the degree of accessibility applicable to the websites of public utilities. Audits are performed on a half-yearly basis to ensure that the website meets the relevant requirements. Ilunion has also given Iberdrola an additional award for its efforts in the area of universal accessibility and service to disabled persons ([see Accessibility diploma](#)).

Furthermore, to facilitate communications, a video-call customer service tool (Whisbi) has been included on the website in which treatment and communication with the customer are much closer and more human. In addition, in My Customer Area, a webchat has been launched that offers direct and efficient real-time customer service during online navigation. This tool helps to



reduce calls and emails received at the *Contact Center*, is available at no additional cost to the customer and increases their level of satisfaction and loyalty.

Finally, Iberdrola promotes information and training campaigns regarding safety and energy saving measures amongst disabled groups and underprivileged groups or those at risk of social exclusion, in order to contribute to the equality of these persons, removing barriers to communication.

In the United Kingdom, ScottishPower has an interpreting service to facilitate communications in cases where customers find it difficult to make themselves understood in English. Also, for customers who choose Welsh as the language in which they wish to receive service, invoices are offered in this language, and they are offered the mechanisms required to communicate effectively. In addition, the *Customers Requiring Additional Support* programme offers additional services to customers who are visually or hearing impaired, suffer from chronic illness or are over sixty years old. This service includes the provision of bills in Braille, large print, compact disc and audio cassette format. ScottishPower offers multiple alternatives so that customers with hearing or speech impairments can communicate without needing to call: changing account details through the website, chat function on the website itself, Facebook Messenger for private communications, e-mail, etc. With the new *Next Generation Text Services (NGTS)* initiative, the company also offers a range of tools and services that can help customers with difficulties to call using a smart phone, tablet or computer.

In the United States, the U.S. companies CMP and NYSEG, subsidiaries of Avangrid, have a special communication service for hearing-impaired people called *Telecommunication Device for the Deaf (TDD/TYY)*, to facilitate communication through written messages and *Telecommunication Relay Service for Hearing Impaired-711* through which users can make 711 calls from any telephone in each state of the United States, without needing to remember area codes. NYSEG also provides special printed invoices for visually-impaired customers, as well as the ability to designate a third person at NYSEG to receive important notices, called *Third Party Notification*.

Avangrid also has a service to help people with special needs and advise them on choosing services that might be useful. The company also has customer service for Spanish-speaking customers through the *In-house Spanish Speaking Representatives* service. CMP and RG&E also make available to customers employees who know other languages for those persons who request information in a language other than English (*Bilingual employee list*).

In Brazil, Neoenergia makes improvements in physical accessibility at customer service locations and preferential treatment for persons with diverse abilities. They also implement programmes to provide service, information and access to billing to persons with visual and hearing impairments, which include: accessible websites, bills in Braille, a dedicated phone line for service to those with hearing or speech problems, special documentation and signage, and the availability of employees trained in sign language.

Education in the safe use of electricity

Through the group's websites, Iberdrola makes recommendations and information available to consumers regarding the [safe use of electricity and gas](#), as well as guidelines to follow in case of an electrical accident. They also publish informational booklets regarding the potential risks of electricity affecting the proper use thereof.

In Spain, Iberdrola promotes informational and educational campaigns on safety measures and energy saving directed towards the general public. It also offers its customers products and



services that provide additional safety in the home or business. It also collaborates with consumer associations and special groups in order to contribute to communication on matters relating to safety, training and education. Iberdrola also spreads information messages regarding safety and energy savings via its customer profile on Twitter (@Tulberdrola).

Iberdrola's suppliers are also required to comply with strict security measures, even sealing off facilities where there are clear risks to people or their property. In addition, upon the passage of 15 days from the notice of sealing a facility, the company requires gas maintenance suppliers to visit again to verify whether the problem is remedied and the facility is in proper operational status, thus avoiding dangerous situations or irresponsible activities by customers.

Along with the *Electrical Emergencies*, *Gas Maintenance Service*, *Gas Protection*, *SME Assistance*, *Home Assistance*, *Appliance Protection*, *Home Electric Protection*, *Home Electric Protection Plus*, *Air Conditioning Protection* and *Iberdrola Gas Comfort* services, the *Appliance Protection 10* service was launched in 2018 whereby a qualified technician will repair 9 kitchen appliances and the home TV so that the customer can avoid unexpected expenses, ensuring safety and the proper operation of the equipment.

Also noteworthy is the entry into the Italian residential market, with the launch of two services for the home: *Electricity Maintenance Service* and *Gas Maintenance Service*, focused on emergency breakdown assistance within three hours and the performance of small electricity or gas jobs, respectively. Breakdown prevention consisting of maintenance visits together with fast response to repair breakdowns, thus providing improved safety for customers.

In Portugal there has been an expansion of the Products and Services offered to Customers with the launch of the *Home Electric Protection* service, which covers breakdowns of kitchen appliances and of home electric service, the *Appliance Protection* service covering breakdowns of kitchen appliances, and the *Gas Inspection* service, providing gas installation inspections.

Also noteworthy is the entry into the French residential market in 2018, with the launch of two services for the home: *Electricity Additional Comfort* and *Gas Additional Comfort*. These services are focused on the diagnosis and maintenance of electric and gas installations, respectively, and breakdown assistance.

In the United Kingdom, ScottishPower has maintained its [PowerWise](#) website program regarding electrical safety for parents, teachers and students, with 9,369 visits in 2018. It has also continued with extensive campaigns to promote electrical safety, with programmes such as children's visits to *DangerPoint* in Northern Wales and *The Risk Factory* in Edinburgh, with a total of 13,962 visits. Further, 6,744 children also attended the *Crucial Crew* event, 200,000 attended the *Royal Highland Show*, 80,000 attended the *Cheshire Show* and 55,000 the *Anglesey Show*, especially dedicated to farm workers and their families. ScottishPower is also the service partner of *Stayenergysafe*, launched by Crimestoppers in order for the public to report energy-related crimes, where the manipulation of meters could endanger property and life. Welcome packages for new customers as well as ScottishPower's website offer emergency-related information, and it provides safety-related pamphlets, seminars and tweets.

In the United States, information and recommendations are provided regarding how to act in an emergency, such as adverse weather conditions, poisoning or health risks, as well as [safety advice](#) in case of storms or outages causing lines or equipment to fall. *Storm Safety Information* provides safety information regarding potential public safety risks. In 2018, the Emergency Preparation Unit held a meeting with employees and officials from the 17 cities in which UIL provides its services to safely remove public easements and restitution for affected customers.



In addition, CMP has an *Outreach Campaign* targeting at-risk groups such as school children, safety personnel, contractors and emergency personnel.

In Brazil, Neoenergia provide information on the bill, in customer service areas, through conferences on the proper use of electricity and building safety, messages on the website, on social media, and while on hold with the call centre, so as to reach all consumers, in addition to awareness-raising campaigns. There were more than 500 safety awareness activities in 2018 by the companies of the Neoenergia group directed towards all sectors: farmers, children, industrialists, freelance construction professionals, etc.



Innovation and digital transformation projects

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



In the future, new technologies, innovation and people will be the foundations upon which the new energy model will be built:

- **Disruptive technologies** that are increasingly efficient, sustainable and environmentally friendly, and that allow for optimisation of the operation of facilities and processes.
- **New products and competitive services** that respond to customer needs, with more personalised content and offers.
- **Digitalization and automation.** Between 2018 and 2022, Iberdrola plans to invest 4,800 million euros in digital transformation and will focus its investment efforts on improving the operation and maintenance of its assets and on increasing the availability of its generation plants.
- **Innovation with start-ups, entrepreneurs and suppliers**, in order to develop new disruptive business models, favour the exchange of knowledge and be a driving force among its partners.
- **Culture of innovation and talent.** Iberdrola promotes a culture of innovation through the transfer of knowledge, attraction of talent and promotion of the entrepreneurial spirit. Of note is the Universities Project, which involves the development of various initiatives: university chairs, R&D+i projects, training of students, internal training and young entrepreneurs.

Thanks to human and financial efforts (267 million euros in 2018) allocated to research, development and innovation (R&D+i), Iberdrola is in the vanguard of developing new products, services and business models that are transforming the energy sector.

As evidence of its commitment to innovation, on 23 May 2018 Iberdrola held the first *Innoday 2018* event, the energy sector's major innovation roadshow, on the company's international campus.

Some of the innovative initiatives are set out below, classified by major category:

Renewable energy:

- Improved efficiency at wind farms, photovoltaic plants and hydroelectric facilities. Includes the *Doctor PV* projects, aimed at reducing costs in photovoltaic plants through predictive maintenance strategies, the *ROMEO* projects, coordinated by Iberdrola, and *ASPA*, aimed at developing models and tools for early detection of failures based on artificial intelligence and big data techniques. The *Renewables Digital Evolution Plan (2018-2022)* and the *Renewables Accelerator* project for the promotion of new ideas to



foster increased efficiency and global competitiveness of renewable energy have also been launched.

- Projects of note in the hydroelectricity area are *HIDRODEMAND*, targeted at the implementation of operating efficiencies, and *HIDROSMART*, for the development of new technologies to be exploited at the Cuenca Operation Centres (COCs).
- Improved integration of renewable energy, including the registration of Avangrid Renewables as a Balancing Authority (BA).
- As to innovation in offshore wind projects, the Wikingen wind farm was inaugurated and construction of East Anglia One has started in the United Kingdom.

Clean generation technologies:

In 2018, efforts in the generation area centred on operational flexibility and efficiency, respect for the environment and improved safety at facilities:

- Projects in the nuclear area included *OFF-GAS*, *RESHAND* and *FILTRABRIS*, which were collaboratively developed with *GDEST4S* within the framework of Iberdrola's *Innovation Programme for Suppliers*, and all of which are oriented toward operational efficiency and nuclear safety.
- The thermal generation area includes the *OCTAVE* project, which is intended to develop technologies for the diagnosis and control of the combustion process to make our plants more flexible. This project is key to ensuring the resilience and safety of the Spanish electricity system, permitting the integration of renewables.

Retail - New projects and services:

Innovation is essential in retail activities, in order to be able to offer customers the products and services best suited to their needs. In this regard, in 2018 Iberdrola has worked on:

- New initiatives to improve the customer's experience. New projects were launched in 2018, focused on increased personalisation of content and offers, together with a new *Customer App* in Spain, France and Portugal and a new website. It is now also possible to enter into contracts and procure products online, without prior registration.
- New products and functionalities. In 2018 we launched new packs in *Smart Home*, which combines energy, products and services and tools focused on improving energy management in the home without charge. We have also improved the functionalities of *Smart Home*, so that one can get an "online offer" on the website thanks to the analysis of consumption curves, expected insulation, location and orientation of the installation.

Smart Mobility includes the launch of the new *Iberdrola Public Recharge App*, which allows one to reserve and use recharging stations on the Iberdrola network, and also launch the *Smart Mobility Home* application to control the recharging of domestic equipment.

In Brazil, Neoenergia has made available to customers a mobile application that allows them to check their consumption, see bills and make payments; and in the United States Avangrid has launched *NYSEG Smart*, an online store where customers can search for, compare and safely buy efficient energy products (smart thermostats, lighting, electric vehicle chargers, etc.).

Smart grids

The group's R&D+i activities in electric energy distribution focus on optimising the distribution grid, with special attention on the development of smart grids, with various projects in all of the



countries in which it distributes electricity.

In Europe, the company continues to participate in the *ASSURED* project to develop rapid charging solutions for heavy duty electric vehicles, and in the *INTENSIS4EU* project, which seeks a new focus in the area of smart grids and energy storage.

In Spain, Iberdrola will continue pushing the digital transformation of the electricity grid of the Basque country thanks to the *Bidelek 4.0* project. There is a continuation of the *LAYCA* project, which seeks to develop a system for locating breakdowns and identifying failures in medium-voltage networks, and has launched the *Caravaca BESS* project in order to achieve integration of a battery energy storage system (BESS) in operation.

In the United Kingdom, development continues on the *Fusion* and *LV Engine* projects, directed towards the optimisation of low-voltage grids. There is also the *SPEN* project, conceived to manage restrictions on the high-voltage grid at the Dunfries and Galloway plants.

In Brazil, there is the *Bid Monitor* project, which seeks to develop a support system for decision-making in electricity sales, and *Smart City* project for the implementation of innovative solutions for automation and operation of the electric grid. The *TITAM-BT* project also seeks to develop equipment that would allow for a reduction in fraud and ensure proper billing for customers.

In the United States, the *Woodbridge Microgrid* seeks to develop a micro-network with fuel cell to strengthen the grid under extreme climate conditions. There has also been a continuation of initiatives included in the *Energy Smart Community* programme, like the *ADMS* project to develop an advanced system for managing the distribution system and distributed resources.

Of note is the inauguration in 2018 of *Iberdrola Innovation Middle East*, a technology centre focused on responding to the challenges of the digitalization of the energy system, and focusing on three key areas: smart grids, integration of renewables and energy efficiency.

Iberdrola Ventures – Perseo

Iberdrola Ventures - Perseo is Iberdrola's start-up programme with 70 million euros to promote the development of a dynamic ecosystem of start-ups and entrepreneurs in the energy sector. Since its creation in 2008, more than 50 million euros have been invested in start-up companies in the energy sector worldwide. The main achievements in 2018 included:

- Recognition by the European Commission within the framework of the *Start-up Europe Partnership* initiative, by naming Iberdrola for the second consecutive year one of the top 12 European corporations that work best with start-ups. Iberdrola also received the special "*Start-up Procurement Award*".
- More than 10 pilot projects with start-ups in technological areas like Artificial Intelligence, Big Data, Internet of things (IOT) and blockchain, in order to improve both the planning and the management of assets and optimise operation and maintenance.
- In the investment area, there is the company *Atten2*, dedicated to developing solutions for online monitoring of critical assets to improve the operation and maintenance thereof, as well as prolong its useful life through predictive maintenance and better operation thereof.

Further information on the R&D&i projects in which Iberdrola participates can be found in the [Innovation](#) section of the corporate website.



II.5.

Contribution to the Well-being of our Communities





- Introduction
- Access to energy
- Protection of human rights
- Support to local communities
- Contributions to society (LBG)
- Corporate volunteering programme
- Foundations
- Iberdrola and the Global Compact



Introduction

Iberdrola establishes firm and permanent bonds with its Stakeholders, taking into consideration the needs and expectations of its workforce, shareholders and the financial community, regulatory bodies, customers, suppliers, the media, society in general and the environment. The development of a relationship model with each of them, and maintenance of fluid channels of communication, are significant goals to which Iberdrola dedicates numerous resources, as described in more detail in the “Stakeholder engagement” section of Chapter II.7 Good governance, transparency and Stakeholders engagement” of this report.

Within the company’s explicit commitment to the sustainable creation of value and the maximisation of the social dividend, and always looking to the long-term future, Iberdrola has an impact on local development, generating employment and wealth in all of the communities in which it is present through the design and preparation of specific programmes focused on promoting education, art and culture, research, protection of the environment, protection of vulnerable groups, etc.

In relation to Iberdrola’s commitment to defend human rights, the main goal is to incorporate the management thereof into all of the group’s operations, thus forming an integral part of operating procedures. This focus is included in the [Policy on Respect for Human Rights](#) approved by the Board of Directors in February 2015 and last revised in October 2018. To this end, the company has a set of tools that promote the protection of and respect for human rights, mitigating the risk of violation thereof. The company’s practices are in line with the *Guiding Principles on Business and Human Rights: Implementing the United Nations ‘Protect, Respect and Remedy’ Framework*, the principles of the *United Nations Global Compact*, the *OECD Guidelines for Multinational Enterprises*, the International Labour Organization’s *Social Policy* and the *Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy*.

Within the framework of its *Human Rights Management Model*, Iberdrola is performing diagnostics to identify the actual and potential risks of its activities affecting human rights in all of the countries in which it does business, paying special attention to those countries in which the risk of impact might be higher due to lax legislation in this area. The analysis also evaluates the extent to which current due diligence procedures of the company are sufficient to manage these risks and comply with the provisions of the Guiding Principles and industry guidelines in this area. The company also has other tools approved by the Board, like the [Code of Ethics](#), approved in February 2002 and last revised in October 2018, which serves as a guideline for the conduct of directors, professionals and suppliers, establishing control measures as well as disciplinary measures in case of non-compliance.

Consultation and complaint mechanisms

As provided by Iberdrola’s By-Laws, the corporate website (www.iberdrola.com) is a permanent channel of communication to serve the *Stakeholder Relations Policy*. For this reason, the website contains the main channels for responding to potential claims, as set out below:

- From any page on the corporate website, one can use the new navigation menu to directly access pages dedicated to customers and to the distribution networks of the countries in which Iberdrola does business.



- The “Iberdrola group” link in this menu also offers a complete map from which one can access all of the websites of the various country subholding companies and head of business companies of the group, as well as those of the Foundations of each country.
- The navigation menu can also be used to access the [“Contact”](#) section, in which the following appear in an organised and accessible form:
 - o The main contact channels (Corporate Communication, Brand, Social Responsibility, Investor Relations Office, Office of the Shareholder, CDI an ADR Holders, Sustainability and Environment, Supplier Service Centre, Employment Channel, etc.).
 - o The addresses of the Iberdrola group’s offices in the various countries.
 - o Customer service centres in the various countries.
 - o Subject-specific query mailboxes.
- Finally, the [Corporate structure of the group](#) section within Corporate Governance shows the corporate diagram with corresponding links to all of the country subholding companies and head of business companies of the group.

The company’s Stakeholders have the channels described above, which are handled in the various countries, businesses and corporate areas, to make their complaints and suggestions regarding business activities with a specific impact on the environment, labour relations, human rights, local communities, competition or market power, and such complaints will be attended to following established internal procedures.

There are various specific mechanisms for identifying and investigating unethical behaviour or behaviour that might lead to situations of fraud or corruption in any form: the ethics mailbox, the professionals’ ethics mailbox, the shareholders’ ethics mailbox, the suppliers’ ethics mailbox, through which employees, shareholders and suppliers can channel grievances, questions or complaints with the assurances of resolution and confidentiality that such channels require to be effective.

The court claims of which Iberdrola is aware are set forth in “Environmental safety” section of Chapter II.3 and in the “Socio-economic compliance” section of Chapter II.7 of this report.

Incidents relating to discrimination in the labour area during 2018 are set out in the “Protection of human rights” section of this chapter. Iberdrola has not received any complaint during financial year 2018 regarding other aspects relating to human rights through the channels established for this purpose, nor is it aware of court claims that might have a specific social impact.



Access to energy

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Access to energy for off-grid customers

EU26

For the companies of the Iberdrola group in Spain, the United Kingdom and the United States, the electrification level covers practically the entire population. In Brazil, in the Neoenergia distribution area (around 835,500 km², with a resident population of slightly more than 33.6 million people), 200,563 persons do not have electricity, representing around 0.6% of the total population within the area of the Neoenergia group companies.

The companies of the Neoenergia group have continued to develop rural electrification programmes, undertaken jointly with government authorities, with the goal of extending the electricity infrastructures in order to facilitate economic and social development and minimise inequalities among the various regions and between rural and urban areas. These programmes represent a fundamental component for development of the most disadvantaged sectors of Brazil's population.

In 2018, the aggregate funds allocated to rural electrification programmes in Brazil represented a total of 189.6 million euros on a consolidated basis for the group.

Electrification programmes 2018	(€ thousands)
Neoenergia	189,636

For some populations with difficulties accessing the network, such as indigenous populations or *quilombolas*, they also receive various assistance programmes from Neoenergia and the installation of off-grid photovoltaic systems and other actions to ensure universal access to the distribution network.



Electricity for All programme

The Sustainable Development Goals (SDGs) 2015-2030, to which Iberdrola has linked its business strategy, define universal access to energy as essential and frame sustainable energy as an opportunity that transforms life, the economy and the planet. To meet the challenges and opportunities currently faced by the world, energy has a central role, whether to foment employment, safety, climate change, food production or to increase income.

A lack of access to the supply of energy is an obstacle to human and economic development. The [*Electricity for All*](#) programme is Iberdrola's response to the call of the international community to ensure universal access to energy services that are accessible, reliable and modern, focused on sustainable electrification activities, linking the purpose thereof to SDG 7.1.

Upon launching the programme, the company set itself the goal of reaching four million beneficiaries of the *Electricity for All* programme by 2020. Iberdrola announced this goal at the UN SE4ALL Forum held in New York in May 2015. This objective was revised in 2018, and within the framework of the Iberoamerican Conference on the Sustainable Development Goals held in Salamanca, Iberdrola launched an ambitious 2030 goal of providing access to electricity to 16 million persons without it in emerging countries.

There are 5.4 million beneficiaries of the *Electricity for All* 2014-2018 programme with 3 areas of activity:

- Financing of projects through capital investment, using the PERSEO investment fund. Iberdrola has invested in Sunfunder and in Iluméxico within the framework of this programme.
- Activities with a social impact: investments promoted by businesses in the countries in which Iberdrola has a presence. This is the case with the *Light for All* Programme of the distribution companies in north-eastern Brazil and their rural customers.
- It develops projects with a high social component, through NGOs and corporate volunteers.





Access for vulnerable customers

The *General Sustainable Development Policy* approved by the company's Board of Directors assumes as a principle of conduct that attention is paid to customers who are economically disadvantaged or in any other situation of vulnerability, establishing specific procedures of protection and collaborating in providing on-going access to energy and gas supply according to the policies established by the competent government authorities in each case.

Thus, the companies of the group have procedures to protect customers at risk of exclusion or in vulnerable situations to facilitate access for the most disadvantaged groups, including the following:

- In Spain, there is application of the *Vulnerable Customer Protection Procedure*, which allows for an increase in collection periods, making payment terms more flexible, and providing personalised advice. Iberdrola has also prompted the signing of agreements with various public entities and other organisations, establishing mechanisms to prevent the suspension of electric and/or gas supply due to non-payment of the invoice by economically disadvantaged citizens, and to ensure the immediate restoration of service if already suspended. The company also has a free exclusive telephone service line for customers in vulnerable situations: 900 100 752. The [agreements signed](#) by the company protect 100% of Iberdrola's residential customers in Spain that might be in situations of vulnerability.

There are also subsidised electricity rates (known as *Bono social*) that apply lower electricity prices to electricity consumers considered to be vulnerable on the basis of certain social, consumption and purchasing power characteristics. In 2017, the Government regulated and defined the figure of vulnerable customer, subsidised rates (*bono social*) and other measures of protection for energy consumers. During the year, the publication of Decree 15/2018 specified, among other measures, the conditions of the subsidised rates and expanded coverage to special groups (family units with disabled members, victims of gender violence or terrorism). At the end of 2018, Iberdrola had 404,540 customers with subsidised rates.

To facilitate access to subsidised rates, Iberdrola has implemented a broad communication plan to get information to all people, like the creation of a new website of the retailer, where customers can obtain all information through the website www.iberdrolacur.es/bonosocial. It has also sent information to more than 1,500 Consumer heads, and has had meetings with consumer associations. The company has made available to customers a consultation inbox, 512 onsite service points with more than 1,000 agents, and 24-hour telephone service with personnel specifically trained to serve customers with respect to the *Bono Social*. It has also created a leaflet and has sent more than 18 million informational letters in the invoice to all customers of Ibercur, together with an informational video distributed on social media, and informational notes and subject-specific meetings with the principal media outlets.

- In the United Kingdom, ScottishPower has signed the *Energy UK Safety Net for Vulnerable Customers* agreement, which includes a commitment to not disconnect those customers who have been declared vulnerable due to reasons of age, health, disability or other serious reasons, and to reconnect them, if applicable, on a priority basis. A *Warm Home Discount* scheme for households at risk of poverty, implemented by the government in 2011, is also still in operation. The ["Extra Care"](#) programme provides "extra care" to the most vulnerable customers, ensuring that they receive the support they need, adjusting payment methods to their individual circumstances and providing them with additional services if necessary. They also have "Hyper Care",



which offers support to customers who show signs that their circumstances might be changing and that they might be entering into payment difficulties.

- In the United States, agreements have been signed with the government to help customers at risk of exclusion and vulnerable customers, and there are energy assistance programmes for these groups at the federal level, such as the *Home Energy Assistance Program (HEAP)*, *CMP's Electricity Lifeline Program (ELP)* (with credits to pay bills based on income and consumption) and the *Energy Assistance Program (EAP)* with two levels of assistance: *Basic Energy* (monthly bill credit) and *Limited Benefit* (to cancel debts for delayed payment). At CMP, the ELP programme also guarantees a connection for people with limited resources who depend on an oxygen tank or ventilator.
- In Brazil, the group's subsidiaries have a special different rate for low-income customers (TSEE) and advantageous prices and special terms for persons in difficulty. In 2018, Aneel (*Agência Nacional de Energia Elétrica*, or National Electric Energy Agency) continued with an update of the registry, selecting beneficiaries therefrom who meet the low-rent criteria of the consumer units determined by the Brazilian regulator.

Information regarding disconnection for non-payment and subsequent reconnections in accordance with the *Electric Utilities Sector Supplement* of the Global Reporting Initiative (GRI) is shown in the following table:

EU27

Residential disconnections for non payment (no.)	2018	2017	2016
Paid up to 48 h after disconnection	1,270,849	1,304,986	1,182,466
Paid between 48 h and one week after disconnection	253,559	236,436	237,576
Paid between one week and one month after disconnection	239,246	226,654	214,745
Paid between one month and one year	197,422	181,141	188,504
Paid after more than one year	8	7	0
Outstanding and unclassified	0	0	48,606
Iberdrola total	1,961,084	1,949,224	1,871,897

Residential reconnections following payment of unpaid bills (no.)	2018	2017	2016
Less than 24 h after payment	1,640,500	1,612,578	1,561,202
Between 24 h and one week after payment	162,744	184,780	191,332
More than one week after payment	124,722	116,395	102,068
Unclassified	0	0	14,634
Iberdrola total	1,927,966	1,913,753	1,869,236

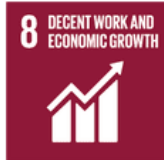
Information on disconnections and reconnections in the various countries is described in Annex 1 Supplementary Information.



Protection of human rights

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Iberdrola's commitment

GRI 407 GRI 408 GRI 409 GRI 412

The group has a firm commitment to the defence of human rights, and has a set of tools that ensure and promote the protection of and respect for human rights, in order to prevent, mitigate and repair any possible impact on human rights. Therefore, the company's practices are in line with the principles underlying the *United Nations Global Compact*, *Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework* (hereinafter the *GPHR*), the *OECD Guidelines for Multinational Enterprises*, the *Tripartite Declaration of Principles Concerning Multinational Enterprises* and the *Social Policy* of the International Labour Organization.

Iberdrola has a [Policy on Respect for Human Rights](#) approved by the Board of Directors in 2015 and last revised in October 2018, the principles of which must be followed by all professionals of the group, regardless of the place in which they carry out their activities. With this policy, apart from formalising its public commitment, Iberdrola wants to send all of its Stakeholders a clear message that the company is committed to respecting the human and labour rights recognised by domestic and international law.

The company has adopted the measures necessary to comply with this policy in all countries in which it operates. And it has made the following commitments, among others:

- Respect the human and labour rights recognised by domestic and international law, as well as adhere to international standards in those countries in which human rights law has been sufficiently developed.
- Reject child labour and forced or compulsory labour, and to respect freedom of association and collective bargaining as well as non-discrimination, the right to freedom of movement within each country, and the rights of ethnic minorities and of indigenous peoples in the places in which it carries out its activities.
- Promote a culture of respect for human rights and awareness among its professionals in this field at all of the group companies and, in particular, at those in which there may be a higher risk of violation of such rights.



During 2018, it has updated its risk map by country and business using an internal methodology which makes assessments based on the countries ratifying or joining the following international conventions and treaties:

- Forced Labour (C029, C105), Right to Organise and Collective Bargaining (C087, C098), Child Labour (C138, C182) and Non-discrimination (C100, C111).
- Convention C169 on Indigenous and Tribal Peoples.
- The 2018 report of the International Labour Organisation (ILO) entitled *Report of the Committee of Experts on the Application of Conventions and Recommendations*.
- International Covenant on Civil and Political Rights.
- International Covenant on Economic, Social and Cultural Rights.
- American Convention on Human Rights signed at the Inter-American Specialized Conference on Human Rights (Treaty B-32).
- European Social Charter (Turin, 18 October 1961).

The position of countries on the following indexes and studies has also been taken into account:

- UNDP Human Development Index (2017 data, the latest available during the study).
- Transparency International (Corruption Risk, 2017 data, the latest available during the study).
- Countries involved in armed conflict (*Report on Conflicts, Human Rights and Peace Processes. 2018 Alert*. School for a Culture of Peace).

412-1 407-1 408-1 409-1

Once the risk map was updated, the data were cross-checked against the analysis identifying the significant locations of operation in 2018, in order to know what locations might have a possible risk of violating these rights.

Of the 150 significant locations of operation (detailed information in the “Key figures” section) covered by analysis or impact evaluations in the area of human rights (100% of the significant locations), 57 of them (38% of the group total) are in Brazil and Mexico, countries considered to be at risk for violation of these rights.

As a result of this analysis, the United States and Canada could also be considered countries at risk, as they have not yet ratified or joined several of such labour conventions. However, given the socio-political characteristics of these two countries and taking into account the internal procedures defined for the subsidiary Avangrid, Iberdrola does not believe there is a risk of violation of these rights for the group’s workers.

Beginning of the project for a new human rights due diligence strategy

During 2018, Iberdrola developed the first stage of a new approach to human rights due diligence. Further developing its *Policy on Respect for Human Rights*, it followed the advice of the Guiding Principles (principle 18.a of the HRGP) and has drawn on the advice of experts who are recognised internationally for their advice on human rights due diligence processes. The due diligence project seeks to adjust the HRGP to the size of the company, the diversity and peculiarities of facilities in the various countries and the complexity of implementing the human rights management system at a company like Iberdrola.



The entire project focuses on persons, specifically on the company's relationship with affected persons, and for that reason it is essential to know the needs of all Stakeholders first-hand (principle 18.b of the HRGP). For the same reason, concurrently with the human rights due diligence project, Iberdrola has developed a Stakeholder relationship model that ensures there are appropriate communication channels for each of them, which will help to better identify important matters and to both prevent and mitigate possible impacts and allow the company to respond with the required agility.

The greatest progress in the methodology used to date has been in the considerable increase of the number and quality of the sources for the identification of actual and potential impacts on its activities, and in the boost given to the full and detailed review of due diligence mechanisms.

Efforts during 2018 focused on:

- building a new methodological and analysis framework to carry out this task, and
- compiling the information required to identify human rights impacts and gaps in due diligence using the new methodology.

The final results and recommendations derived from this work will be presented in 2019 and an Action Plan will be prepared to solve the possible weaknesses in existing due diligence processes, both at the corporate level and at the companies forming part of the group.

In summary, the methodology applied adopts the recommendations of the HRGP at three successive levels of refinement and depth in the identification of human rights impacts:

1. *potential impacts* for the sector, affected by country risk (principle 17).
2. *significant impacts* for the company, based on the severity, possibility of remediation and linkage of impacts (principle 19.b).
3. *priority impacts* for the Action Plan, giving preference to the elimination of due diligence gaps (principle 19.a).

Progress on and results of the human rights due diligence project

The potential impacts on the electric power industry have been identified, thus defining, extensively but precisely, the area with respect to which Iberdrola must be vigilant as regards human rights. This has made it possible to enlarge the focus of what the *Policy on respect for Human Rights*, the *Code of Ethics* and other corporate documents have considered to date were human rights issues, following the advice of the HRGP to take the entire spectrum of internationally recognised human rights into account (principle 12).

To facilitate analysis, in the resulting inventory of potential impacts, they have been classified into categories that include those that share the same aspect relating to the organisation and operations of the company:

- Impact on local communities
- Small-scale environmental impact
- Large-scale environmental impact
- Public insecurity
- Labour practices



- Quality of supply and services
- Universal access to energy
- Privacy and data protection
- Ethics and integrity

Furthermore, various areas of business activity were detected in this phase that are potentially affected by human rights issues but that were not included (at least not explicitly) due to issues of simple terminology or strategic formulation. Thus, progress has also been made in raising sensitivity on human rights across the entire company.

At a second level, an in-depth study has been undertaken to determine which of such potential impacts the company is specifically generating or runs the risk of generating. This study is carried out taking into account the particular characteristics of different contexts and, for that reason, a specialised team has visited work centres and facilities in Spain, Brazil, Mexico and the United Kingdom, while visits to centres in the United States are scheduled for the first few months of 2019. In addition, a survey directed at the heads of the 150 main activity centres was prepared to complete the compilation of information. During the visits made in the reporting period, more than 60 conversations were held with various areas of the company, in which both the consulting team and the Social Responsibility area participated. Thanks to these activities, the significance of the human rights impacts specific to each country is being assessed, based on standards of frequency, severity, scope, possibility of remediation and connection.

Due diligence framework

A general human rights due diligence framework has been determined that is in line with existing management mechanisms.

- The Iberdrola group's corporate governance model, which allows for independence among the various companies of the group while ensuring consistency regarding their commitment to human rights.
- The group's control model, based on three lines of defence that assigns clear prevention, monitoring and assessment responsibilities, thus allowing for an on-going improvement model.
- The regulatory framework for corporate responsibility, which is the basis for policies to guide the responsible management of the business and provide due diligence guidelines across the entire group:
 - o *General Sustainable Development Policy*
 - o *Innovation Policy*
 - o *Human Resources Framework Policy*
- Integration of the due diligence systems within a human rights logic.
- Review of the reporting channels of the *Code of Ethics*.

The following diagram illustrates the foregoing:



Progress has been made in documenting existing commitments, procedures and controls, including both those that have been formally established and those that are customary practices and informal management methods. This task has highlighted the existence of many commitments, procedures and control mechanisms at Iberdrola that are in line with HRGP objectives which, while not explicitly mentioning their connection with respect for human rights, are consistent with a framework of prevention, mitigation and reparation of human rights impacts. Two clear examples are environmental management processes and privacy and data protection policies.

This framework has allowed the company to undertake a gap analysis, which will be the basis for the process to prioritise human rights actions. These actions will be set forth in a short-, medium- and long-term action plan that will take into account the differences at the corporate level and in each of the countries in which the company operates.

Prioritisation

The HRGP recommend prioritising impacts when scheduling initiatives to prevent and mitigate them. That is a third level of analysis. Preliminary results of such assessment indicate that there are differences in the issues that are most significant not only for each country, but also for the various operations and areas of activity. The next step during 2019 will be to assess the differences and the different human rights management models in each country in which the company does business, based on the same human rights due diligence model and gap analysis.

Significant issues for our Stakeholders

Below are some examples of how Iberdrola is managing specific human rights issues that are significant for its Stakeholders.

**a) Related to labour practices**

In connection with labour practices, an issue that was particularly significant for Stakeholders was non-discrimination.

GRI 406

The principles of non-discrimination and equal opportunity applied at the Iberdrola group are contained in both the [Code of Ethics](#) and in the global policies and procedures that have been approved and implemented ([Recruitment and Selection Policy](#), [Equal Opportunity and Reconciliation Policy](#), etc.), and its mission is to avoid any discrimination for reasons of race, colour, gender, language, religion, political opinion, national origin, social status, membership in an indigenous community, disability, health, marital status, pregnancy, sexual orientation or other condition of the person that bears no relationship with the requirements to perform their work. It also has collective bargaining agreements and local policies, including:

- Equality and Reconciliation Plan and Anti-Harassment Action Plan for companies of the *7th Collective Bargaining Agreement* in Spain.
- Policies on equal opportunity and reconciliation, anti-age discrimination, people with disabilities, equal pay, harassment and flexible working policies, as applied in the United Kingdom.
- Equal remuneration policy at Neoenergia, in Brazil.

By applying all of these instruments, Iberdrola ensures that the selection processes are based solely on the merits of the candidates and that the promotion of equality within the group as regards access to employment, professional training and promotion and working conditions is guaranteed.

During 2018, the group received a total of 26 grievances regarding labour discrimination through the various channels. 10 of them are pending. Of the grievances that have already been closed, i.e. 16, 4 ended confirming the existence of improper action in this area and the rest, 12, did not find evidence of such impropriety. Of the former, 3 led to a written reprimand and the fourth led to dismissal.

406-1

Reported incidents of discrimination (no.)	2018	2017	2016
Iberdrola total	26	12	7

b) Related to an impact on local communities and the rights of indigenous peoples**GRI 411 411-1**

In relation to local communities, the issue of relations with indigenous peoples has been a concern of the Stakeholders.

In applying the [Code of Ethics](#) and its corporate policies (especially the [Policy on Respect for Human Rights](#)), Iberdrola and its employees undertake to respect both ethnic minorities and the internationally recognised rights of indigenous peoples, in accordance with applicable law and the obligations set out in Convention 169 of the International Labour Organization (ILO).



Employees belonging to indigenous communities

During 2018 in Brazil, only the electricity distributor Celpe (Neoenergia group) has employees that declare themselves to be of indigenous race, but since they do not reside in an indigenous community, they do not belong to one. However, at the Belo Monte hydroelectric plant (owned by Norte Energia, a company in which Neoenergia has an indirect 10% interest, without exercising control or management thereof), outside labour has been hired from the various indigenous communities in implementation of the Medio Xingu Territorial Protection Plan (*Plano de Proteção Territorial do Médio Xingu*) (PPTMX). Furthermore, in the United States Avangrid has employees who identify as Native Americans or Native Alaskans. There is no evidence of employees belonging to indigenous communities at the other companies of the Iberdrola group.

It should be noted that there were no incidents relating to the violation of the rights of employees belonging to indigenous communities during 2018.

Presence of the company in indigenous territory

The company, with a presence in 3 countries where there are indigenous communities (Brazil, Mexico and the United States) wants business activities to be carried out with respect for different cultural identities, traditions and environmental wealth, as many times these communities depend on natural resources for their subsistence. Therefore, it establishes pathways of dialogue with the participation of the State and of the various organisations representing these communities, in order to report on the projects with due transparency and integrity. However, there may occasionally be direct or indirect impacts on these communities at some facilities, which is why there is an attempt to promote ethical practices with the goal of preventing conflicts, being competitive and generating mutual benefit, which in the long term is the base social value.

The activities performed in indigenous territories is describe below:

- In Brazil, in August 2017 Iberdrola became the majority shareholder of Neoenergia, S.A., a company that already held 10% of Norte Energia, S.A., which is the company responsible for the construction and operation of the Belo Monte hydroelectric plant, where there have been impacts on the indigenous communities occupying the region of Medio Río Xingu, in the state of Pará, affecting a total of 9 ethnicities (around 3,857 indigenous persons). In order to mitigate, compensate and/or prevent these impacts, Norte Energia, S.A. prepared an ethnological study, and based on that study prepared a Basic Environmental Plan for the Indigenous Component (Projeto Básico Ambiental-Componente Indígena) (PBA-CI) made up of nine programmes: i) Environmental Supervision Programme; Indigenous Territory Management Programme; ii) Works and Infrastructure Programme; iii) Productive Activities Programme; iv) Integrated Indigenous Health Programme; v) Indigenous School Education Programme; vi) Institutional Strengthening Programme; vii) Tangible and Intangible Cultural Heritage Protection Programme; viii) Relocation and Resettlement Programme; and ix) Indigenous and Non-Indigenous Communication Programme. It also prepared the Medio Xingu Territorial Protection Plan (*Plano de Proteção Territorial do Médio Xingu*) (PPTMX) based on the relocation of populations called “riparians” (*riberleños*). The actions to protect the riparian population are included in the General PBA, now connected to the Rural Resettlement Project. Through December 2018, approximately 313 families have been relocated, seeking the re-establishment of the traditional life style with the



preparation of sites on the edges of the dam (a total of 121), always taking into account applicable environmental law as well as environmental sustainability.

The PBA-CI will be developed during the period of the concession, i.e. 35 years. The plan will be reviewed every 5 years in order to update it and thus ensure that indigenous rights are respected. For more information regarding the environmental permit programmes of Below Monte, see:

<https://www.norteenergiasa.com.br/pt-br/sustentabilidade/licenciamento-ambiental>

- Neoenergia, S.A. also holds 50.1% of Companhia Hidrelétrica Teles Pires, responsible for the construction and operation of the Teles Pires hydroelectric plant, located on the border of the states of Pará and Mato Grosso, on the Teles Pires river, an affluent of the Tapajós river, next to the municipalities of Jacareacanga and Paranaíta. This plant is located 60 km from the border of the nearest indigenous lands. Although there is no direct impact, under Brazilian law there must be socio-environmental studies and programmes, for which reason the company has established a joint dialogue with the National Indigenous Foundation (*Fundación Nacional del Indio*) (FUNAI), the Federal Public Ministry and indigenous leaders of each ethnicity affected by the project in order to respond to the demands and expectations of each community. The Basic Environmental Plan for the Indigenous Component (PBA-CI) was jointly prepared and approved along with 19 socio-environmental programmes to mitigate and sustainably encourage the cultural, social and economic activities of the ethnicities of the area.

The plan is being implemented according to the timetable approved by the Teles Pires hydroelectric company, and the works approved for the Kayabi have already been completed, the works for the Munduruku are being finalised, and the works for the Apiaká have started. For more information on the indigenous components of the Teles Pires environmental action plan, see:

- [P 45 - PBAI APIAKÁ](#)
- [P 45 - PBAI KAYABI](#)
- [P 45 - PBAI Munduruku](#)
- As regards network construction activities, various distributors of the Neoenergia group have engaged in construction in indigenous land areas in Brazil. The distributor Coelba built two medium-voltage projects (Medida Provisoria - Faz Renascer - Região Sapucaeira y Medida Provisoria - Faz Bela Cascata) which were processed by the governmental environmental authority to obtain the Vegetation Suppression Approval (VSA) and Declaration of Intervention in Permanent Preservation Area (DIPPA) and FUNAI was also consulted. The distributor Celpe also built a substation and transmission lines in the Fulni-ô indigenous territory, in the municipality of Águas Belas (Pernambuco). Finally, the distributor Elektro is bidding on two sub-transmission lines, Línea de Transmisión Manoel da Nobrega-Mongaguá and Línea de Transmisión Mongagua-Peruíbe, located near certain indigenous villages on the southern coast of the state of Sao Paulo, and it is also working with FUNAI and a specialised company to prepare the Indigenous Component of the environmental licensing study to mitigate the impacts.

It is important to note that all of these electricity grid construction activities adhere to the principle of the Clean Production technique, which seeks to lower the local environmental impact of the operations, with reduced suppression of native vegetation, prioritising the plotting of lines through areas that are already



transformed by human activity or on existing motorways, as well as the use of protected cables for greater co-existence with existing forestation.

- In the United States, in the State of California, the Tule Wind Project reached commercial operation at the beginning of 2018, and the Tribes of the Kumeyaay Nation were affected by the project, as various new cultural resources were found, but no incident arose with these communities because each of the impacts was timely handled by the company, which formally consulted with tribal representatives and the Bureau of Land Management (BLM). As part of the agreed mitigation efforts, a consultant specialising in cultural resources was hired to design a District Nomination request pursuant to the provisions of Section 106 of the National Historic Preservation Act in order to document and help to preserve the cultural resources discovered near the project site. There was also work together with tribal representatives to determine both the location of the pavilions as well as the text of the panels to be placed in public places with specific information on the history of the region and its tribes, managed by the BLM.
- The activities of Iberdrola Mexico did not lead to incidents with indigenous communities during the reporting period.

c) Relating to public insecurity and labour practices in the hiring of security services

Another issue that is significant to the Stakeholders has been the management of security services.

GRI 410

The [Corporate Security Policy](#) approved by Iberdrola's Board of Directors and the specific security procedures adopted by the Corporate Security Division for each situation and country are compatible both with international human rights provisions and with the laws of each country.

With the certification granted by Aenor and IQNet since 1999, renewed based on the new ISO 9001:2015 standard, the action protocols are defined and implemented in all activities and services provided.

The hiring of security and monitoring services providers is handled by the Procurement and Insurance Division using competitive tender processes in accordance with the corporate Procurement Policy, model and procedure currently in effect. The Corporate Security Division is responsible for setting the technical specifications and standards to be met by such suppliers in order to be hired, in terms of physical security, resources, training, cybersecurity, etc.



410-1

Security personnel trained in human rights	2018	2017	2016
Company personnel			
Company personnel (no.)	173	140	130
Company personnel trained in human rights (no.)	172	139	120
Company personnel trained in human rights (%)	99	99	92
Subcontracted personnel			
Subcontracted personnel (no.)	1,448	1,483	1,242
Subcontracted personnel trained in human rights (no.)	909	1,240	1,059
Subcontracted personnel trained in human rights (%)	63	84	85

The reduction in the number of subcontracted security personnel with human rights training is due to the tender for security and monitoring services in Spain and Mexico in 2018, with the resulting subrogation to the companies providing the services. The new companies have committed to provide a specific online human rights training course for security personnel in 2019.

d) Employee training on human rights

412-2

Due to the importance that respect for human rights has for the company, there are various training initiatives to inform the entire organisation of the social and labour rights affecting the activities of the company and to train all employees on the prevention of risks in the operations of the company, mitigation and the remediation of any violation of human rights.

Iberdrola believes that all employees must become involved in compliance activities and in the dissemination and reporting of any violation in connection with this aspect, and that the entire team is responsible for ensuring that respect for human rights is a reality.

Employee training on human rights (h)	2018	2017	2016
Spain	109,595	73,244	136,790
United Kingdom	102,510	30,561	25,242
United States	15,238	49,247	32,241
Brazil	16,533	23,316	11,935
Mexico	20,832	25,901	14,526
Iberdrola total	264,708	202,270	220,736

Aware that internal awareness-raising alone is not enough, Iberdrola has also acted as a motivating lever for its suppliers, preparing an awareness-raising module regarding human rights, and intends to make it available to other Stakeholders.



e) Investment agreements and contracts that include human rights clauses

412-3

The policies, codes and procedures governing the operation of the company are applied in all of Iberdrola's activities, including investments. Specifically, the [Procurement Policy](#), which contains the general contracting terms of the Iberdrola group, includes a specific section on respect for human rights. Specific human rights clauses are also included in the United Kingdom by application of the Modern Slavery Act approved in 2015. During financial year 2018 there were 13 projects with significant investments⁹⁵, all located in the United States:

- In the Networks Business, Central Maine Power Company (CMP) is developing the New England Clean Energy Connect (NECEC) transmission project in New England, with an estimated capital investment of approximately 950 million dollars.
- In the Renewables Business, turbines have been acquired for the Coyote Ridge and Otter Creek wind farms in the total amount of 316 million dollars, and there are various contracts regarding the construction of the new Karankawa wind farm, as well as the repowering of the current Colorado Green wind project for almost 250 million dollars.

⁹⁵ Significant investment means one that requires more than 100 million euros or one that is considered to be significant for the company even though it requires a smaller investment due to the format or strategic importance thereof.



Support to local communities

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 413

Introduction

Iberdrola maintains a policy of strong involvement in the communities in which it operates, making a contribution to society linked to its own business activities: the supply of an essential product like energy, significant investments in basic infrastructure, promotion of local supplier networks, creation of qualified job positions, etc., with the intention of being a long-term investor in the regions in which it has a presence, in order to generate sustainable economic and social value.

Iberdrola's commitment to the local communities of the countries in which it operates takes shape through social activities in cooperation with governments, institutions and civil society organisations, as well as through sponsorships and patronage. The programmes of activity focused on social and economic development of the surroundings are especially significant.

These programmes and activities are implemented in various complementary ways:

- Directly by Iberdrola, through the Institutional Relations Division.
- Directly by subsidiaries or affiliates (i.e. investee companies, i.e. those in which the company has an equity interest), in their respective areas of activity.
- Sponsorship and patronage activities, primarily through [Fundación Iberdrola España](#), [ScottishPower Foundation](#) in the United Kingdom, [Avangrid Foundation](#) in the United States, [Instituto Neoenergia](#) in Brazil and [Fundación Iberdrola México](#).
- There are also two other organisations in the United Kingdom with a philanthropic purpose: The ScottishPower Energy People Trust and The ScottishPower Green Energy Trust, which carry out activities in their specific areas of competence.



Development programmes for local communities

Iberdrola takes various types of actions to minimise, mitigate and offset unfavourable socioeconomic impacts that might be caused by its facilities. Local communities benefit from these measures, which are usually established and agreed on with local authorities. They include: improvements in communication infrastructure, water supply or roadways; public lighting; creation of direct and indirect employment; professional training courses; activities to support entrepreneurs; opening of communication processes with various Stakeholders; protection of biodiversity; and the restoration of areas, among other measures.

One noteworthy example is the creation of Energy Classrooms to foster an understanding of renewable production technologies, which involve not only visits to facilities but the development of an educational programme to acquire knowledge about energy, especially about renewable energy sources, and to promote an active attitude for the efficient use of energy and thus to contribute to energy saving.

Actions to support municipalities are also planned during the construction of the group's hydroelectric plants in Brazil, such as rural relocations at Baixo Iguaçu and its hydroelectric plant, where the population has been served by various programmes and there has been socio-economic monitoring of the population with a commitment to entrepreneurship.

A more detailed description of these activities can be found in "Economic/financial impact" section of Chapter II.1 Sustainable economic growth and in the "Contributions to society (LBG)" and "Foundations" sections of this chapter.

Impact assessments

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In each of the countries in which the group operates, environmental impact assessment studies are performed at Iberdrola's locations of operation in accordance with applicable law prior to the construction of facilities. Activities addressing its Stakeholders are also performed, including social development programmes and participation in local communities. Almost 100% of the company's locations of operation are subject to these types of activities, focused on meeting the needs of its Stakeholders, especially in local communities, and engaging in the most appropriate activities in all those areas that most directly affect them. The principal activities are described in greater detail below:

Iberdrola believes that the impacts of the start-up of electric power generation plants are especially significant. In the countries in which the company builds and operates these types of facilities, applicable laws require the performance of studies assessing the impact on the environment and the community, and such studies must be approved by the competent public authorities. Iberdrola believes that these studies and assessments are appropriate to safeguard the rights of communities, as they include the most significant issues for the affected areas.

These studies include an evaluation of the environment providing a review of environmental impacts such as emissions, effluent, waste, changes in land use, changes in landscape aesthetics and quality, etc. They also include an evaluation of the social and economic environment, which reviews demographic aspects such as changes in population in neighbouring municipalities, economic sectors that are present in the region, basic infrastructure such as railway and road networks, and historic and cultural heritage, along with the growth in job demand in certain sectors, which is seen as a positive impact.



The impacts of the various types of facilities developed by Iberdrola are similar at the various sites at which they are implemented, and none of them are noteworthy for significant negative impacts. Consultation with and participation of both the affected government administrations and interested parties are usually guaranteed during the performance of these studies, and part of the documentation of the project is subject to public review for a period of time that varies according to the law applicable in each country. The viewpoints of the Stakeholders consulted are thus taken into account in defining the future project.

These studies also contemplate the preventive and corrective measures required to mitigate the impacts identified, and if necessary, the appropriate budgetary allocations to comply with the commitments assumed are included.

To conclude the process, programmes are implemented to monitor the various aspects identified. The effectiveness of the programmes is reviewed by means of internal and external audits, as well as by the management team and by the Community Eco-Management and Audit Scheme (EMAS). For example, in the case of nuclear plants, an environmental [Radiological Protection Programme](#) is prepared to control and monitor the impacts of the facility during the operation thereof. There are also barometers regarding the environment near the facilities, half-yearly meetings with the municipal authorities, and frequent contacts to measure the “social environment”.

Most facilities have an Integrated Quality and Environmental Management System⁹⁶, the principal goal of which is to foster continual improvement in the results of the organisation's activities with respect to the environment, in addition to compliance with environmental laws. Iberdrola prepares information and plans for the closure and decommissioning of facilities in accordance with applicable law and informs the workers' representatives thereof.

Advisory committees and processes and participation of local communities in decision-making

Iberdrola plays an active role in the participation of local communities during the planning and construction of projects, expressing its points of view and making its knowledge and experience available to the government authorities. Energy planning (energy sources, technology and long-term needs) is carried out by governmental authorities; this is the institutional area in which the various Stakeholders can participate in accordance with the mechanisms established in each country.

Once the most appropriate infrastructure is selected, the viewpoints of the affected communities are taken into account through consultation processes, which vary depending on the country and the type of facility. All these processes, which are included in the facilities' impact assessment studies, are regulated, and they are determining factors in order to secure the construction and operating permits for the power plants; in addition, they are frequently completed with processes voluntarily performed by the company. Along these lines, it should be noted that methods have been incorporated into the Environmental Management System so that Stakeholders can send their concerns, complaints, requests for information or any other kind of request to minimise impacts in the area.

During the planning and development of assets, prior consultations are also held and an active dialogue is maintained with the affected communities and interested parties in order to identify and address any concerns or areas of interest. In every project, relations are established with

⁹⁶ 73% of the group's energy production is under Environmental Management System certification.



local authorities, communities and any other groups that may be relevant to the project. Information concerning the planned development is presented through newsletters, exhibitions, presentations, meetings, the group's websites, etc. There are also e-mail addresses to allow local communities to communicate with the company during the process and, in some cases, public information days are held for such purpose.

Set out below are some of the activities conducted by Iberdrola in this field for projects currently under development:

- In the Wholesale and Retail Business in Mexico, there have been studies of the social impact of the projects currently under construction, specifically at the Topolobampo combined cycle plants (in Ahome, Sinaloa). Based on these studies, the Secretary of Energy of the Mexican government issues a resolution setting out recommendations and actions in the social area to benefit the community: paving, improvements to educational and social centres, etc. And in Brazil, there has been a socio-economic evaluation of the area around Termopernambuco, analysing demographic aspects, surroundings, influence area of the Suape Port, basic infrastructure, cultural heritage and generation of employment.
- In the Networks Business, pursuant to procedures for the management of social impact, there is public dissemination regarding projects of a certain size, in all cases complying with the regulations of each country. Both the project and the size thereof are especially taken into account regarding the impact on road infrastructures, as well as potential impacts on the landscape.
- In the Renewables Business, since the commencement of the Tâmega River hydroelectric project in Portugal, there has been an impact assessment process with the participation of Stakeholders through public consultations in the affected municipalities. In 2018 there were quarterly meetings with the Environmental Monitoring Commission (*Comissão de Acompanhamento Ambiental*) (CAA), made up of Iberdrola and various local and national entities, the objective of which is to supervise environmental aspects and socio-economic impact, which is completed with site visits. The agreements with the municipal chambers of the influence zone were also renewed.

In the United States, there are social evaluations regarding community development during the planning and construction phases for potential projects. There were various consultations with communities around potential project areas in Illinois, New York, South Dakota, Oregon, Washington and Texas in 2018. The fishing fleets of Massachusetts and Rhode Island are also in the process of consultation for the Vineyard Wind offshore wind project. In Mexico, in the construction expanding the La Ventosa plant, the affected area is being restored in accordance with the ruling of the National Commission on Natural Protected Areas (*Comisión Nacional de Áreas Naturales Protegidas*). Finally, in Brazil, work is taking place at the Serra de Santana windfarm complex (under construction) on a preliminary proposal for economic activation of family farming in accordance with the nature of the region. The new facilities of Neoenergia in Brazil are committed to promoting local development activities for both urban and rural populations: projects to generate income, technical support for affected rural families, health units, schools and social centres.

During the operation phase for facilities, Iberdrola engages in different processes of participation with the various Stakeholders that it relates to and that are described in detail in the "Stakeholder engagement" section of this report.



Management of population displacements

As a prevention measure, during the planning phase for new projects, Iberdrola evaluates the land that will potentially be occupied, choosing that which involves lesser displacement of people who either reside in the immediate area or whose economic activities are affected. In this ultimately occurs, Iberdrola and the relevant government authorities review the economic, environmental and social consequences of such projects, and jointly adopt suitable corrective measures. The company believes that such processes ensure the protection of general interests in the countries where these impacts occur. The measures adopted in projects of this nature currently being developed by Iberdrola are described below.

EU22

The construction of Wholesale and Networks assets have not affected the real property of people because they are built on land acquired or assigned, and are also small in size. No person was physically or economically displaced during 2018.

As regards the Renewables Business, Iberdrola is currently developing various plants that involve displacements of population:

- In the construction of the Tâmega hydroelectric complex, in Portugal, it is expected that there will be displacement of some families as well as the occupation of pathways and farmland, pursuant to the process of Declaration of Public Interest by the Portuguese government, of which there have already been three phases. In the socio-economic and cultural action plan for the project, which actions are currently being developed and coordinated with the government administration and municipal legislatures, the affected or potentially affected families and small population centres are taken into account. The displacements that have been identified as necessary and the respective economic compensation has been provided in accordance with the law on expropriations in Portugal and the socio-economic studies and in accordance with the methodology implemented regarding the management and definition of displacements and potential economic damages. Up until 2018, after agreement with the affected families, there have already been 7 displacements of homes affected by the construction (approximately 30 people).
- In Brazil, some of the hydroelectric projects in the past caused population displacements or interfered with their economic activities. The mitigation plans that were implemented are described in the "Protection of human rights" section above. There were no displacements of people in 2018.



Contributions to society (LBG)

Social actions, in cooperation with government authorities and civil society organisations, constitute a significant part of Iberdrola's commitment to the community. Detailed information on such actions can be obtained both from the published reports and from the corporate websites of Iberdrola's subsidiaries in Spain, the United Kingdom, the United States, Brazil and Mexico.

Dedicated resources



Iberdrola has selected the *London Benchmarking Group* (LBG) model to measure and assess business contributions to the community due to its wide international recognition. It is regarded as the most highly-valued standard for measuring the results and impacts of social programmes, both for the company and for the community. This standard only recognises projects that involve voluntary contributions for social or environmental protection ends, for non-profit purposes and that are not restricted to groups related to the company.

A detailed description of the LBG model can be found at the www.lbg.es.

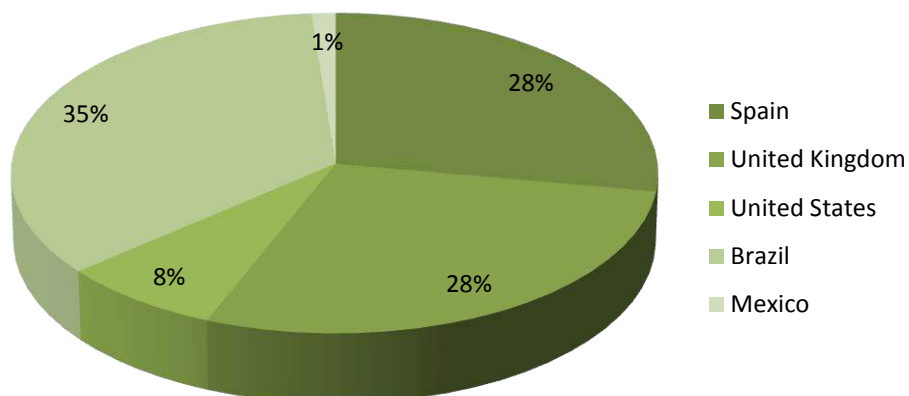
Iberdrola has used the LBG model to report its contributions to society in this *Sustainability Report* for financial year 2018.

Contribution to the community in 2018		(euros)
By category		
- Charitable gift		3,481,748
- Community investment		36,268,099
➤ Socioeconomic development of the community		
➤ Energy sustainability		
➤ Art and culture		
➤ Education and training		
➤ Cooperation and community service		
- Commercial initiatives in the community		10,328,534
- Management costs		3,373,888
By type of contribution		
- Cash contributions ⁹⁷		49,946,201
- Staff time		115,648
- In-kind contributions		16,532
- Management costs		3,373,888
Total		53,452,269

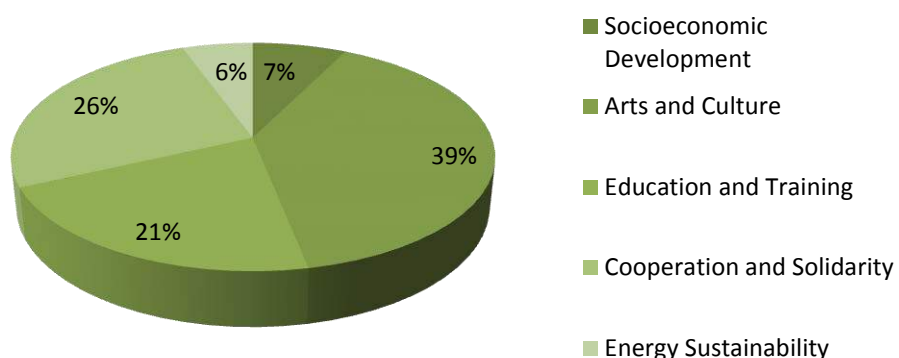
⁹⁷ Contributions made mostly to non-profit organisations and foundations but also to universities, government administrations, etc. provided that they meet the aforementioned LBG Model standards.



IBERDROLA'S CONTRIBUTION BY REGION



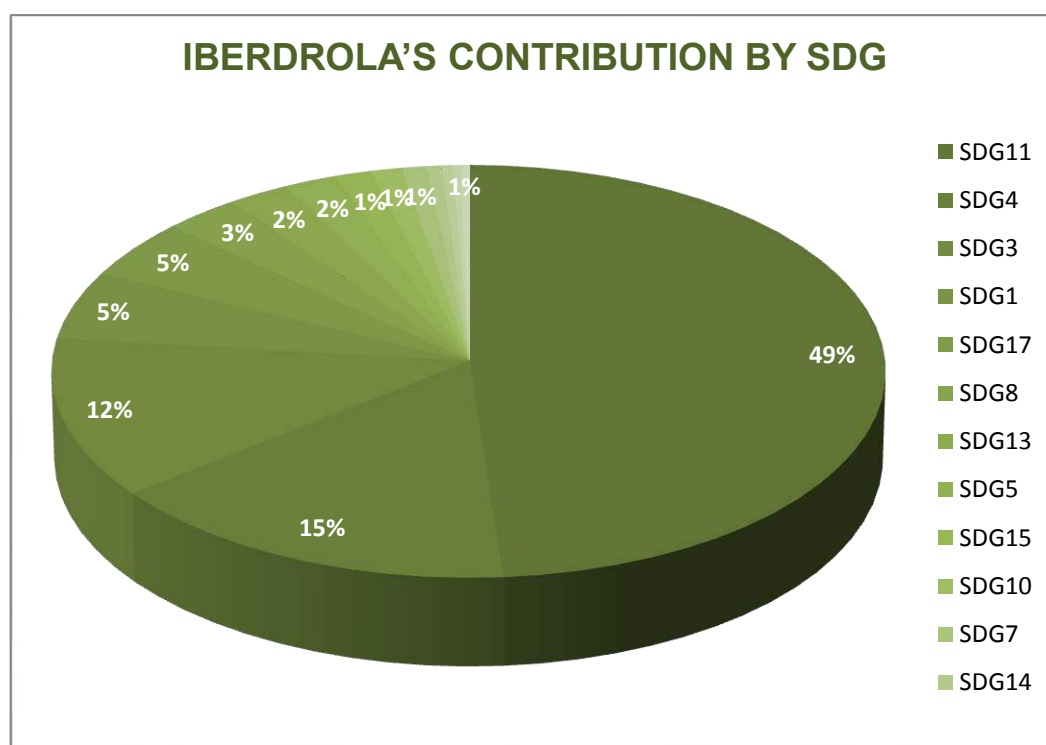
IBERDROLA'S CONTRIBUTION BY PROGRAMME





Also, for the second year in row, Iberdrola has evaluated the SDGs and targets to which each of its social initiatives contribute, as shown in the following table:

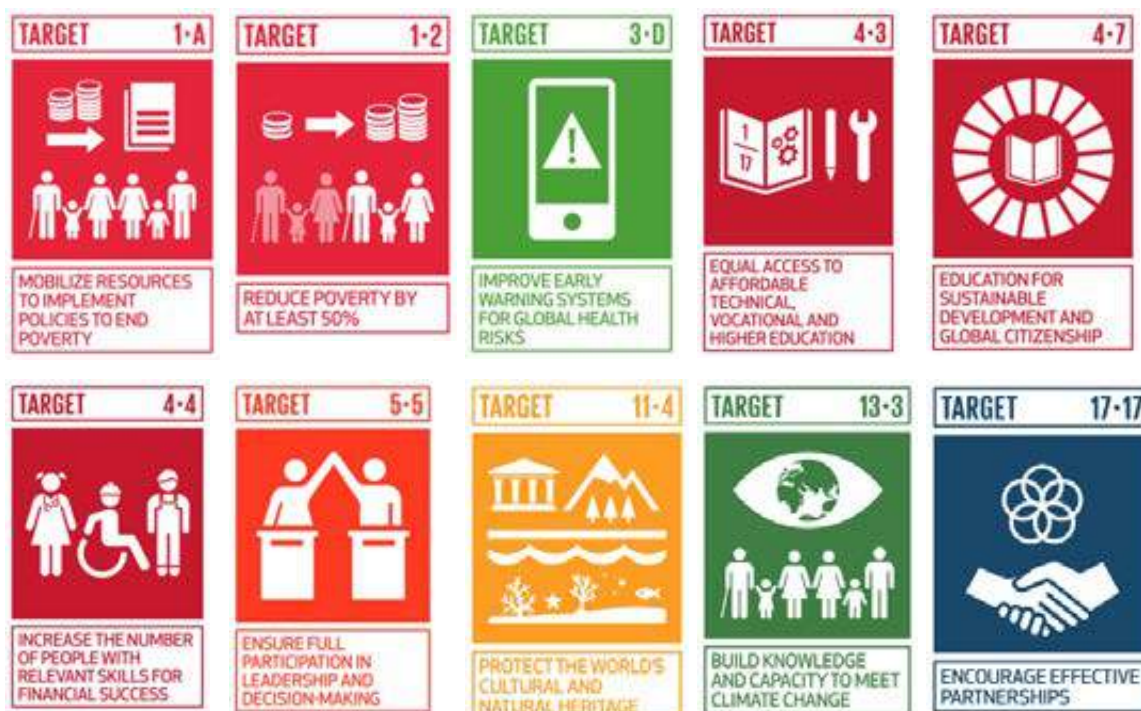
Contribution to the community in 2018		(euros)
By Sustainable Development Goals (SDGs) ⁹⁸		
-	1. End poverty	2,581,838
-	2. Zero hunger	10,329
-	3. Good health and well-being	6,032,889
-	4. Quality education	7,480,624
-	5. Gender equality	1,032,313
-	6. Clean water and sanitation	23,262
-	7. Affordable and clean energy	487,559
-	8. Decent work and economic growth	1,475,338
-	9. Industry, innovation and infrastructure	155,311
-	10. Reduced inequalities	612,753
-	11. Sustainable cities and communities	23,574,742
-	12. Responsible consumption and production	149,664
-	13. Climate action	1,208,086
-	14. Life below water	287,244
-	15. Life on land	717,875
-	16. Peace, justice and strong institutions	220,445
-	17. Partnerships for the goals	2,273,652
Total		48,323,924



⁹⁸ The breakdown of contributions to the community by SDG covers 96.5% of the figure reported, as it is not in all cases possible to establish a link between the initiatives and their contribution to an SDG.



The 10 targets for which the most contribution has been made through social actions in 2018 are described below:



Benefits for society






Iberdrola uses various parameters to measure the results achieved by its community support programmes. In its Master Plan for the 2019-2021 period, Iberdrola's foundations have among their guidelines the development of evaluation mechanisms that include a methodology adapted from LBG to measure outputs and impacts for its most important programmes and projects which include direct contributions to the Sustainable Development Goals.

In 2018, Iberdrola's foundations forged multiple alliances in Spain, the United Kingdom, the United States, Brazil and Mexico covering a total social investment of 9.3 million euros for its commitment to society in these areas of work:

- **Training and Research:** this area of work focuses on a group of young students, supporting their degree studies, technical training and languages. Education is a useful tool to promote sustainable development and these initiatives offer opportunities to youth with good academic backgrounds who do not need financial resources to engage in their studies. These projects of Fundación Iberdrola linked to training contribute to achieving SDG 4 Quality education with an investment of 1.3 million euros.
- **Biodiversity and Climate Change:** from this work area there is work with public institutions and entities dedicated to protection of the environment, contributing to the scope of specific targets of SDGs 13 Climate action and 15 Life on land with an investment of 1 million euros.



- **Art and Culture:** from this area there is work with cultural institutions, prestigious museums, public institutions and religious entities in order to promote culture and restore and conserve artistic heritage, favouring local development. This directly impacts Goals 8 Economic growth and 11 Sustainable cities and communities with an investment of 2.2 million euros.
- **Social Action:** from this area there is work with non-profit institutions, foundations and development agencies to boost social and humanitarian projects focused on the most vulnerable people and that contribute to reaching the specific goals of SDGs 1 End poverty, 3 Good health and well-being, 5 Gender equality, 7 Affordable and clean energy and 10 Reduced inequalities with an investment of 3.5 million euros.

GENERAL OBJECTIVES (GO)	WORK AREAS	SDGs
1. Support training and research generally, prioritising innovation to contribute to energy sustainability	Training and Research	
2. Support protection of the environment and improvement of biodiversity, to actively contribute to the fight against climate change	Biodiversity and Climate Change	
3. Protect and safeguard artistic and cultural heritage: promote conservation and restoration, driving local development.	Art and Culture	
4. Contribute to sustainable human development, supporting the most vulnerable people and groups	Social Action	
5. Promote partnerships that allow for actions to reach the SDGs, associated with actions by the Foundations within the Local Context.	Partnerships for the SDGs	

Benefits for the company

Iberdrola believes that the main benefits that it obtains from its commitment to society are:

- Building and reinforcing relationships of trust with communities, through the support of social organisations and national, regional and local governments, which has a favourable impact on relations with all of the Stakeholders.
- Achieving higher brand recognition and improving its corporate reputation.
- Improving employee satisfaction, by their belonging to a socially valued and recognised company, which favours the attraction and retention of talent.
- Strengthen focus of social action for Iberdrola's Stakeholders and for society in general.
- Contribute to the scope of the larger global challenge, the Sustainable Development Goals.
- Contribute knowledge, technical experience and skills for human development.



Corporate volunteering programme

The Iberdrola group offers its workforce various volunteer opportunities within the framework of its Corporate Volunteering Programme, in which more than 3,500 employees participated during 2018. Created in 2006, it is today a global and international project aligned with the values of the group and its *General Sustainable Development Policy*, which is intended to channel the employees' spirit of community service (solidarity) and motivate them to participate in social projects aimed at the integration of vulnerable groups, improving the environment and sustainable development.

The Programme is aligned with the Sustainable Development Goals defined by the United Nations for the 2015-2030 horizon, and especially focused on goals 3 (good health and well-being), 4 (quality education), 7 (affordable and clean energy), 10 (reduced inequalities) and 13 (climate action). This year the programme was recognised with an Innovation Award during the IMPACT2030 summit, held at the United Nations Headquarters in New York. This award recognises the innovative approaches of companies that make the most of their human capital, through corporate volunteering programmes, to move forward in achieving the Sustainable Development Goals (SDGs). Specifically, Iberdrola was selected for being a company that innovates to educate, inspire and unite employees around the SDGs in their community, and provides opportunities for them to be agents for change and achieve an impact, as well as for its exceptional commitment to move volunteers to action on the SDGs.

Also, this year, Iberdrola became part of the governing board of Voluntare, the most important Spanish-speaking international corporate volunteering network, with a presence in both Spain and in Latin America. With this decision, the company strengthens its commitment to Corporate Volunteering as a sustainable development tool.

Iberdrola has also maintained its leadership in the Corporate Volunteerism Observatory together with the NGO Cooperación Internacional, an initiative that, since its inception, promotes study, research and training and promotion activities relating to corporate volunteerism, with the goal of helping corporations make appropriate decisions in this area.

Some of the more noteworthy corporate volunteer initiatives carried out in 2018 were the following:

- The seventh edition of the global INVOLVE (International Volunteer Vacation for Education) project, which has offered training in new technologies to youths at risk of exclusion, with a two-week stay over the summer in Brazil or Mexico, respectively, of an international team of 34 volunteers from Spain, the United Kingdom, the United States, Brazil and Mexico, supported by local volunteers as an intercultural link.
- National and international volunteer days were organised, including International Volunteer Day held simultaneously in Spain, the United Kingdom, the United States, Brazil and Mexico which, under the motto *Together we build the world that we want!*, brought together more than 1,800 participants in more than 60 simultaneous initiatives, directed towards the fight against climate change, the inclusion of vulnerable groups and raising awareness about diversity. Volunteer Days were also held in Spain, with games and sports days to encourage the normalisation and integration of persons with functional diversity.
- Cooperation initiatives for development in African countries, within the framework of the "Electricity for All" programme, and its public-private cooperation project to improve electric power supply at several refugee camps in Ethiopia, which has commenced its second phase. At the same time, the company worked on another initiative to improve access to



water through photovoltaic solar systems at refugee camps in Kenya, Mauritania and Sudan.

- "Iberdrola with Refugees" has continued giving support to the Integration Schools, promoted by Fundación para el Fomento del Desarrollo y la Integración (FDI), where 104 refugees have been able to take advantage of digital tools workshops in 2018, in addition to training in the Spanish language and adjustment to the environment. These workshops have expanded their humanitarian emergency response to include a group of refugees from the Aquarius vessel who arrived in Spain, and culinary integration days have allowed for cultural exchange at various Spanish cities.
- Other international initiatives in which the company participated were "Lights... and Action!" together with Fundación Tomillo to provide energy efficiency training and develop the employability of youths from underprivileged environments, and "Know your Laws", which has favoured the integration of immigrants through courses offered by company employees with legal training. In the United Kingdom, several volunteers have made available professional knowledge on marketing or administrative work, respectively, to the social entities Glasgow Building Preservation Society and Ronald McDonald House.
- Climate action continued with global projects such as "Fight against climate change" in Spain, Mexico, Brazil and the United Kingdom to raise awareness among youth on this problem through talks at school centres, and training was offered to 6,408 children at 77 centres. "Climate Volunteers", together with AIESEC, had 29 participants from the 5 countries where the company has a presence, who had the opportunity to live a volunteer experience in Brazil, Colombia and Costa Rica to create environmental awareness in various communities.
- Environmental care activities, cleaning of invasive species and reforestation in various cities in Spain, the United Kingdom, the United States, Brazil and Mexico, such as the 11th Tree Day in Spain, which has allowed for recovery of the Urdaibai (Biscay) Biosphere Reserve and thus continue with the "Iberdrola Forest" project, and participation in SEO/BirdLife's "LIBERA" initiative together with Ecoembes, with its large cooperative trash collection at various points in Spain to raise awareness concerning nature without trash.
- Projects to offer a new life for unused objects, such as "Solidarity Recycling", combining solidarity and environmental ends, which has continued to collect plastic plugs and has expanded the scope of its activities by including the collection of prescription glasses for donation to refugee camp inhabitants in Lesbos (Greece).
- Sports competitions with environmental ends, such as the ECORUN race.
- International food collection campaigns, which have allowed for the collection of more than 6.5 tons of basic foodstuffs and children's products. This activity ended with volunteer activities at social canteens and distribution of food to homeless persons.
- The company participated in various sports competitions aimed at the integration of vulnerable groups, such as the "Capacities Race", "Run for Syria", "Final Four. First National Wheelchair Basketball Competition, HePA Race and various races to support cancer victims, such as the Race against Cancer to support the Asociación Española Contra el Cáncer, "Mexico Special Olympics for integration", "11th Nobody Gives Up Here Race" to support Mexican children with cancer, and the "I run VS Cancer" race.
- Activities to promote the independence of vulnerable women, such as the "Women with their Own Light" Literary Workshop, or a sports day adapted for women with functional diversity for Women's Day.
- Childhood support activities with various entities such as Aldeas Infantiles, the Asociación Española de Ayuda a Niños con Enfermedades Hepáticas y Transplantados Hepáticos



(HEPA) in Spain, the Red Cross in the “Their rights at stake” campaign or “Solidarity Tree” which has offered support for more than 10 Brazilian institutions to assist the minors who are part of their programmes. There are also other activities in Mexico and the United Kingdom.

- Participation in the International Corporate Volunteering Week which, under the “Give & Gain” motto, offers visibility and promotes the role of corporate volunteering as an agent for social change.

The company continues its links with the main international work groups and volunteer associations, such as Voluntare, EVEN (Employee Volunteering European Network), IMPACT 2030 and IAVE, participating in their International Conferences, where we share our volunteering good practices.

The *Volunteer Portal* continues to be the meeting point for all professionals of the group interested in social and community service actions, using a global and trilingual website. The *Volunteerism Newsletter* has provided weekly information on activities.



Foundations

[ScottishPower Foundation](#), [Avangrid Foundation](#), [Fundación Iberdrola México](#), [Instituto Neoenergía](#) and [Fundación Iberdrola España](#) represent Iberdrola's commitment to sustainable development in the countries in which it does business. Pursuant to the Master Plan, the foundations have updated their mission, vision and values to include among their purposes and principles the contribution to the achievement of the Sustainable Development Goals (SDGs). The 2030 Agenda, promoted by the United Nations General Assembly, provides a unique opportunity for global transformation leading to more inclusive and sustainable development models. Along these lines, the foundations prioritise their focus on sustainable human development in order to define objectives linked to programmes and specific aims under the SDGs and to contribute to fostering positive changes for the most vulnerable people and for the planet. It should also be noted that they engage in specific collaboration with other cultural, social, scientific and cooperation institutions in all of the countries.





The charts below show the economic impact of the activities of Iberdrola's foundations by global achievement and by country during 2018 (also shown in the social contribution figures in accordance with the LBG Model previously reported upon in this chapter):

Activities of Iberdrola Foundations by area of activity (€ millions)	2018
Training and research	1.3
Climate change	1.0
Art and culture	2.2
Solidarity and cooperation	3.5
Institutional collaboration	1.3

Activities of Iberdrola Foundations by country (€ millions)	2018
Spain	5.5
United Kingdom	1.2
United States	2.1
Brazil	0.3
Mexico	0.3

Foundations of the companies of the Iberdrola group – Results in areas of activity in 2018 (€)



The results and achievements by country are available in Annex 1 – Supplementary information.



Training and Research Area: aids for course studies, scholarships and research

The new foundations Master Plan now takes a fresh approach in order to advance equality of opportunity for access to education by means of a new Support Programme for course studies that includes the following projects:

In the United States:

- *KVCC Lineworkers* in the training of electricians in Maine, through scholarships in the CMP Lineworker Technology Programme, to train specialists while prioritising the inclusion of young women in the energy sector.
- *Monroe Community College Foundation – Salute to Excellence* (Rochester): scholarships for underprivileged students, giving them the opportunity to complete their higher education and overcome barriers to complete their university studies.
- *Binghamton University Foundation*: two-semester course in which the students participate in real engineering projects, together with Binghamton University, the Kopernik Observatory and Science Park, the Chesapeake Alliance Discovery Centre for the Protection of the Alaskan Malamute, Broome Humane Society, Willow's Wings Animal Sanctuary & Rescue, and The Community Foundation Greater New Haven.

In Mexico:

- There is a programme of collaboration with the Tecnológico de Monterrey University at its Altamira campus for the education of low-income youth in bachelor's and engineering degrees.

In Spain:

- Initiatives for linguistic immersion in English: the aim is to teach English to school students in their 3rd and 4th years of Compulsory Secondary Education. The selection of the students is made by the Education Department of several Autonomous Communities that participate in the programme, according to objective criteria of academic excellence and financial resources. The programme promotes and facilitates the participation of students in rural areas, given that this is the profile of student that finds it most difficult to access this kind of training. Iberdrola offers its facilities over the summer and Easter periods as a venue for these courses. A total of 80 students and 22 teachers have participated in the summer courses in Castile and León, Extremadura and the Valencian Community.

This area also benefitted from scholarships and research grants in 2018:

- Fundación Iberdrola México has awarded a total of 13 scholarships to underprivileged students at the Altamira Technical Training centre with the aim of achieving the inclusion of these vulnerable youths.
- Instituto Neoenergia in Brazil has awarded 9 scholarships in order to allow youths to pursue an international master's degree, thus promoting the training of high-level professionals who are capable of contributing to the development of a sustainable energy service.



- Fundación Iberdrola España has awarded a total of 56 scholarships and grants, 20 of which focus on energy and environmental research. A call for scholarships has also been launched through Fundación Carolina to pursue energy and environment master's degrees at Spanish universities, and 2 Fullbright scholarships have been awarded for energy and environment master's degrees.

In collaboration with ICAI - Universidad de Comillas, Iberdrola has announced a call for 9 scholarships for undergraduate students in order to help with their studies. There are also scholarships for leading museums: 3 for restoration and conservation at the Prado Museum and 2 for the Bilbao Museum of Fine Arts. In the area of sports, the foundation continues to support the Paralympics by awarding 10 support grants to undergraduate sportspeople.

The company also manages other training programmes, as set forth in greater detail in the "Creation of employment and salaries" section of chapter II.1

Biodiversity and Climate Change Area: conservation of birds, habitats and ecosystems

In Spain, particularly noteworthy is the Migra project, aimed at monitoring the movements of migratory birds, in collaboration with the Spanish Ornithology Society SEO/BirdLife. At the end of 2018, the programme has 946 birds tagged from 32 different species. During the financial year, 10 Montagu's harriers have been tagged, and information has been downloaded about the lesser kestrels tagged with nano-GPS last year with the collaboration of Grefa, the Córdoba Zoo and the City Council of Alcalá de Henares. Finally, several days were devoted to recapturing common and pallid swifts tagged in prior years, with two birds having been recaptured in Barcelona.

Another important initiative is the signing of a collaboration agreement with the Fundación para la Conservación del Quebrantahuesos (Bearded Vulture Conservation Foundation) with a view to studying the influence of climate change on this and other alpine birds. In 2018, 39 boxes were installed to capture insects, and for 72 nights hematophagous mosquito traps were set using ultra-violet light and CO₂ as attractants. 32 samples were obtained, which were taken to the University of Veterinary Medicine of Zaragoza, where they continue to be studied.

In the United Kingdom, support is given to the Dolphin Watch project for the protection of dolphins at the Sussex Wildlife Trust. The Foundation supports the 50th anniversary of this education centre and nature reserve with outreach and awareness-raising projects regarding the conservation and care of habitats.

In the United States, support has been given to Riverkeeper in New York, an initiative to help transform the Jettie S. Tisdale school, Johnson Oak Park in the impoverished East End of Bridgeport. It highlights the evolution and importance of parks in terms of urban biodiversity, human health, access and equality, the economy and other benefits. In partnership with the City of Bridgeport and other Stakeholders, efforts have centred around engaging the community in designing the restored green space known as Park City.

On land located near the Industrial Port zone of Altamira in Mexico, a project is being promoted that is devoted to the conservation of Felines, which aims to guarantee the survival of a number of jaguars, jaguarondis, ocelots and bobcats that inhabit the region. Progress has been made in the creation and demarcation of biological corridors facilitating the safe passage of these animals in danger of extinction.

The conservation of the Mangrove is another of the projects promoted by Fundación Iberdrola México to ensure the survival and encourage the increase of flora and fauna in the mangrove



ecosystem through constant monitoring, research and demarcations that ensure permanence there. Another initiative is the conservation project Parque Estatal Cañón de Fernández, in partnership with PRONATUR in the Fernández Canyon, to protect biological and ecological processes in the area and provide environmental services in the ecosystems of the state park.

Of note in Brazil is the *Flyways* project for the conservation of wader birds and endangered species. In collaboration with *Save Brazil*, support is also given to a project devoted to the conservation of endangered birds in the area of Río Grande do Norte. The last census carried out yielded 4 species of endangered wader birds, a total of 306 specimens. Finally, outreach activities have been developed regarding wader birds and the importance of conservation of their habitat, for students and teachers of the *Maria Salete Martins* School.

Eco-citizen: building a sustainable future is another initiative in Brazil that focuses on training professionals in sustainable technology systems and their roll-out in communities that are socially at risk. The project includes training activities for professionals in the area of eco-construction, through free courses for training and implementation of sustainable technology systems in socially vulnerable communities. In order to promote this social initiative, a community vegetable garden was started, using sustainable techniques.

Art and Culture Area: programmes for lighting, restoration and support to museums

The Iberdrola Foundations Lighting Programme is mainly focused on improving the interior and/or exterior lighting of remarkable buildings, to showcase the historical-artistic heritage. The use of new LED technology entails a series of advantages such as improving conservation, increasing energy efficiency (on average 75% more than conventional bulbs) and reducing maintenance expenses thanks to a much longer-lasting useful life. In addition to the artistic, economic and environmental benefits, one must add the potential of these projects that favour economic activity, facilitating local development around the historical-artistic heritage. The most significant projects in 2018 were the following:

- In the United States, Avangrid Foundation has sponsored lighting projects in the Morgan, Hilles, Austin and Wadsworth 301-303 galleries, replacing 2,625 bulbs with LED technology.
- The Foundation in Mexico champions the MUNAL Programme to light halls in Mexico's National Museum of Art (MUNAL), improve energy efficiency and play a role in conserving the works of art in this museum.
- The Foundation in Spain has launched and completed quite significant projects in 2018: exterior lighting on the façade of the Monastery of Uclés, decorative lighting of the Royal Pantheon at San Isidoro de León Collegiate Church, the Military Museum in Toledo and the restoration workshop at the Royal Tapestry Factory using the latest LED technology. Work continues on the projects of the Ávila Cathedral, the Salamanca Cathedral, the Fonseca School, the Talavera Basilica, the Barrena Palace in Ordizia, Valdepeñas Church and the Supreme Court in Madrid.
- Instituto Neoenergia has been the driving force behind the projects for lighting of the Cinco Pontas Fort in Recife and for restoration of the Barra Grande Fort in Guarujá, Brazil.

Also in Spain, the Iberdrola Museum Programme collaborates with the Restoration Workshops of the Prado Museum and the Bilbao Museum of Fine Arts for the conservation of paintings, sculptures and works of art on paper at their art galleries. This museum has also promoted the Art to Touch Programme for persons with disabilities, especially those who are visually handicapped.



Another significant restoration initiative is the Atlantic Romanesque Plan involving church buildings in Spain and Portugal.

Within the scope of the Restoration Programme, the following projects have been completed: Tapestries of the Royal College of the Patriarch, the altarpiece of the Cuenca Cathedral, the codices of the Yuso Monastery Library and the restoration of the three flags of Saigon owned by the Naval Museum of Madrid. In the last months of 2018, work has started on a project to restore the altarpiece of the church of San Martín de Tours, in Villarmentero de Campos, Palencia.

The Exhibitions Programme has had two main initiatives: in Spain, the exhibition Sorolla and Fashion with simultaneous and complementary exhibits at the Sorolla Museum and the Thyssen-Bornemisza Museum. The exhibition brings together more than seventy paintings from museums and national and international private collections, some of them never previously exhibited to the public, together with a significant collection of period dresses and accessories, with valuable pieces also loaned by prominent institutions and private collections, many of them previously unseen.

In Mexico there has been a temporary exhibition of European and Novohispanic paintings promoted by the Foundation in Mexico and the MUNAL Museum under the title *Caravaggio. A work, a legacy*. Another exhibition promoted by Iberdrola's foundation in Mexico is *Nahui Olin. La mirada infinita*, showcasing a representative collection of the Mexican avant-garde artist María del Carmen Mondragón, with collaborators being invited to the opening and enjoying a guided tour round the temporary exhibition.

The Art and Culture Outreach Programme has the ScottishPower Foundation as a point of reference. The following initiatives were supported in 2018:

- The international scenic arts festival Futureproof, aimed at young people from different backgrounds and communities. This is a multi-artistic and multi-platform space that will be set up in ten areas in Scotland and will be shared with the rest of the United Kingdom via social networks.
- *Art Promotion Llangollen International Musical Eisteddfod* is based on previous work to promote art education, reduce inequality of opportunity and make Eisteddfod a truly inclusive event. This project will improve the skills and confidence of participants that face difficult circumstances and will result in the creation of a unique music and dance presentation that celebrates diversity. The project will also enhance the dimension of culture, beliefs and community commitment, and will promote respect and understanding.
- National Museums Scotland. Powering Up 2.0. Financing will make it possible to improve the successful *Get Energized* programme, recognised by teachers as an excellent and attractive initiative to promote and disseminate cultural activities in Edinburgh.

Among the projects implemented by Avangrid Foundation, the following cultural events are particularly noteworthy: The *International Festival of Arts & Ideas* (Connecticut) aimed at creating and producing plays with a special focus on community education and engagement, and the Rochester Area Community Foundation/*Rochester International Jazz Festival* (New York), which is internationally acclaimed, attracts a large and diverse audience and celebrates and develops the local community. Finally, through Barrington Stage Company (Massachusetts), Avangrid Foundation develops the *Playwright Mentoring* theatre programme, which offers teenagers at risk (13 to 19) a safe place where they can talk about the serious



challenges in their daily life, using their own life stories as a basis for creating original plays. The project provides participants a protective space for young people.

Cooperation and Solidarity Area

Iberdrola's Foundations consolidate their *Social Programme* in order to contribute to improving the quality of life of the most vulnerable groups, with a special focus on childhood, youth and women. The programme works with non-profit institutions devoted to eradicating child poverty, fostering education as a useful tool for youths, promoting the social inclusion of persons with disabilities and improving the quality of life of persons who are seriously ill and their families.

Spain:

In 2018, 52 alliances have been entered into with non-profit social organisations and local institutions to provide support to 22 solidarity initiatives and promote 35 finalist projects, with an investment in excess of one million euros and a positive impact on 65,000 beneficiaries, which has entailed the creation of one hundred direct jobs. The programme works along three lines of action, and the following are the most significant collaboration projects:

- Projects to eradicate child poverty:
 - o Asociación Ciudad Joven: school support, leisure and free time for the social inclusion of children.
 - o Fundación Balía por la Infancia: "Aula BALIA" for boys and girls at risk of social exclusion.
 - o Candelita: "Conduce a tu futuro" ("Lead your future"): guidance, training and support for vulnerable women to facilitate access to employment.
 - o Fundación Altius: "Jóvenes en la cocina" ("Youths in the kitchen"): social and occupational inclusion of 250 unemployed youths at risk of exclusion.
 - o Fundación Tomillo: training in energy efficiency aimed at vulnerable youths as drivers of social change.
 - o Ayuda en Acción: "Re-Ilumina": equality of opportunity for quality education.
 - o Amigó: "Proyecto conviviendo" ("Living together Project"): prevention of violence among teenagers and their families in the Basque Country and Madrid.
 - o Ilundai Haritz Berri: "Bizi-Baso", the forest of life: support for the social and occupational inclusion of vulnerable youths.
 - o Bizitegi: temporary lodging for homeless women.
 - o Columbares: comprehensive service for socially vulnerable children in the municipality of Murcia.
 - o Fundación Anar: involvement with children, victims of gender-based violence through the ANAR phone line.
 - o Save the Children Foundation: fight against child poverty and social and occupational inclusion for children, teenagers and families.



- Projects focused on the autonomy of persons with disabilities:
 - Upacesur: medical-functional rehabilitation of children and youths with cerebral palsy and other multiple disabilities.
 - Fundación Síndrome de Down: training and occupational integration project. Social entrepreneurship as a component of personal development and the occupational inclusion of youths.
 - ADSIS: support services in the transition to adult life for youths at risk of social exclusion.
 - AMICOS: training for persons with disabilities.
 - ASPRODEMA: “Tendiendo puentes a la comunidad” (“Building bridges with the community”), support resources centre for the promotion of personal autonomy.
 - ASOCIDE: “Guides-Interpreters for deaf and blind persons – communication is possible”. Support for deaf and blind persons in their daily activities with the help of specialised guides-interpreters.
 - ANFAS: model centred around families and natural contexts with a focus on early care (3 to 6 years).
 - GUREAK: “Nuevos pasos” (“New steps”), a social and occupational inclusion of persons with disabilities.
 - ASIDO: “Quiero vivir mi propia vida” (“I want to live my own life”), a project promoting personal autonomy in persons with intellectual disabilities.

- Projects to improve the quality of life of seriously ill persons:
 - ASPANION: psycho-social and financial support for children with cancer and their families.
 - AMAMEC: “Mucho por vivir” (“A lot to live”), psychological, physical and social care for women suffering from breast cancer.
 - AECC: emergency social and psychological care for families at risk of social exclusion due to oncologic disease.
 - Menudos Corazones: integration programme based on leisure and free time for children, teenagers and youths with heart disease.
 - Proyecto Hombre: various types of collaboration with institutions engaged in the Proyecto Hombre programme and which develop projects focusing on therapeutic intervention in cases of comorbidity, addictions and psychiatric disorders; learning and service programme for the promotion of leisure among young people; dual approach to the treatment of persons affected by addictions; treatment and reinsertion programme for persons with alcohol addiction problems.



In the United Kingdom:

- Alzheimer Scotland: The *Dementia Friends* programme aims to foster the public's understanding of and empathy towards this disease, so that persons suffering from dementia feel supported, accepted and welcome in their communities.
- Bangor University: The ReachingWider association focuses on higher education for vulnerable people in Wales. Its *Bright Sparks* initiative aims to encourage and inspire students and help them achieve their potential in the science, technology, engineering and mathematics (STEM) schools across the six regions in North Wales.
- Adventure for All: The Bendrigg Trust is an outdoor education centre specifically for disabled people. Its goal is to help them integrate into society, achieve independence and become healthier through adventure activities and spending time away from home.
- Live Music Off the Grid! The project involves providing live music at health centres and hospitals in remote areas such as the Scottish Highlands & Islands, Dumfries & Galloway, Kintyre, Cumbria, Northern Ireland, Wales, Devon and Cornwall.
- Prince & Princess of Wales Hospice: Provides specialised free palliative care in Glasgow to terminally ill patients, offering support to their families and carers.
- The Manchester Young Men's Christian Association: Backing of the Mental Health Champions project targeting young men to halt the rise in mental health problems. It also helps young men's parents, teachers and employers to provide better support.
- The Outward Bound Trust: This project enables young people to get involved in community activities by spending five days at the Loch Eil centre. Everyone taking part is to attend an event to share their experiences with friends and families, and 6 young people will be chosen to take part in a summer programme.
- The Great Steward of Scotland's Dumfries House Trust. *Engineering Education Programme*. The Engineering Education Centre provides indoor and outdoor experience-based learning for early primary school and secondary school students. The financing will help pay for students' school visits in South West Scotland and will contribute to their development and growth. It will also support family/public participation events. The aim of the programme is to reach a wider geographical area and also encourage the participation of schools that did not have the chance to take part in STEM activities in the past.

In the United States:

- *Operation Fuel*: Ensures that struggling families have access to year-round energy assistance in more than one hundred towns across Connecticut. Local government and community-based organisations take part in this project. It includes other activities to guarantee basic needs such as distribution of food, clothes, etc.
- Yale New-Haven Hospital (Connecticut): Ongoing support for the Yale-New Haven Hospital McGivney Center for Musculoskeletal Care, which provides specialist care and the best relief possible for patients with chronic diseases. The hospital has a specific mission to meet the needs of the most vulnerable people.
- United Way Worldwide - Trust - Employee Match (Connecticut & Massachusetts): Support for community-based organisations that encourage volunteering for the common good.
- *Working for Worcester* (Massachusetts): Improvements to recreational infrastructure and school facilities, parks, community centres, sports fields and other leisure/free time spaces in Worcester.



- Urban League of Rochester: Early Acquisition programme for transition from secondary school to university, by means of which young people from minority and disadvantaged groups are provided with training for university, work and life. The mission of the *Urban League of Rochester*, New York is to enable Afro-Americans, Latinos and other disadvantaged persons to secure economic self-reliance and to guarantee civil rights, removing all barriers to equal participation in the economic and social mainstream of America.
- Chelsea Hicks Foundation: Therapeutic play project for more than 2,400 children and their families every year in local hospitals.
- *Progress Center*: The project offers students at risk or from low-income households in the Oxford Hills area new backpacks and school supplies to start the new school year.
- Food Bank of Western Mass., to significantly reduce food insecurity among residents of the counties of Berkshire, Franklin and Hampden.
- Ronald McDonald House of Connecticut and Western Massachusetts: Refuge home for children receiving medical treatment and their families. It helps to create a homely atmosphere, to have a wide variety of supplies to choose from to prepare breakfast, lunch and dinner for the families, and is essential to ease the financial burden of having to buy all food out, thus enabling the families to focus on what matters most: the health and well-being of their children.

Mexico:

The Asociación Civil Excelencia Educativa offers boys and girls a participative space where they can be active subjects in the learning process, enjoying new ways of approaching knowledge. This initiative was carried out throughout 2018 in 11 schools located near Iberdrola plants and installations.

Brazil:

Particularly significant is the *Jovens Brilhantes* (Young Brilliant People) project, to help children and adolescents in the state school system develop the skills and competencies needed for the 21st century. Target subjects are STEM (science, technology, engineering and mathematics) and a nurturing and interactive approach is taken to meet the real challenges faced in society. The institute also collaborates with UNICEF and the Ayrton Senna Foundation on projects helping children at risk.

International Cooperation Programme for Human Development

The International Cooperation Programme addresses humanitarian crises and promotes multi-sector alliances in order to foster sustainable development and overcome situations of extreme poverty through the electrification of basic social infrastructures (schools, health or community centres, etc.), with education and technical training components that promote productive and local development actions and the provision of help in humanitarian emergency crises. The most significant alliances are:



- The SHIRE Alliance, promoting access to electricity in refugee camps. This initiative is promoted by the Universidad Politécnica de Madrid, and also has the support of the UNHCR, AECID and the European Union.
- ILUMEXICO contributes to the development of marginalised communities in Mexico where there is no access to the national electricity grid or where the service they receive is poor. Infrastructure and community work programme relating to renewable energy.
- Migrant Children Alliance in Sahel: led by Save the Children, it promotes a system for the protection of migrant boys and girls through a network of care and training centres in Mauritania with the participation of the European Union.

As regards humanitarian emergencies, mention should be made of the negative impact of Hurricane Harvey, which affected Florida's most vulnerable population. In the United States, the company continues to collaborate with the Red Cross (American Red Cross Disaster Relief) to help victims and contribute to reconstruction in the affected areas of Puerto Rico.

Institutional collaboration

Finally, the Foundations engage in specific collaboration with other cultural, social, scientific and cooperation institutions in the respective countries.



Iberdrola and the Global Compact

Iberdrola has been a member of the Global Compact since 2002, undertaking to support, promote and disseminate its ten principles regarding human rights, labour practices, the environment and the fight against corruption, both internally and within its area of influence. During these years, the company has continued to further develop the policies and practices proposed by the Compact, which it has made public through its annual *Sustainability Report* and its corporate website.

Since 2004, as a founding member, the company has belonged to the Red Española del Pacto Mundial (Spanish Global Compact Network), and has prepared progress reports on compliance with the principles of the Compact, which are publicly available both on the website of the Red Española del Pacto Mundial and on the UN Global Compact website

During 2018, Iberdrola took in the following actions in connection with the Global Compact:

- Submission of the Progress Report 2017 on compliance with the principles of the Compact, rated at the highest level for this type of report (“GC Advanced”).
- Attendance at the 2018 General Assembly of the Red Española.
- Iberdrola and the Red Española del Pacto Mundial have developed the *Moving for Climate NOW* initiative, within the framework of the COP24 Climate Summit held in Katowice (Poland) in November 2018.
- Iberdrola participated with the Global Compact on numerous initiatives to promote and develop the Sustainable Development Goals, which can be seen in the “Iberdrola’s contribution to the SDGs” section of Chapter I. About Iberdrola.
- Active collaboration in promoting sustainable finances and creating robust sustainability reporting frameworks through participation in the Platforms on *Financial Innovation for the SDGs* and *SDG Reporting*.
- Encourage the global process of climate action in its role as a sponsor of the Pathways to Low-Carbon and Resilient Development Platform. In this area, also quite noteworthy is Iberdrola’s contribution to the preparation of the “Ambition Loop” report, focused on generating dynamics to increase ambitions in the area of climate change, and participation at meetings and events held at the principal climate change milestones during 2018 (Katowice Climate Summit, New York Climate Week, etc.).
- Highest level of support for Global Compact events, with the participation of Iberdrola’s chairman at the *UN Global Compact Leaders Summit* held within the framework of the United Nations General Assembly in September 2018.

As mentioned above and shown both in these joint activities and in its daily work, Iberdrola has linked the SDGs to its business strategy, and actively works with the Global Compact to contribute to the achievement thereof, within its scope of activities.

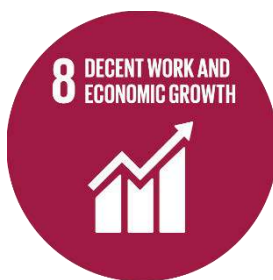
In 2019, Iberdrola will continue to actively participate in the activities of the Red Española del Pacto Mundial in a manner similar to the past year.



II.6.

Promotion of Socially Responsible Practices in the Supply Chain





- Description of the supply chain
- Sustainable management of the supply chain



Description of the supply chain

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The Iberdrola group's supply chain consists of two different processes:

- The acquisition of material and equipment and the procurement of works and services is the responsibility of the group's Procurement and Insurance Division.
- The acquisition of fuel, handled by the Wholesale and Retail Business.

Both processes are guided by the same principles emanating from the [corporate policies](#) and the [Code of Ethics](#), which are approved by the company's Board of Directors. However, each of them has specific characteristics in their various phases: registration and classification of suppliers, bidding process, execution of contracts, monitoring of contractual terms, and quality control.

Acquisition of material and equipment and procurement of works and services

The mission of the group's Procurement and Insurance Division is to implement on a corporate and centralised basis the procurement of equipment and material (other than energy), as well as works and services and insurance programmes (other than life and casualty, health and pension insurance) for the entire Iberdrola group, meeting the strategic goals established by the Board of Directors.



"Efficiency in costs, strategic alignment with the Iberdrola group and ethics guide our procurement activity, contracting and management of operational risks"

The group's high purchase volumes are a driver of growth for those countries in which the company engages in procurement, favouring their business, industrial and social development through the creation of employment at service providers and their auxiliary industries.



Iberdrola placed orders with approximately 23,300 suppliers during 2018. A breakdown of the economic and geographic volume is set out in the following table:

General supply of equipment, materials, works and services (€ millions)	2018 ⁹⁹	2017	2016
Spain	1,564	1,406	1,354
United Kingdom	1,775	1,663	2,134
United States	1,945	2,467	2,146
Brazil	1,335	1,500	1,242
Mexico	957	902	453
Other countries	177	676	179
Total	7,753	8,614	7,508

The difference in the amount compared to 2017 was mainly due to the fact that there was invoicing for the turbines of the Wikingen offshore wind farm and turbines for wind farms in the United States during the financial year.

Acquisition of fuel

Iberdrola dedicated more than 3,300 million euros to the acquisition of natural gas, uranium and coal in 2018. The purchases of uranium are made in Spain and only through Empresa Nacional del Uranio (Enusa). Acquisitions of natural gas and coal are made on the international market, mainly through long-term commercial relationships with some 11 large domestic and international suppliers and market operators (producers and traders). Coal was only 1.3% of the total amount of fuel.

Spending on local suppliers

Iberdrola follows a local supplier strategy for its strategic contracting that has allowed for the creation of indirect employment and the maintenance of a strong industrial fabric in the countries in which it does business. The following table shows the percentage volume of procurement from local suppliers:

204-1

Acquisition or contracting of materials, equipment, works and services from local suppliers ¹⁰⁰ (%)	2018	2017	2016
Spain	85	88	93
United Kingdom	71	85	69
United States	97	98	98
Brazil	100	100	100
Mexico	69	60	66
Other countries	65	76	N/A
Iberdrola total	85	88	84

⁹⁹ Volume billed during the financial year. Amount awarded in 2018: €8,930 M.

¹⁰⁰ Based on the Tax ID or CIF assigned to the supplier, those registered in the main countries in which Iberdrola does business are considered to be local.



Sustainable management of the supply chain

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



102-9 GRI 204

Promotion of sustainability amount suppliers

From the viewpoint of sustainability and responsibility, Iberdrola is market driver, encouraging suppliers to improve their environmental, ethical and social record through actions that foster excellence in their management, beyond mere technical quality, thereby helping suppliers become more competitive.

In the initial registration and classification of the supplier, sustainability has a weight of 40% in the total score, with the other 60% being its financial situation and technical solvency.

Supplier sustainability evaluation model: *CSR Scoring*

Iberdrola has a *CSR Scoring* model to evaluate its suppliers with respect to social responsibility, quantifying their relative position based on the suppliers' management in terms of social responsibility, so that there is a standard to differentiate them in tenders or contracting. Dimensions evaluated:



The evaluation provides added value to suppliers, allowing them to know the areas for improvement in order to focus their efforts in the area of social responsibility.



The 2018 CSR scoring data¹⁰¹ regarding the volume of purchases analysed (89% of the group's total procurement) are shown below:



Improvement goals have been established throughout the Procurement Division team relating to the increase in procurement with analysed suppliers and the increase in the percentage of procurement from A+ suppliers. Consequently, the supplier is motivated to improve its profile by actions promoting excellence in business management, as well as the Procurement Division being incentivized through quantifiable objectives to choose those companies showing good performance in social responsibility.

For those suppliers scoring B and A, a notice is sent and specific traction applied to their situation so that they try to improve to A+, causing the suppliers to commit during the year to improve the lesser developed areas.

During the financial year, there were 114 social audits of suppliers with an order during the year. Suppliers with “non-conformities” in the process have a specific period within which to rectify the deficiencies found.

During 2018, Iberdrola received no external complaints from authorised channels with respect to the supply chain, and has not cancelled any supply contract or order upon grounds relating to human rights, corruption, labour practices or environmental practices.

Procurement of fuel

Fuel procurement is also subject to the general principles of Iberdrola's sustainable development policies, which require the encouragement of suppliers to engage in activities that are socially responsible, respectful of the environment and prevent occupational risks.

Iberdrola carries out an internal evaluation of its main fuel suppliers in accordance with economic, logistics, environmental and social standards. Aspects assessed are: the existence of an environmental policy, information regarding CO₂ emissions, emission reduction initiatives, energy efficiency, biodiversity conservation, occupational health and safety, equal opportunity, human rights and ethical behaviour (anti-bribery and anti-corruption practices).

When establishing supply contracts, apart from agreeing on contractual elements that respect the law applicable in the countries involved in the transaction, Iberdrola negotiates the inclusion of clauses regarding sustainability. Currently, all contracts for imported coal and for uranium have these types of clauses. The inclusion of these clauses will be negotiated for the new natural gas contracts.

¹⁰¹ “A+” suppliers above the average. “A” suppliers within the average. “B” suppliers below the average. Scope: Suppliers with orders during the year in an amount equal to or greater than 400,000 euros. November 2018.



Iberdrola belongs to the international BetterCoal platform, which includes some of the leading European coal-purchasing energy companies. Its aim is to set a standard for ethical, environmental and social conduct; evaluate the conduct of producers through audits; create a database with the results of such evaluations; and improve producers' actions.

In the case of fuel procurement, there were no external complaints during 2018 through authorised channels with respect to the supply chain, and has not cancelled any supply contract or order upon grounds relating to human rights, corruption, labour practices or environmental practices.

Environmental assessment of suppliers

GRI 308 308-1 308-2

Alignment in Procurement and in supplier management with respect to the environment and sustainability:

Internal Procurement Mechanisms		External Supplier Mechanisms	
Procurement Policy	Sets out principles on the environment that suppliers must follow and sustainable and responsible management in the Iberdrola group's supply chain	Suppliers' Code of Ethics	Includes environmental principles. Must be accepted by the Group's suppliers and is attached to orders and contracts.
Supplier Registration and Classification	Environmental certification will be weighted in the overall assessment of the supplier	Specific T&Cs	Environmental clauses that suppliers must comply with during the term of the contract
Bid Process	The environmental assessment of the supplier is included during the ITEO (offer evaluation) phase and in the PA (proposed award) for purposes of the contract	Stimulus Campaigns	As a business driver, we proactively promote the environmental certification of the suppliers, supporting them in the search for excellence and generating a multiplier effect
Annual Improvement Goals	Innovative aspect: establish annual improvement goals for the Procurement team linking variable remuneration directly to the environmental improvement of suppliers	Carbon Footprint Measurement	Annual supplier greenhouse gas measurement campaign
Global Environmental System	The Procurement Division is part of Iberdrola's Global Environmental System Committee: monitoring of environmental guidelines, established goals and related indicators. Audits.	CSR Scoring	Includes environmental aspects. CSR evaluation of suppliers, quantifying their relative position based on their management of this area.
Reporting	Contribution to Sustainability infographic and Annual Procurement and Supplier Management Report published on the corporate website	Supplier of the Year Award	Environmental category: this promotes the environmental responsibility of suppliers and publicly recognises those who stand out in this area

At the end of 2018, procurement from suppliers with a certified environmental management system represented 68% of all procurement from suppliers of general supplies. With respect to fuel suppliers, those with an environmental management system represented 90% of the suppliers evaluated.

100% of suppliers (both new and existing) of general supplies and significant suppliers of fuel are evaluated according to environmental and sustainability criteria.

The principal environmental risks are considered to be managed through the current management systems and the periodic audits that are performed.

No supplier with a significant negative environmental impact has been detected. Furthermore, Iberdrola does not have major suppliers located in areas with water stress.



Supplier social assessment

GRI 414 414-1 414-2 407-1 408-1 409-1

The contracting terms of the group for procuring equipment, material, works and services, as well as the coal contracts, include specific supplier corporate social responsibility clauses based on the UN *Universal Declaration of Human Rights*, the conventions of the International Labour Organisation, the principles of the Global Compact and compliance with the Iberdrola group's [Code of Ethics](#). In the case of other fuels, the company's goal is to include such clauses as new contracts are signed.

During the term of the contract, the supplier must allow Iberdrola to review the level of compliance with the principles established in the contracts, and if noncompliance is detected and corrective plans are not adopted, the company reserves the right to cancel the contracts.

100% of the suppliers of general supplies (both new and existing) and major suppliers of fuel (the majority under long-term contracts that are still in effect) are evaluated following such management approach, and their significant risks for labour practices and human rights in relation to their impacts on society are managed through the quality processes that have been implemented and through regular audits.

25.8% of general procurement has been made in countries in which there might be a risk of human rights violations, according to the sources consulted. In 2018 the percentage with respect to fuel procurement stayed at the same 51% as in 2017. In addition, as described in the "Ethics and integrity" section of Chapter II.7 "Good governance, transparency and Stakeholders relations" the company believes that the calculation should exclude purchase of fuel in Mexico and Brazil because they are made in strongly regulated environments that require contracting with state-owned companies. Excluding both countries from the calculation, the percentage of fuel procurement in at-risk countries would decrease to 11%. The standards used to identify countries at risk are the same as those described in the "Protection of Human Rights" section of Chapter "III.5. Contribution to the well-being of our communities" of this report.

There was no identification in 2018 of any contracting with suppliers that has generated incidents relating to freedom of association, collective bargaining, use of child or forced or compulsory labour, nor is there evidence of receiving complaints on these grounds. Nor have suppliers been detected with a material negative social impact, or incidents reported through the channels established for such purpose, resulting in the cancellation of orders or of contracts with group suppliers due to negative social impacts.



Alignment in Procurement and in supplier management using human rights standards

Internal Mechanisms		External Supplier Mechanisms	
Procurement Policy	Promote strict compliance by suppliers with contractual terms and conditions... with special attention on the principles established in the Policy on Respect for Human Rights	Suppliers' Code of Ethics	Labour practices: ensure the protection of internationally recognised human and workers' rights within their sphere of influence (forced labour, child labour, etc.)
Supplier Registration and Classification	Acceptance of Suppliers' Code of Ethics Weighting of status regarding CSR, labour practices and respect for human rights	Specific T&Cs	Specific contract clauses relating to supplier social responsibility based on the UN Universal Declaration of Human Rights, the ILO Conventions and the principles of the Global Compact
Sanction List Screening	Blocking and remediation plan if a supplier has been sanctioned or there are indications of human rights violations in their activities	Stimulus Campaigns	As a business driver, suppliers are stimulated in areas of common interest as a vehicle to ensure reliable and responsible conduct throughout the supply chain
Annual Improvement Goals	Innovative aspect: annual improvement goals directly relating to supplier CSR improvement established for the Procurement team and linked to variable remuneration	Modern Slavery Act (United Kingdom)	Classification protocols and audit of suppliers in accordance with contractual clauses in major contracts
CSR Committee and Plan	The Procurement Division is part of the group's CSR Committee: guidelines, established goals and related indicators	CSR Scoring	Leadership, Dialogue, Management, Communication 4 blocks to evaluate the supplier's CSR performance and Human Rights standards
Transparency & Reporting	Procurement indicator in at-risk countries Contribution to sustainability infographic Annual Procurement and Supplier Management Report published on the corporate website	Supplier of the Year Award	CSR, diversity and equality categories: this promotes supplier commitment and improvement in this area and publicly recognises those who stand out

Transparency in the general procurement process

In applying the company's policies, the Procurement Division, within its area of responsibility, encourages equality of opportunity, applying standards of objectivity and impartiality in supplier relations, promoting publicity of and participation in selection processes, within management efficiency criteria.

The procurement process is periodically audited both internally and by external entities, with no "non-conformities" having been identified during the financial year. Recommendations and opportunities for improvement that arise during these reviews are analysed and put into place in order to maintain continuous improvement in the processes.

Dialogue with and satisfaction of suppliers

The 6th supplier satisfaction survey was taken at the global level with the participation of suppliers from all geographic areas. It was sent to a representative set of the group's suppliers, 2,812 suppliers, and 1,213 responses were received, yielding the following high level of participation: 43.1%.

Supplier satisfaction survey	6th Survey (2018)	5th Survey (2016)	4th Survey (2014)	3rd Survey (2012)	2nd Survey (2009)	1st Survey (2007)
Rating (out of 10)	8.18	8.06	8.00	7.74	7.57	7.56

Suppliers have very highly valued the ethics and reputation of Iberdrola, the brand and trust that inspires, and state that being a supplier to the group contributes to maintaining job positions.

In the Procurement area, suppliers value very positively the professional respect of their contacts during the bidding phase, as well as transparency in setting terms and conditions, consideration and the treatment provided (attributes with an average of 8.5 points). The attribute with the lowest rating are the financing possibilities offered (with an average of 7.05 points).



Main initiatives with suppliers of materials, equipment, works and services during 2018

Global Supplier of the Year Awards 2018: Contributing together every day

Iberdrola has delivered the Global Supplier of the Year Awards, the purpose of which is to incentivise, promote and recognise the work of the group's suppliers, which is fundamental to achieving the company's strategic objectives.

The event, held at the auditorium of the Iberdrola Campus in San Agustín del Guadalix (Madrid), was attended by approximately 340 guests, including representatives of 167 suppliers of the company from different countries. The award consists of 12 categories and the winning companies came from eight different countries.

More information is available at <https://www.iberdrola.com/suppliers/moving-forward-together>.

“With our suppliers we are addressing the important challenges posed by the UN Sustainable Development Goals. Companies are making a key contribution to the realisation of the new agenda.” Ignacio Galán, Chairman of Iberdrola.

A journey through human rights and your business

Human rights are relevant to businesses because they can have an impact on the human rights of all their Stakeholders during the course of their operations. Iberdrola has prepared an online awareness module on human rights, which is accessible to all suppliers.

More information is available at:

<https://www.iberdrola.com/suppliers/contribution-sustainability/human-rights-business>

Supplier diversity

Avangrid has a *Supplier Diversity Program*, which establishes a commitment to include the following within the supplier network and increase procurement therefrom:

- Minority-Owned Business Enterprises (MBE)
- Women-Owned Business Enterprises (WBE)
- Lesbian, Gay, Bisexual and/or Transgender-Owned Business Enterprises (LGBTBE)
- Veteran-Owned Business Enterprises (VBE)
- Service-Disabled Veteran-Owned Business Enterprises (SDVET)
- Small Disadvantaged Businesses (SDB)
- Historically Underutilized Business Zone Enterprises (HUBZone)

There was approximately 58 million euros of contracting volume with these groups in 2018.

During 2018, the contracting volume with Special Employment Centres in Spain (in order to assist and work with persons with disabilities) totalled 2.8 million euros.

Presence and organisation of events and activities related to stimulus in CSR, compliance or increased participation of local companies

- 7th annual UN Forum on Business and Human Rights: with the participation of the Director of Procurement Services, with a presentation focused on managing suppliers with a focus on human rights within the different contexts and countries of operation.
- CSR Europe: *Fair trade and sustainable value chains*.



- Collaborative sessions between Iberdrola and local Spanish entities to discuss how to be a supplier and local opportunities for collaboration.
- Collaboration at mentoring sessions: “*Compliance programmes as a basic element in the value chain*” and participation in the National Compliance Congress.
- SDG Campaign and alliances with suppliers of the Iberdrola group.
- CPO Net Convention “Innovation in the supply”.
- CSR workshop for suppliers in Mexico.

Transparency and reporting

Further information on Iberdrola’s relations with and management of its suppliers can be found in the [Purchasing and Supplier Management Activities Report](#) and in the [Contribution to Sustainability](#) section of the corporate website.

Challenge 2019

Iberdrola’s procurement model has been subject to ongoing review based continuous incremental improvements to adjust it to the needs of the service and the continuing search for efficiencies.

The market points to changes towards advanced management models supported by disruptive technological changes, many of which are already available, and the businesses and corporate areas as internal customers are moving in more competitive, changing, global and efficient environments, which require faster response times, where technology and innovation will be the keys to success.

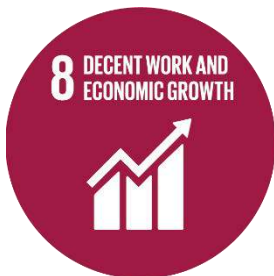
Now that the *Review of the Group’s Procurement Model* project has been completed, the Procurement Division has commenced a project of Digital Transformation of the processes and the adoption of tools allowing preparation for the change towards advanced management models and the new challenges that will appear in the market.

“Procurement as the driver and leader of its own change”



II.7. Good Governance, Transparency and Stakeholder Engagement





- Corporate governance
- Stakeholder engagement
- Ethics and integrity
- Fiscal responsibility
- Competition
- Public policy
- Cybersecurity and information privacy
- Socioeconomic compliance



Corporate governance

Contribution to SDGs of the performance described by the indicators of this section
(according to SDG Compass www.sdgcompass.org)



Iberdrola's [Corporate Governance System](#), described in Chapter I.1, is inspired by and based on the commitment to [ethics, transparency and leadership in the application of best international practices on good governance](#). Pay special attention to the social dividend, as a result of which in 2018 there were reforms in its Corporate Governance System in order to deepen the integration of the Sustainable Development Goals into its strategy. This chapter discusses the structure of the board and its committees; its powers and responsibilities; its evaluation and remuneration policies.

An independent and plural Board of Directors

The Board of Directors focuses its activities on the supervision of the general guidelines and the strategy of the group, as well as on the establishment of its corporate policies.

The following keys define the vision of the company's future, its multinational scope and the establishment of channels of participation and relations with shareholders:



- **A Board of Directors under constant renewal, adjusting to the needs of the businesses and markets in which the group operates.**
- **With 14 directors of various nationalities and professional profiles, [selected based on a broad set of criteria](#).**
- **71% of the directors are independent. Women represent 36% of the members of the Board of Directors and hold positions of the highest significance: the vice chairmanship of the Board and the chairmanship of 3 consultative committees.**



The governance structure is described in the “Corporate and governance structure, ownership and legal form” section of Chapter I.1. For more detailed information regarding the composition, operation and activities carried out by the governance bodies of the company, see also the [*Activities Report of the Board of Directors and of the Committees thereof*](#) for financial year 2018.

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The critical concerns considered by the Board of Directors are principally:

- Analysis of the challenges in the energy industry: decarbonisation and electrification.
- Approval of the Strategic Outlook 2018-2022.
- Definition of the digitalization strategy.
- Introduction of new developments in the shareholder remuneration system.
- Integration of the SDGs into the strategy.
- Approval of plan for rotation of non-strategic assets.
- Appointment of a new lead independent director.
- Preparation of the annual accounts and proposed allocation of profits/losses.
- Approval of periodic financial information.
- Approval of budgets and definition of goals of the Iberdrola group.
- Authorisation or acknowledgement, as appropriate, of significant awards, investments and divestments of the Iberdrola group.
- Grant of powers of attorney.
- Setting of the remuneration of the Board of Directors and of the senior management of Iberdrola, S.A.
- Approval of various annual reports.
- Call to the General Shareholders’ Meeting, formulation of proposed resolutions and the corresponding reports of the directors.
- On-going update of the Corporate Governance System.
- Evaluation of the Board of Directors.
- Approval of risk limits and indicators.
- Implementation of resolutions adopted by the shareholders at the General Shareholders’ Meeting, and particularly increases and reductions in capital.
- Authorisation or acknowledgement, as appropriate, of financial transactions of the Iberdrola group (debt and equity).
- Authorisation or acknowledgement, as appropriate, of proposals for the appointment of directors in companies in which the Iberdrola group has an interest.
- Authorisation or acknowledgement, as appropriate, of corporate or business restructurings.

102-33

The highest-level persons in charge of the various business divisions and corporate divisions have a presence on the Operating Committee referred to in the “Responsibilities” section of Chapter I.3. It is chaired by the chairman & CEO, who in turn reports to the Board of Directors.



Selection and nomination of the members of the highest governance body

102-24

The appointment, re-election and removal of directors is within the purview of the shareholders at the General Shareholders' Meeting.

Vacancies that occur may be filled by the Board of Directors on an interim basis until the next General Shareholders' Meeting, whereat the shareholders shall confirm the appointments or elect the persons who should replace directors who are not ratified, or it shall withdraw the vacant positions.

To such end, the Board of Directors has approved a [Board of Directors Diversity and Director Candidate Selection Policy](#), which ensures that proposals for the appointment of directors are based on a prior and objective analysis of the needs of the Board of Directors.

The [Appointments Committee](#) advises the Board of Directors regarding the most appropriate configuration of such body and of its committees as regards size and balance among the various classes of directors existing at any time and the personal requirements that the candidates must fulfil. For such purpose, the Committee will review the structure of each body on a regular basis, particularly when vacancies occur within such bodies. Furthermore, independent directors are appointed on the basis of a proposal of the Appointments Committee, while the other appointments require a report of such Committee.

In any event, the Board of Directors, and the Appointments Committee within the scope of its powers, will endeavour to ensure that the candidates submitted to the shareholders at a General Shareholders' Meeting for appointment or re-election as directors, as well as the directors appointed directly to fill vacancies in the exercise of the power of the Board of Directors to make interim appointments, are respectable and qualified persons, widely recognised for their expertise, competence, experience, qualifications, training, availability and commitment to their duties, while at the same time endeavouring to ensure gender diversity in the composition of the Board of Directors.

In particular, they must be irreproachable professionals, whose professional conduct and background is aligned with the principles set forth in the [Code of Ethics](#) and with the corporate values contained in the *Purpose and Values of the Iberdrola group*.

If the Board of Directors deviates from the proposals and reports of the Appointments Committee, it shall give reasons for so acting and shall record such reasons in the minutes.

In addition, the selection of candidates shall endeavour to ensure that a diverse and balanced composition of the Board of Directors as a whole is achieved, such that decision-making is enriched and multiple viewpoints are contributed to the discussion of the matters within its power. To this end, the selection process shall promote a search for candidates with knowledge and experience in the main countries and sectors in which the group does or will do business. The directors must also have sufficient knowledge of the Spanish and English languages to be able to perform their duties.

In turn, the Board has entrusted to the Appointments Committee the responsibility of ensuring that when new vacancies are filled or new directors are appointed, the selection procedures are free from any implied bias entailing any kind of discrimination and, in particular, from any bias that may hinder the selection of female directors. This is expressly provided by the [Regulations of the Board of Directors](#) and the [Regulations of the Appointments Committee](#).



Collective knowledge of highest governance body

102-27 102-21

The [General Corporate Governance Policy](#) provides that the company has a programme to provide directors with information and updates in response to the need for professionalisation, diversification and qualification of the Board of Directors.

Furthermore, to improve the knowledge of the group and of the businesses that it carries out and the environment in which it operates, presentations are made to the directors regarding the businesses of the group, which is supplemented by articles and publications of interest made available to the directors through the directors' website, a software application that has a specific section dedicated to training.

In turn, the directors' website facilitates the performance of the directors' duties and the exercise of their right to receive information. Information deemed appropriate for the preparation of meetings of the Board of Directors and the committees thereof in accordance with the agenda, as well as the materials, presentations and expositions made to the Board of Directors, is posted on such website.

In addition, a portion of each meeting of the Board of Directors is dedicated to a presentation on financial, legal or socio-political issues of significance to the group.

During financial year 2018, the directors' website was also used to provide the directors with various training sessions deemed to be of interest for the performance of their duties:

- Big Data and Artificial Intelligence in the energy sector: applications and impact
- New EU regulation on prospectuses for public offerings or admission to trading of securities.
- Mechanisms for remote participation in general meetings of shareholders of listed companies. Comparative study at the international level.
- Compliance System: Essential elements for effectiveness.
- European Data Protection Regulation and its application to the Iberdrola group.
- Trends in the social investment market.
- The application of blockchain technology at the general shareholders' meeting.
- New obligations for the publication of non-financial information of capital enterprises.
- Shareholder activism.
- Trends and best practices in risk supervision.

For their part, the consultative committees have developed their own training programmes during the year. They have dealt with various issues, all handled in person:

- Best practices in the renewal of boards of directors.
- Corporate governance trends and issues relating to shareholder participation at the 2018 General Shareholders' Meeting.
- Talent management and retention.
- Latest accounting developments.
- Risk management and board of directors.



Evaluating the highest governance body's performance

102-28

The [Regulations of the Board of Directors](#) provides that the Board shall annually evaluate: its operation and the quality of its work; the performance of duties by the chairman & CEO, based on the report submitted thereto by the Appointments Committee; and the operation of its committees, in view of the report submitted thereto by such committees. For such purpose, the chairman of the Board of Directors organises and coordinates the aforementioned evaluation process with the chair of each committee.

The [General Corporate Governance Policy](#) provides that the annual evaluation shall be conducted with the cooperation of a prestigious independent firm.

Within the framework of the evaluation process of financial year 2018, Iberdrola has decided to draw on the help of PricewaterhouseCoopers Asesores de Negocios, S.L.

This process is based on the review of a large number of objectively quantifiable and measurable indicators that are updated every year in accordance with the latest trends, and is supplemented by a comparison with the companies identified as having the best market practices. As a result of this process, the company develops and adopts on-going improvement plans designed to implement the specific measures that may help to further perfect corporate governance practices.

Identifying and managing economic, environmental and social impacts

102-29 102-31

The Board of Directors of Iberdrola is structured as described above, with monitoring duties being carried out by the consultative committees thereof that supervise the economic, social and environmental performance of the company. Such duties include both the supervision of the risks and opportunities generated by the group's activities and compliance with international principles, codes and standards applicable to high-responsibility tasks. The Board of Directors and its consultative committees perform periodic evaluations of the aforementioned aspects of performance, drawing for such purpose on external information of interest thereto, with the assistance of external independent advisers, and on information provided to them by the rest of the organisation itself, primarily through periodic appearances of the group's officers at committee meetings.

These appearances are described in the [Activities Report of the Board of Directors and of the Committees thereof](#) for financial year 2018, available on the corporate website.

The [Sustainable Development Committee](#) has supervised the company's conduct in the area of sustainability, corporate reputation, corporate governance and compliance. Various external consultants and members of the following areas and divisions of the company appeared before the Committee during 2018:



- Foundations Committee
- Office of the Secretary of the Board of Directors
- Compliance
- Innovation, Sustainability and Quality
- Finance and Resources (Human Resources and General Services; Investor Relations and Corporate Communication; Corporate Social Responsibility and Reputation; Stakeholders; Reputation and Brand)
- Legal Services (Corporate Governance of Subsidiaries)

The issues discussed during these appearances are described in the “Collective knowledge of highest governance body” section above.



Remuneration policies

102-35 102-36

The current [Director Remuneration Policy](#) for the years 2018, 2019 and 2020 was approved by the shareholders at the General Shareholders' Meeting held on 13 April 2018.

As provided in the [By-Laws](#) and the [Regulations of the Board of Directors](#) of Iberdrola, the Board of Directors, at the proposal of the Remuneration Committee, is the body with power to set the remuneration of directors within the overall limit set by the By-Laws and in accordance with law, except for such remuneration as consists of the delivery of shares of Iberdrola or of options thereon or which is indexed to the price of the shares of Iberdrola, which must be submitted to the shareholders for approval at the General Shareholders' Meeting. The [Remuneration Committee](#) is a consultative committee chaired by and made up mostly of independent directors.

The Remuneration Committee is responsible for evaluating the level of attainment of the targets to which variable annual and multi-annual remuneration is linked and for submitting it to the Board of Directors for approval. To such end, in financial year 2018 it drew on the advisory services of PricewaterhouseCoopers Asesores de Negocio, S.L. Section C.1.20 of the [Annual Corporate Governance Report](#) for financial year 2018 describes the business relations of the company with this advisor during the financial year.

Pursuant to the [By-Laws](#) and the [Director Remuneration Policy](#), the limit to the amounts that Iberdrola may annually allocate to the directors each year as an expense, including, in the case of executive directors, remuneration payable for performing executive duties, as well as the funding of a reserve to meet the liabilities assumed by the company in connection with pensions, payment of life insurance premiums and payment of severance to former and current directors, is 2% of the consolidated group's profit for the financial year, after allocations to cover the legal and other mandatory reserves and after declaring a dividend to the shareholders of not less than 4% of the share capital. As stated, for the purpose of establishing such limit, the quoted price of shares or options thereon or remuneration indexed to the listing price of the shares shall not be calculated, which remuneration shall in all cases require the separate approval of the shareholders at a General Shareholders' Meeting.

The [Director Remuneration Policy](#) implements, among other things, the structure of the remuneration of the directors for their activities as such and the structure of the executive directors' remuneration for the performance of their executive duties, based on a series of parameters that are in line with the standard remuneration of comparable companies. The reference parameters are contained in the current Director Remuneration Policy and cover economic/financial, operational and sustainability aspects. Each Annual Remuneration Report specifies the objectives to which the annual variable remuneration of executive directors is tied. The 2017-2019 Strategic Bonus approved by the shareholders at the General Shareholders' Meeting describes the multi-annual remuneration system relating to the achievement of long-term objectives, including the reduction of CO₂ emissions.

As regards aspects relating to the company's economic, environmental and social performance, variable remuneration for the management team of the Iberdrola group takes into account variable parameters linked to financial as well as environmental and social aspects.

**Stakeholder engagement in remuneration****102-37**

The *Director Remuneration Report* for financial year 2017 was submitted to a consultative vote of the shareholders at the General Shareholders' Meeting held on 13 April 2018, which had a quorum of 76.09%, and was approved with only 5.83% of the shares represented in person and by proxy voting against.

The [*Annual Director Remuneration Report*](#) for financial year 2018 will be submitted to a consultative vote of the shareholders at the General Shareholders' Meeting called to be held on 29 March 2019.

Annual total compensation ratio and annual total compensation percentage increase ratio**102-38 102-39**

Iberdrola's Corporate Governance Model provides for the existence of a holding company, Iberdrola S.A., and for country subholding companies in the main countries in which it does business, as shown in the "Corporate and governance structure, ownership and legal form" section of Chapter I.1 and described on the company's website.

The main countries in which the Iberdrola group does business are Spain, the United Kingdom, the United States, Brazil and Mexico, and the remuneration ratios are set forth in the table below.

Country ¹⁰²	Highest level of remuneration	Annual total compensation ratio ¹⁰³ (102 38)			Annual total compensation percentage increase ratio ¹⁰³ (102 39)		
		2018	2017	2016	2018	2017	2016
Spain	Director	20.42	21.08	30.30	-0.41	-1.15	6.78
United Kingdom	CEO	12.59	12.09	11.83	1.28	1.60	3.31
United States	CEO	23.67	22.22	16.66	0.89	4.54	N/A
Brazil	Director	21.54	22.43	41.00	0.53	N/A	0.16
Mexico	Director	6.32	7.63	7.21	0.19	1.48	-0.73

¹⁰² Country composition:

Spain: Iberdrola, S.A.; Iberdrola Spain.

United Kingdom: ScottishPower.

United States: Avangrid.

Brazil: Neoenergia.

Mexico: Iberdrola Mexico.

¹⁰³ Annual total compensation includes fixed salary, cash salary supplements and variable remuneration. Does not include long-term incentives or benefits.



Shareholder engagement

Iberdrola is a pioneer in defining one of the fundamental pillars of its corporate governance strategy to be the engagement of its shareholders, with the [General Shareholders' Meeting](#) being their main channel for participation in corporate life.

The idea is to thus allow the Board of Directors to become acquainted with the opinions and concerns of the shareholders and to keep them in mind when establishing the agenda, drawing up proposed resolutions and deciding on other aspects relating to the holding of the General Shareholders' Meeting.

The Board of Directors also actively promotes the informed participation of the shareholders at the General Meeting, facilitating access to all [documentation of the General Shareholders' Meeting](#) through the website, including a [Shareholder's Guide](#) that describes all of the facilities that the company offers to attend, grant a proxy or cast an absentee vote; and for each Meeting it approves certain *Implementing Rules for the General Shareholders' Meeting*, which have incorporated the latest technological advances in electronic participation, always in accordance with the guarantees required by law and by the Corporate Governance System. Along these lines, Iberdrola has developed a new application that will allow shareholders to grant their proxy and cast an absentee vote from any device with access to the internet (including mobile phones and tablets), verifying their status as shareholders in real time. Also, for the first time, individual shareholders will be able to grant their proxy or cast an absentee vote by telephone through the free phone number of the Office of the Shareholder, through which they may also request any information about the event. These electronic and telephonic channels are in addition to the traditional forms of participation, in person, by post or through the shareholder service desks, which Iberdrola will continue to offer to its shareholders in order for them to have all of the alternatives for participating in the General Meeting.

Other proactive actions are also carried out to foster the maximum possible participation of the shareholders, such as telephone information campaigns. Also to promote accessibility, the understanding of information, and ultimately the engagement of the shareholders, the company has implemented several specific channels of communication for providing information to shareholders and investors, including the following:

- a) Office of the Shareholder (*Oficina del Accionista*). From the call to the General Shareholders' Meeting through the end thereof, the shareholders can rely on the support of the Office of the Shareholder, which has a specific site for such purpose at the premises of the meeting in order to resolve any issues that the attendees may raise prior to the commencement of the meeting, as well as to serve and provide information to the shareholders who wish to use the floor.

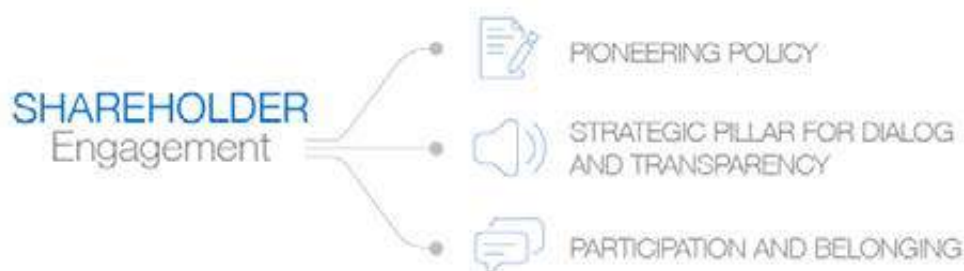
Furthermore, the Office of the Shareholder is in permanent contact with those shareholders who have voluntarily entered their names in its database, and provides a specific service to minority shareholders for the organisation of presentations and events prior to the General Shareholders' Meeting.

- b) The Shareholders' Club (*Club del Accionista*). This is an open and permanent participation channel between the company and the financial community and shareholders who voluntarily join such Club and are interested in monitoring the evolution of the company on an ongoing basis.
- c) The Investor Relations Office (*Oficina de Relaciones con Inversores*). This responds on a regular and personalised basis to the questions of analysts and institutional and qualified investors in equities, fixed-income securities and socially responsible investments.



- d) Interactive [OLS - On Line Shareholders system](#). The website has an interactive system that allows shareholders (who can access the system with their user name and password) to ask questions of interest either publicly or confidentially, access frequently asked questions regarding various topics, and, with respect to the General Shareholders' Meeting, request information or clarifications or ask questions regarding the items on the agenda, as well as to view the live proceedings.
- e) Relations with shareholder associations and institutional shareholders. Both shareholder associations and institutional shareholders may request meetings with representatives of the company through the Investor Relations Division. Long-term engagement plans may also be developed with those shareholders who express their intention to have a stable and continuous presence in the company's shareholder base, and appropriate mechanisms for dialogue may be established regarding the performance of the company.
- f) Last, the Corporate Governance System makes provision for the ability of the Board of Directors or its chairman & CEO to empower the lead independent director or other directors to engage in dialogue with specific shareholders on certain issues relating to the corporate governance of the company.

In this section, it is noteworthy that in 2015 Iberdrola approved its [Shareholder Engagement Policy](#) in order to establish a permanent dialogue with its shareholders, and its [Stakeholder Relations Policy](#) in order to promote a framework of relationships that favours the inclusion of Stakeholders in the businesses and activities of the group.



- First Spanish company and one of the pioneers worldwide in formalising a [Shareholder Engagement Policy](#), which is one of the main pillars in the corporate governance strategy.
- Constructive, continuous, effective and transparent dialogue with the shareholders, encouraging their engagement and promoting their active participation through various channels like the interactive [On Line Shareholders](#) (OLA) system and the [Shareholders' Club](#), among others.





Iberdrola's General Shareholders' Meeting, a sustainable event

Notably, in 2016 Iberdrola was the first Ibex-35 company to certify its General Shareholders' Meeting as a [sustainable event](#), in accordance with international ISO 20121 standard. This means that all the processes of the General Shareholders' Meeting (from its planning to its subsequent holding) follow criteria of sustainability, inclusivity and accessibility, with the ultimate goal of optimising Iberdrola's contribution to the local economy, to improving the environment and to its social commitments. Improvements were proposed for the 2018 General Shareholders' Meeting and more than 70 initiatives are launched to promote the sustainability of the event, including:

- Hiring of local suppliers.
- Hiring of persons in vulnerable situations.
- Measures aimed at improving energy efficiency.
- Advancement of sustainable transport.
- Actions to guarantee accessibility for groups with different abilities.
- Use of recyclable and reusable materials.
- Collaboration with certain local NGOs.
- Childcare service as a measure to promote work-life balance.

It should be noted that Iberdrola has received the "Erronka Garbia" environmental certificate in acknowledgement of best environmental practices in the organisation of its Shareholders' Meeting.

SUSTAINABLE EVENT





Stakeholder engagement

Iberdrola's [Stakeholder Relations Policy](#) (approved by the Board of Directors in February 2015 and updated in October 2018) explicitly states that the company believes “*that its relations with those groups that may influence or that are affected by the decisions or the value of the Company and the group are significant*”. The value chain comprised of Iberdrola's businesses means that there is a large number of these groups, for which reason the company has decided to group them into eight different categories that constitute its Stakeholders:

102-40



The initial identification and selection of the Stakeholders of Iberdrola was carried out through processes of internal reflection conducted by the management team. Subsequently, in 2015, the *Stakeholder Relations Policy* ratified the Stakeholder categories described in the preceding section.

102-42

However, for the proper management of each of the Stakeholders, the various areas and businesses identify different Subgroups that they deem relevant for more specific treatment.

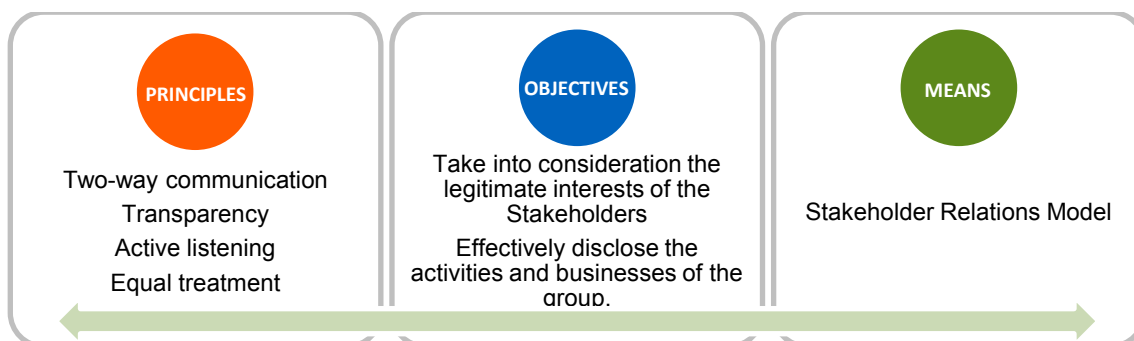


Approach to Stakeholder engagement

102-43

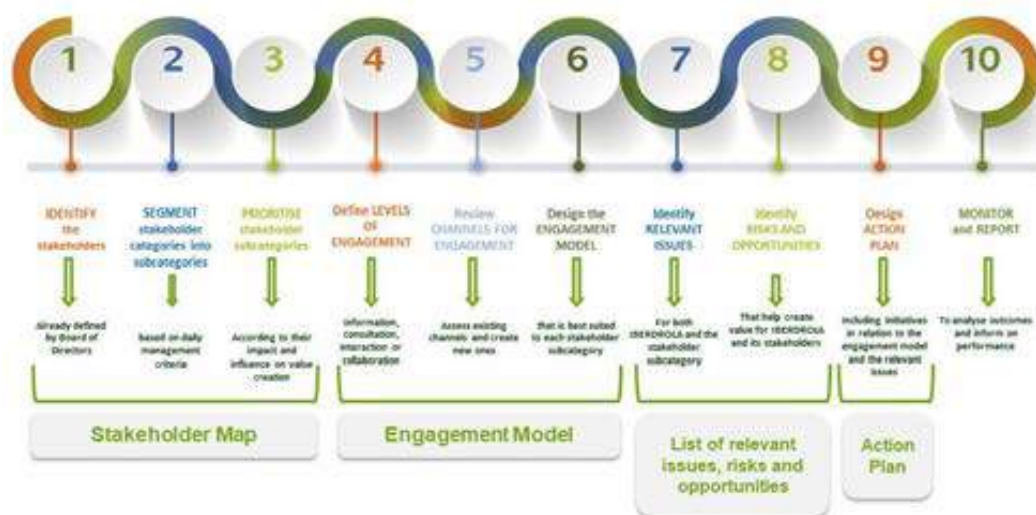
Iberdrola develops a responsible and sustainable business model, which puts [Stakeholders](#) at the centre of its strategy. The company's objective is thus to build relations of confidence with the various Stakeholders, as well as to deepen their participation, engagement and sense of belonging to Iberdrola.

The [By-Laws](#) themselves include a specific article dedicated to Stakeholder relations, establishing the principles and objectives that govern these relations:



Iberdrola has decisively driven compliance with its *Stakeholder Relations Policy* (mentioned above), through a Global Stakeholder Relations Model based on the AA1000 Stakeholder Engagement Standard (AA1000SES) 2015 standard and in its three requirements of inclusiveness, materiality and responsiveness¹⁰⁴.

Among other objectives, this Model seeks to systematise Stakeholder relations throughout the Iberdrola group, in all countries and businesses; and to create a corporate culture with respect to the significance of dialogue with the Stakeholders for more sustainable performance by the company. It constitutes a process of continuous improvement in and of itself, as shown below:



¹⁰⁴ Iberdrola has been continuously applying *Assurance Standard AA1000* for the last twelve years. In 2016 Iberdrola's Operating Committee approved a new *Global Stakeholder Relations Model* (referred to in this report), the second phase of which was implemented in 2018.



This process was implemented in 2018 to manage eight of Iberdrola's Stakeholders in the five main countries and at most of the Generation and Renewables facilities, as well as in the various geographic areas of the Networks Business.

Relationship channels and significant issues

102-44

Iberdrola keeps the relationship channels¹⁰⁵ with its eight Stakeholder groups updated and makes continuous efforts to identify the issues that are most important to each of them. An analysis of these issues shows that, while there are issues exclusive to each geographical area, most are common to Iberdrola's five main countries¹⁰⁶.

Set out below is a summary of the most important Stakeholder relationship channels and the main global issues detected in 2018:



WORKFORCE

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, web (intranet), meetings
- ✓ Events, surveys, bulletins, newsletter, information screens, posters
- ✓ Commissions, committees
- ✓ Ethics mailbox

SIGNIFICANT ISSUES

- ✓ Management and retention of talent (career plan, training, quality and maintenance of employment)
- ✓ Occupational risk prevention and health and safety training
- ✓ Employee benefits and pension plans



DISTRIBUTION CUSTOMERS

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, customer website, meetings
- ✓ Satisfaction surveys, claims systems, awareness-raising campaigns
- ✓ Social media, mobile (apps, chat, etc.)

SIGNIFICANT ISSUES

- ✓ Communication during supply incidents
- ✓ Complaint management
- ✓ Service quality



SHAREHOLDERS AND FINANCIAL COMMUNITY

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, shareholders website, meetings
- ✓ General Shareholders' Meeting, Shareholders' Club, Shareholders' Bulletin
- ✓ Road shows, Investor Day, Investor Relations App, Corporate reports
- ✓ Shareholders' Ethics Mailbox

SIGNIFICANT ISSUES

- ✓ Economic, social and environmental performance of the company and future plans
- ✓ Political situation in the markets in which Iberdrola is present
- ✓ Share price and dividends



RETAIL CUSTOMERS

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, customer website, meetings
- ✓ Satisfaction surveys, claims systems, customer service shops, sales force
- ✓ Social media, mobile (apps, chat, etc.)

SIGNIFICANT ISSUES

- ✓ Overall customer experience: channels, service, product offerings and complaints
- ✓ Optimisation of power and consumption and impact on billing
- ✓ Service quality

¹⁰⁵ The By-Laws state that "the Company's corporate website, its presence on social media and its digital communication strategy generally are channels of communication serving the *Stakeholder Relations Policy*".

¹⁰⁶ Pursuant to its *Global Stakeholder Relations Model*, Iberdrola has a list of major topics by Stakeholder group and country, which are included in the *Management Report on Iberdrola's Relations with Stakeholders* for financial year 2018.



REGULATORY ENTITIES

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, letters, corporate website, meetings
- ✓ Workshops, events, debates
- ✓ Queries, procedures, information capsules

SIGNIFICANT ISSUES

- ✓ Energy transition (energy efficiency, alternative energies, emissions reduction, etc.)
- ✓ Present and future regulatory framework of the electricity sector
- ✓ Remuneration to the businesses



MEDIA

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, corporate website, meetings
- ✓ Press releases, events, visits to facilities
- ✓ Social media

SIGNIFICANT ISSUES

- ✓ Financial results and company strategy
- ✓ Operational and corporate governance performance and social impact of the activity
- ✓ Present and future industry regulation



SUPPLIERS

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, supplier website, meetings
- ✓ Register and classification of suppliers, Supplier of the Year Award, satisfaction survey, stimulus campaigns
- ✓ Suppliers' ethics mailboxes

SIGNIFICANT ISSUES

- ✓ Iberdrola's role in the supply chain (ethics and CSR, stimulus campaigns, fostering of innovation)
- ✓ Regulatory measures in each country
- ✓ Commercial relations with suppliers (communication of strategy, award standards, contracting terms, payments and billing)



SOCIETY IN GENERAL

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, corporate website, meetings
- ✓ Partnership agreements, reports, events, working groups, visits to projects
- ✓ Social media

SIGNIFICANT ISSUES

- ✓ Iberdrola engagement in the development of the communities in which it is present (investment, innovation, collaboration programmes and projects)
- ✓ Relationship and contribution of the company in institutions and other representatives of society
- ✓ Awareness-raising, disclosure and training on specific industry issues and other issues of social interest



ENVIRONMENT

RELATIONSHIP CHANNELS

- ✓ Telephone, mail, corporate website, meetings
- ✓ Reports, sustainability surveys, inspections, audits
- ✓ Alliances, collaborations, events, conferences, roadshows

SIGNIFICANT ISSUES

- ✓ Environmental performance of the company and its facilities (environmental investments, biodiversity, environmental footprint, circular economy and water management)
- ✓ Climate change and energy transition
- ✓ Report and transparency of non-financial information (sustainability indices)



Iberdrola's Wholesale, Networks and Renewables facilities mainly manage three Stakeholder groups: Regulatory entities, Society and Environmental¹⁰⁷. The most significant issues of interest refer to regulatory compliance; the economic and social impact of the facilities on local communities; and environmental impacts and the mitigation thereof.

Iberdrola's response to all of these significant issues is set out not only in the various indicators of this *Sustainability Report*, but also in the *Integrated Report* and in the various specific reports, including: *Annual Financial Report*; *Annual Corporate Governance Report*; *Shareholder Engagement Report*; *Report on Procurement Activities and Supplier Management and the Contribution thereof to the Group's Sustainability*; *Innovation Report*; *Corporate Footprint Report*; *Biodiversity Report*; and Sustainability Balance Sheet. Likewise, the [corporate website](#) and the websites of the businesses and the foundations contain information in this regard.

The methodology described in the preceding sections enables the company to identify material issues through direct sources. Such review is completed with that made through indirect sources, such as the *Dow Jones Sustainability Index*, the *Carbon Disclosure Project*, the *Materiality Analysis*, etc., described in the "Defining report content" section.

Considering all of the foregoing, Iberdrola has a complete Stakeholder management system, subject to a process of continuous improvement, which allows it to increasingly engage all of the groups with which it relates and to encourage their participation in all of the company's decisions¹⁰⁸.

¹⁰⁷ In the case of the cogeneration plants, the main Stakeholder group is 'Customers', for whom the most significant issue is compliance with contracts.

¹⁰⁸ Iberdrola prepares an annual *Management Report on Iberdrola's Stakeholder Relations*, which summarises issues of interest detected within the various communication channels, as well as the company's response through action plans.



Ethics and integrity

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 205

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The Iberdrola group's compliance system

Pursuant to the *General Compliance System Framework of the Iberdrola group* approved by the Iberdrola group's Compliance Unit (the "**Unit**"), the foundations for the operation of its compliance system have been established following best domestic and international practices in the area of compliance, fraud prevention and the fight against corruption.

The group's compliance system is thus defined as a set of substantive rules, formal procedures and material actions intended to prevent, avoid and mitigate the risk of conduct that is improper or contrary to ethics or the law that may be committed by professionals of Iberdrola within the organisation, and to ensure that the conduct is in accordance with ethical principles and applicable law (the "**Compliance System**"). The bodies and divisions directly entrusted with the implementation and further development thereof also form part of this Compliance System.

Iberdrola has created a Compliance Unit, a collective, internal and permanent body linked to the Sustainable Development Committee of the Board of Directors. There is also a compliance division linked to the Audit and Compliance Committees at each subholding company and/or head of business company. The duties of all of them include promoting a culture of ethical behaviour and zero tolerance for fraud and the commission of unlawful acts and management of the Compliance System.

The Compliance Unit has powers related to the *Code of Ethics*, the *Anti-Corruption and Anti-Fraud Policy*, the *Crime Prevention Policy*, the *Internal Regulations for Conduct in the Securities Markets*, legal provisions regarding the separation of activities, and all other powers that may be entrusted thereto by the Sustainable Development Committee or the Board of Directors of the company or that are established in Iberdrola's Corporate Governance System.



Within this context, the [Code of Ethics](#) is the “cornerstone” on which the Compliance System is based and permanently functions as an element “inspiring” the other elements thereof, which are shown in the following chart:

These elements include:



- 1) the regular evaluation of risks;
- 2) the development and maintenance of policies, procedures and action protocols for the professionals of the group describing the expected, appropriate and suitable behaviour;
- 3) communications activities;
- 4) the training of employees on compliance-related issues;
- 5) the continuous monitoring and review of the Compliance System through internal and external audits and control and detection mechanisms like the ethics mailboxes; and
- 6) the launch of plans to respond and react to conduct or situations that are improper or contrary to

applicable legal provisions or failures in the Compliance System.

1.- Evaluation of compliance risks

205-1

One of the main elements of the Compliance System is the regular and continuous identification and evaluation of compliance-related risks in each of the corporate areas and functions and in the businesses of the group. The purpose of this evaluation is to be able to establish the measures required to neutralise or mitigate them based on the probability thereof and the seriousness of the consequences thereof. Various areas in which this risk evaluation occurs are described below.

Crime prevention programmes

Within the framework of the Compliance System, various activities are carried out to encourage the organisation to act in accordance with the most stringent ethical standards and in accordance with applicable laws and regulations. In order to develop the *Crime Prevention Policy*, the companies of the group have implemented a specific and effective programme, the *Crime Prevention Programme*, as a set of measures focused on the prevention and detection of and reaction to possible crimes, which also extends to the prevention and control of other frauds, administrative infractions and serious irregularities, all within the framework of the process of review and adjustment to the most recent changes to the Spanish Criminal Code following the introduction of criminal liability for legal entities, without prejudice to the legal provisions applicable in any other jurisdiction in which the company does business.

To implement these *Crime Prevention Programmes*, there is a regular evaluation of the risks of committing criminal acts that might ultimately be alleged against the various companies of the group based on their activities, as well as an identification of existing controls and the establishment of new controls for the prevention thereof.



The criminal risk evaluation process follows the methodology described below:

- Meetings are held with the heads of the various areas (corporate and business) of each company in order to analyse the specific activities they perform within their area of responsibility.
- Based on the activities performed by each area, conduct that might entail the risk of committing a crime is identified.
- The risks identified are classified based on the probability of occurrence thereof and are included in a criminal risk map that reflects the divisions, departments or areas of activity within each company where there is a risk of the commission of each crime.
- For each of the crimes, there is an identification of the controls applicable to the various areas that allow for the limitation, prevention and mitigation of each of the criminal risks identified; and in those cases in which an insufficiency is observed, the specific measure necessary to strengthen prevention is adopted, e.g. implementing additional controls or modifying existing ones.
- A control map is thus developed assigning each of the controls to the crime or crimes it is intended to avoid, and identifies a person responsible for each control, who must ensure the proper operation thereof with a predetermined frequency. The person responsible for each control has the powers, experience, training and authority level appropriate for supervision of the effectiveness thereof.
- The persons responsible for the controls issue annual certifications regarding the appropriate operation thereof.

Fraud and corruption in particular

In financial year 2018 there was an update of the analysis of the risks of fraud and corruption within the Iberdrola group based on a self-evaluation of the exposure to this risk, with the participation of professionals in charge of all areas and relevant processes at each of the country subholding and/or head of business companies of the group. Specifically, the scope of the analysis was the following:

- 100% of the country subholding companies making up the group: Avangrid INC¹⁰⁹, Iberdrola España, S.A.U., Iberdrola México, S.A. de C.V., Iberdrola Participaciones, S.A.U., Neoenergia, S.A.¹¹⁰ and Scottish Power LTD as well as the principal business thereof: i) Networks Business, ii) Wholesale and Retail Business, and iii) Renewables Business.
- As regards the corporate divisions, those areas or divisions considered to be of higher potential risk in this area have been analysed. Specifically, the following have participated: Procurement, Human Resources and General Services, Financing and Treasury, Corporate Development, Administration and Control, Investor Relations and Communication, Innovation, Sustainability and Quality, Internal Audit and International Relations.

To perform this evaluation, guidelines and a methodology are provided that allow the compliance directors and the heads of the businesses and corporate functions to identify and

¹⁰⁹ Avangrid formed part of the process through a specific ethics survey.

¹¹⁰ Neoenergia formed part of the process through a specific analysis of this company.



evaluate the risks of fraud and corruption within the group. Based on an analysis of the information received, each Compliance Division prepares the risk map for its respective company, identifying the main controls to mitigate them, and proposes improvements or modifications to strengthen the effectiveness of such controls, if appropriate.

This analysis is used as a starting point to determine the most effective prevention and control measures and thus allow for the appropriate allocation of resources and efforts to those areas or factors with higher risk or in which a potential for improvement has been identified. Accordingly, the assessment constitutes a tool upon which various actions are based and which are included within the other elements of the Compliance System.

Risks associated with suppliers

Suppliers are considered strategic players within the Iberdrola group and the Procurement function has implemented policies and mechanisms to ensure the transparent, comprehensive and responsible management of its supply chain and to mitigate risks.

- Procurement policy and procedure: global framework for the control and management of risks and opportunities arising from procurement.
- *Code of Ethics*: principles of conduct that bind the group in its relations with third parties and that contain specific principles of conduct for suppliers that match the principles and values of the group. Attached to orders and contracts.
- Procurement terms and conditions. Contract clauses:
 - o Require the parties to act within the most stringent levels of safety, occupational risk prevention and environmental protection.
 - o They include specific clauses on supplier corporate social responsibility and respect for human rights.
 - o They include the rejection of any fraudulent practice or corruption.

The procurement process ensures that counterparty risks are evaluated in decision-making during the tender and award process.

**Evaluation of supplier risks, set out in the [Procurement Policy](#)**

PROCUREMENT POLICY	
Credit risk	"In significant Procurements or tenders, a Supplier <u>credit risk assessment</u> shall be required in order to ask for sufficient contractual guarantees to ensure obligations are met".
Fraud risk	"Depending on the nature and amount of the object of the tender, a Supplier <u>fraud risk assessment</u> must be carried out, the result of which shall determine the level of approval required to start the relationship".
Cybersecurity risks	"Processes shall be included to identify and establish <u>cybersecurity requirements</u> that would mitigate the risks associated with access by Suppliers and their potential subcontractors to information or to IT systems and services and communications of the group".
CSR risks	"[...] priority will be given to those Suppliers that have <u>advanced management systems</u> , certified by a third party and, in particular: (i) Environmental Management System; Quality Management System; (iii) Occupational Risk Prevention System; (iv) Corporate Social Responsibility Action Plan; and (v) Internal Code of Ethics.
Party risk	"[...] Suppliers shall be requested to state in their bid the work they propose to subcontract, as well as the names of <u>potential subcontractors</u> , for purposes of analysis in the context of evaluating the bid".
Tax risk	"No contract may be entered into with a supplier that is not current in the payment of its <u>tax obligations</u> , tax-related obligations or any other kind of obligations as a result of which the group might incur any secondary liability".

Review of the provision of general supplies in countries presenting a risk of corruption

To analyse supplies in countries with a risk of corruption, the company uses the *Transparency International Corruption Perceptions Index 2018 (TI CPI 2018)* as a source to classify countries by their risk level.

Procurement volumes classified by corruption risk levels are set out in the following table:

Corruption risk ¹¹¹	% of 2018 general supply purchases in countries on the CPI Index 2018
Low	51.8
Medium	21
High	27.2

According to the TI CPI 2018, countries with a high risk of corruption in which purchases were made from suppliers registered are mainly Brazil and Mexico. This volume of procurement is directly related to Iberdrola's investment effort in these countries, where 33% of the group's total investments were made in 2018.

¹¹¹ Low risk: country index ≥ 60 / Medium 59-50 / High risk: < 50 on a scale of 0 (perception of high corruption levels) to 100 (perception of low corruption levels).



Iberdrola has not made any significant purchase of general supplies from suppliers located in tax havens.

Review of fuel supplies in countries presenting a risk of corruption

An analysis of the purchases of fuel shows the following ratios in 2018:

Corruption risk ¹¹¹	% of 2018 general supply purchases in countries on the CPI Index 2018
Low	49
Medium	0
High	51

According to the TI CPI 2018, the countries with a high risk of corruption in which purchases were made from suppliers registered there are mainly Mexico and Brazil. However, the company believes that the calculation should exclude purchase of fuel in these two countries because they are made in strongly regulated environments that require contracting with state-owned companies. Excluding both countries from the calculation, the high-risk percentage would decrease to 11%.

Money laundering

Although Iberdrola, S.A., Iberdrola España, S.A.U and their head of business companies are not subject to *Law 10/2010 on the prevention of money laundering and terrorist financing* (the “**Money Laundering Act**”), this risk is contemplated as part of the *Crime Prevention Programme* of such companies, given the breadth of the definition of the crime and taking into account that this type of crime can be committed by careless action. The general controls related to these crimes include i) the *Code of Ethics* itself, ii) the *Procurement Policy*, iii) the *Protocol for Social Contributions, Donations and Sponsorships*, and iv) the *Protocol for Management the Risk of Third-Party Fraud and Corruption*. These companies also have a number of specific controls for these types of crimes that have also been identified in the aforementioned Programme.

However, due to the nature of its activities, Iberdrola Inmobiliaria, S.A.U. is subject to the Money Laundering Act, for which reason this company, in addition to having the preventive controls mentioned above, has specific additional controls mainly intended to prevent these types of crimes. By way of example, the company has rules like the *Procedure for Action to Prevent Money-Laundering and Terrorist Financing* and *Contract Approval Countersigning*.

2.- Policies and protocols

Once the risks are identified and duly evaluated, the company must approve the required internal rules (policies, protocols or procedures) to which decisions and activities will be subject in order to prevent and mitigate said risks.

Along these lines, the Iberdrola group has approved (as an integral part of its Corporate Governance System) a number of general internal policies and rules in the compliance area mainly intended to serve as a guide for the conduct of its professionals in a global, complex and changing environment. This general rulemaking includes the *Code of Ethics*, the *Crime Prevention Policy* and the *Anti-Corruption and Anti-Fraud Policy*, which have been approved by Iberdrola, S.A.’s Board of Directors and are called upon to further develop the *Purpose and values of the Iberdrola group*.



Apart from the higher-level rules mentioned above, the Unit in the exercise of its powers approves procedures and protocols in the Compliance area required for the further development thereof (some of which have already been mentioned). These lower-level rules attempt to regulate and mitigate certain specific identified risks and must in any case be in consistent with the provisions of the Corporate Governance System.

In particular, in the area of the fight against corruption, specific rules have been developed pursuant to which there is an analysis and evaluation of the risk of fraud and corruption of the third parties with which Iberdrola is related. In this context, they include:

- 1) **Third parties generally.** During financial year 2018, the Unit approved the *Protocol for Management the Risk of Third-Party Fraud and Corruption*. This protocol is configured as a rule specifically intended to prevent the risks of fraud and corruption arising from the relationship of the companies of the group with any third party related thereto. It establishes a number of procedures and analyses related to the process of selection and contracting thereof.

The scope of application of this protocol excludes the third-party types referred to below.

- 2) **Government administrations and public officials.** Iberdrola has also approved a *Protocol for Conduct in Professional Relations with Governments, Political Parties, Authorities and Public Officials*, applicable to the entire group, governing employee relationships with government administrations, authorities, public officials and other persons who participate in the exercise of public office, as well as political parties, federations, coalitions or electoral groups. Apart from establishing certain principles of conduct to be observed by all of the professionals, this protocol establishes certain requirements to report to the corresponding Compliance Division prior to the formalisation of any contract, agreement or pact with public officials or government administrations.
- 3) **Corporate transactions.** The company has approved a *Corporate Transactions Protocol* in order to establish the steps to take regarding risks associated with compliance in the case of mergers and acquisitions, joint ventures and other types of corporate transactions contemplated in the area of application thereof. This protocol establishes the obligation to engage in a compliance review and analysis for any corporate transaction that is going to be formalised. Likewise, the Compliance function also engages in a prior analysis of investment and divestment projects from the standpoint of fraud and corruption risk.
- 4) **Donations, sponsorships and social welfare activities.** The company has also approved a *Protocol for Social Contributions, Donations and Sponsorships*, the object of which is to evaluate any compliance risks associated therewith and the terms and conditions for such transactions, as well as the beneficiaries thereof.

This internal rule, which is regularly reviewed by the Unit and the compliance divisions to the actual activities of a dynamic organisation, as well as to a changing environment, is disseminated and made available to all employees.

3.- Communication

The Unit and the compliance divisions establish an internal and external communication plan in relation to the Compliance System each year. Communication actions are established based on an evaluation of risks, strategic priorities, defined objectives and identified ethics and compliance requirements.

The Communication Divisions, working with the Unit and/or the various compliance divisions, as applicable, are responsible for implementing and monitoring the communication plans.



The various available tools and channels have been used for the communication activities selecting those that are most effective based on the particularities of each case. The support, cooperation and advice of the company's Communication Division was available for this purpose at all times. To summarize, the main communication activities performed at the group by the various compliance divisions are the following:

- **Email campaign:** The Unit and the various compliance divisions prepare and send emails in relation to the various issues relating to the *Code of Ethics*, compliance rules and the Compliance System generally. During financial year 2018, there were communications relating to i) changes made in the latest update of the *Code of Ethics*, ii) the launch of anonymous ethics mailboxes for the Spanish companies, encouraging the use thereof, and iii) the launch of the ethics survey of the Iberdrola group.
- **Employee portals.** The new version of the employee portal of the Iberdrola group has updated and revised the information relating to compliance and ethics appearing therein. In particular, the employee portals of the Iberdrola group in Spain have been updated to include, among other things, the current versions of all compliance regulations, as well as the *Crime Prevention Programmes* of each company.

The employee portal also makes available to the employees i) an interview with the group's Compliance Director to emphasize the importance of using the group's ethics mailboxes, and ii) specific information regarding the 2018 ethical culture survey.

- **Publications in external media.** Apart from the information published on the group's corporate website www.iberdrola.com, for purposes of Iberdrola's inclusion for the fifth consecutive year in the list of the "World's Most Ethical Companies" published each year by the Ethisphere Institute, there have been publications in this regard in various media, thus contributing to the dissemination of the group's commitment to ethics, honesty and integrity in all of its activities.

There has also been publication in various external media of the acquisition by Iberdrola of the "Compliance Leader Verification" certification provided by the Ethisphere Institute to those companies that not only comply with applicable legal provisions but go beyond them and demonstrate the existence of an internal culture that promotes ethical values in all of their businesses and activities. The "Companies with best compliance practices" 2018-2019 award given by Expansión to Iberdrola was also recently published.

- **Events and seminars.** The compliance directors have participated in various ethics and compliance events and seminars, including *Compliance Officer Day* organised by the Spanish Compliance Association (ASCOM), the domestic and international compliance conference organised by Thompson Reuters, and the compliance sessions organised by the National Markets and Competition Commission.
- **Support programmes.** In collaboration with ASCOM, Iberdrola has developed a programme for compliance systems intended to help small- and medium-sized businesses (SMEs) and public bodies in the implementation of these systems. The initiative was addressed to almost 40 entities in Navarre, the Basque Country and Valencia. Iberdrola promotes this programme to disseminate a culture of compliance among the third parties with which it relates in order to achieve both a higher level of ethical commitment from all organisations and improvement in the competitiveness thereof, highlighting the competitive advantage that compliance systems offer to those who implement them.



4.-Training on anti-corruption policies and procedures

205-2

The Unit and the various compliance divisions establish specific annual ethics and compliance training plans, which are defined taking into account (i) the areas in which a higher level of risk in this area has been identified, (ii) changes in applicable rules, and (iii) changes in internal rules. The Human Resources Division is available to assist with the implementation of these specific annual plans.

The initiatives carried out during the year include:

Training for governance bodies

- As part of the training programme for the directors of Iberdrola, S.A., there was a training initiative in 2018 directed to the Board of Directors regarding the Iberdrola group's Compliance System and the structure, bodies and tasks thereof.

The Compliance Unit also regularly reports to the Sustainable Development Committee on the most significant compliance issues for the period, having appeared before this body a total of three times in 2018. The aspects reported on include the report on annual reports, update of the internal compliance rules and the *Crime Prevention Programmes*, the implementation of anonymous ethics mailboxes at the Spanish companies, the results of the survey on ethical culture, the annual activities plans, resources and budgets.

Training for employees of the group

- In coordination with the various country subholding companies and/or head of business companies, the Unit develops and regularly updates training programmes on the *Code of Ethics* and the other rules and regulations in this area applicable to all group professionals. Such programmes foster knowledge of the action standards required at the group and promote ethical values and the principle of "zero tolerance" towards the commission of unlawful acts and situations of corruption and fraud. Various initiatives have been developed, including:
 - o On-site training and awareness-raising sessions on the Code of Ethics and anti-corruption provisions for members of the company's management team in Spain. During 2018 more than 145 employees belonging to this group have received on-site training within this programme through the various meetings held in Madrid and Bilbao.
 - o During the month of September there was a global training programme in collaboration with the law firm Baker & McKenzie regarding international anti-corruption risks and regulation for those employees who might be affected by these types of risks due to the nature of the duties they perform. This training was made up of an onsite session in Madrid which was broadcast globally and attended by more than 430 professionals.
 - o Specific training regarding the *Internal Regulations for Conduct in the Securities Markets*. The Compliance Unit, together with the law firm Uría Menéndez, held onsite training sessions in Bilbao and Madrid, the principal purpose of which was to review and comment on the main aspects of the regulation, as well as the obligations it imposes on the persons affected and on treasury share managers. 48 professionals attended these meetings.
 - o Specific local anti-corruption training:
 - In the United Kingdom, there is specific training in this area directed to employees in various areas with potential risk. More than 70 employees have received this training.



- The *Code of Ethics* training in the United States includes a short training session on anti-corruption. This online course was taken by 6,386 professionals in 2018.
- There have been onsite training sessions in Mexico regarding key aspects of ethics and compliance. This initiative was developed through 32 sessions attended by 654 employees.
- There have also been on-line and in-person training courses in Brazil regarding the *Code of Ethics*, fraud and corruption, attended by 8,759 professionals.

5.- Monitoring

The main activities performed by the group within the Compliance System are monitored quarterly by the Compliance Unit through the report in which the Compliance Divisions of each country subholding and/or head of business company report on changes in a number of indicators regarding the principal elements making up the compliance programs of the respective companies.

Grievance mailboxes of the group

One of the basic elements of the Compliance System is to establish detection and/or monitoring mechanisms to verify the effectiveness of the controls and prevention activities carried out at the group. Such mechanisms include the ethics mailboxes, which constitute tools to report conduct that could entail an irregularity or an act contrary to the law or to the rules of conduct set forth in the *Code of Ethics* or other internal rules or procedures. All professionals who have reasonable indications of the commission of an event of this kind must report it through the aforementioned mailboxes. In addition to potential grievances, queries may also be made through these channels on matters relating to the interpretation of and compliance with the *Code of Ethics* and the other internal rules in this area.

All communications received are deemed confidential information, and may be anonymous in those jurisdictions in which the law so allows. In any event, there is an express commitment of the group, reflected in the *Code of Ethics*, in the *Anti-Corruption and Anti-Fraud Policy* and in the other internal procedures and rules in this area, not to take reprisals against those using the aforementioned mailboxes, with the logical exception of cases of bad faith. As a new development in 2018, the Compliance Unit has made anonymous ethics mailboxes available to the employees of the companies in Spain and Mexico.

The group also has suppliers' ethics mailboxes. Such mailboxes are communication channels to enable the suppliers of the group, as well as any companies that they hire to provide services or supplies, their respective employees and the companies that have participated in a tender for services or supplies to become suppliers, to report conduct that could entail (i) infringement by any group professional of the Corporate Governance System, the [Code of Ethics](#) or applicable law, or (ii) the commission by a supplier, its subcontractors or their respective employees of any act contrary to the law or to the provisions of the [Code of Ethics](#) within the framework of their business relations with the group. These [mailboxes](#) are available in the procurement portal of the website. This mailbox also has the option of reporting anonymous grievances since 2018.



The group also has a shareholders' ethics mailbox. This mailbox represents a channel of communication through which shareholders can report conduct that might involve a breach of the company's Corporate Governance System or the commission by any professional of the group of an act contrary to the law or to the rules of conduct of the *Code of Ethics*. This mailbox is available on the group's corporate website, specifically within the interactive system provided for the shareholders known as "OLS – On-Line Shareholders".

Iberdrola group ethical culture survey 2018

In September 2018 the Compliance Unit took a survey of the ethical climate for all professionals of the group, obtaining more than 17,500 responses. The survey attempts to evaluate the ethical culture of the organisation and tries to measure significant aspects like employee perception of the company's ethical culture, their evaluation of the controls within the organisation and their confidence in the ethics mailboxes.

An analysis of the survey results leads to a number of specific measures to improve situations or problems that have been detected.

Internal reviews of the compliance system

During financial year 2018, internal audit performed a review of the *Crime Prevention Programmes* of the companies of the Iberdrola Spain subgroup, focusing on the following crimes:

- Business corruption
- Money laundering
- Illegal financing of political parties
- Bribery and influence peddling
- Terrorism financing

Although the results thereof did not indicate any non-compliance, certain areas for improvement have been identified and sent to the corresponding Compliance Divisions for assessment.

Internal reviews of the compliance system

- In 2018, as a result of the external audit of Iberdrola's Compliance System by the Ethisphere Institute, the company has renewed the "Compliance Leader Verification" certification, which this institute gives to those companies that not only comply with applicable legal provisions but go beyond them and demonstrate the existence of an internal culture and leadership that promotes ethical values in their businesses.
- Iberdrola has been included by the Ethisphere Institute for the fifth consecutive year as one of the most ethical companies in the world, according to the World's Most Ethical Companies 2018 ranking. Iberdrola is once again the only Spanish company with this classification.
- After the annual follow-up audit in 2018, Aenor has made an evaluation of Iberdrola's system according to (1) the UNE-ISO 37001 standard regarding the anti-bribery management system, and (2) the UNE19601 standard regarding criminal management systems.

Also in 2018, (i) the country subholding company Iberdrola España, S.A.U. and its head of business companies, and (ii) Iberdrola Inmobiliaria, S.A.U. have obtained the ISO37001 and UNE19601 certifications mentioned in the preceding paragraph.



- The law firm Uría Menéndez has issued a report evaluating the effectiveness of the *Crime Prevention Programmes* implemented at the various companies of the group. As a result of the review for 2017, it was concluded that these programmes are in compliance with best international practices, are effective and are useful to significantly reduce the risk of commission of the crimes sought to be prevented.
- Finally, Iberdrola was given the “Companies with best compliance practices 2018-2019” award by Expansión. This award is given to those companies that have a compliance model ensuring not only compliance with the internal or external rules to which it is subject, but that also has appropriate procedures, tools and personnel.

6.- Response and remediation plans

205-3

As laid down in the [Regulations of the Compliance Unit](#), it falls upon the Compliance Unit to handle communications made through the ethics mailboxes, except in cases where the report affects an employee of a country subholding company or head of business company that has its own Compliance Division.

The right to confidentiality, to a defence and to the presumption of innocence of the persons under investigation are guaranteed in all investigations.

In addition to the work of investigation, in view of the results of the investigation or grievance processes, the Compliance Unit or Divisions may identify potential corrective actions and make suggestions to the corresponding areas to improve the control, prevention and mitigation systems.

As regards the communications received through the ethics mailboxes established in the group, a total of 1,695 communications were received in financial year 2018, of which 655 were queries and 1,040 were complaints. Of the 1,040 complaints received, 648 were accepted for processing. In 8% of the cases of complaints allowed to proceed, some type of disciplinary action was taken upon a showing that there had been improper conduct or conduct contrary to the *Code of Ethics* or any other applicable rule.

Information regarding the existence of cases of corruption during the financial year

The company has not been informed, either through the ethics mailboxes or through the corresponding legal channels of its Legal Services, of any specific court decisions regarding cases of corruption during the reporting period. There were also no incidents reported through the mailboxes established for such purpose resulting in the cancellation of orders or of contracts with group suppliers.



Proceedings from prior years with an impact on the financial year

On 22 December 2017, the European Investment Bank (the “EIB”), Iberdrola Ingeniería y Construcción, S.A.U. and Iberdrola S.A. (in its capacity as owner of all of the share capital of Iberdrola Ingeniería y Construcción, S.A.U. through the country subholding company Iberdrola Participaciones, S.A.U.) signed a settlement agreement (the “**Agreement**”) within the framework of the EIB’s investigation relating to the Riga TEC-2 project to rebuild a thermal plant in Riga (Latvia), which was awarded to Iberdrola Ingeniería y Construcción, S.A.U. on 8 December 2005 and financed by this institution.

Among the obligations agreed to with the bank under the Agreement, Iberdrola Ingeniería y Construcción, S.A.U. and Iberdrola, S.A. have committed to develop, finance and implement a specific programme to sponsor activities in the area of compliance by taking actions and measures in favour of the fight against corruption and fraud for a period of four years from the signing of the Agreement. Within this context, the company has performed more than 20% of the agreed activities during 2018.



Fiscal responsibility

The fiscally responsible behaviour of all companies of the Iberdrola group forms part of the [General Sustainability Development Policy](#) which contemplates basic principles of conduct that must be respected. The taxes that the group pays in the countries and territories in which it operates are the main contribution of the companies of the group to sustaining public expenditures, and thus one of their contributions to society.

The values that guide the corporate policies, internal rules and other internal codes and procedures include ethical principles, good corporate governance and institutional transparency and loyalty.

In 2010 the Board of Directors approved a [Corporate Tax Policy](#), which was last updated on 18 December 2018. This Policy contains the tax strategy of Iberdrola, S.A. and its commitment to the application of good tax practices, and is applicable to all companies of the group in all of the countries in which it operates.

The *Tax Policy* defines a number of principles, including:

- *“The prevention and reduction of significant tax risks, ensuring that taxes bear an appropriate relationship to the structure and location of activities, human and material resources, and the group’s business risks”.*
- *“The strengthening of the relationship with tax authorities based on respect for the law, fidelity, reliability, professionalism, cooperation, reciprocity, and good faith, without prejudice to the legitimate disputes that, observing the aforementioned principles and in the defence of the corporate interest, may arise with such authorities concerning the interpretation of applicable legal provisions”.*
- *“Envisaging the taxes that group companies pay in the countries and territories in which they operate as the principal contribution to sustaining public expenditures, and therefore one of their contributions to society”.*

And by application of these principles, the group assumes the following good tax practices, among others:

- *“Not to use artificial structures unrelated to the Company’s business for the sole purpose of reducing its tax burden nor, in particular, enter into transactions with related entities solely to erode the tax basis or to transfer profits to low-tax territories”.*
- *“Avoid opaque structures for tax purposes, which are understood as structures calculated to prevent knowledge by the competent tax authorities of the party ultimately responsible for the activities or of the ultimate owner of the assets or rights involved”.*
- *“Not to create or acquire companies resident in tax havens, with the sole exception of those cases in which it is forced to do so because it is an indirect acquisition in which the company that is resident in a tax haven is part of a group of companies that are being acquired”.*
- *“Follow the recommendations of the good tax practices codes implemented in the countries in which the companies of the group do business, taking into account the group’s specific needs and circumstances”.*



Applying the maximum standards of tax transparency, Iberdrola, S.A. has adhered to the *Code of Good Tax Practices* approved on 20 July 2010 by the full Forum of Large Businesses (*Foro de Grandes Empresas*), established on 10 July 2009 at the behest of the National Tax Administration Agency (*Agencia Estatal de Administración Tributaria*). Iberdrola's commitment to compliance with, further development and implementation of the Code will extend to any other good tax practices that stem from the recommendations of the Code in effect at any time, even if not expressly set forth in the *Corporate Tax Policy*.

In addition, in order to strengthen its commitments in this area, Iberdrola, S.A. has submitted to the Spanish tax authorities the "Annual Tax Transparency Report for companies adhering to the Good Tax Practices Code" for 2015, 2016 and 2017.

In 2018, it began a new path through the preparation for purposes of the holding of the company's General Shareholders' Meeting of a document regarding "Global Tax Contribution/Financial Year 2017 - Our Commitment to Society". This document will be included after 2019 in the "Tax Transparency Report" approved by the Board of Directors, which will group together all significant tax issues.

Furthermore, aware of the significance today of tax havens and non-cooperative jurisdictions, it should be noted that the Iberdrola group does not include within its controlled affiliates and assets any that are resident in tax havens, pursuant to the laws in this regard (Royal Decree 1080/1991 of 5 July and respective updates thereof) or in territories classified by the European Union in its black list as non-cooperative jurisdictions for tax purposes.

It only held an indirect interest in the company Garter (an inactive company residing in the British Virgin Islands) acquired with the merger of Neoenergia into the Iberdrola group at the end of August 2017, although this company has already been liquidated.

The group also pays special attention to the state of Delaware due to the interest it raises, even though it is not considered a tax haven or non-cooperative jurisdiction. In this regard, various companies forming part of the Iberdrola group were incorporated in this state. In fact, in the United States, it is customary practice to incorporate companies in the State of Delaware, due to the development of its commercial law and strong jurisprudence. This combination provides strong legal security in the commercial arena.

However, the tax domicile of the companies (which determines the tax system applicable thereto and where they should register for such purpose and pay taxes) is determined by the place where the administration and management of the businesses of the companies is concentrated, regardless of the place of incorporation. Thus, the companies of the Iberdrola group incorporated in Delaware as well as in any other state of the United States have their tax domicile and pay taxes in the states in which the locations of operation of the consolidated tax group of which they form a part are located, which does not include Delaware. In summary, the companies of the Iberdrola group are incorporated according to objective business standards and not to tax engineering structures.

Iberdrola is fully aligned with the principles and actions proposed by the OECD's "BEPS Plan". Specifically, as regards Transfer Pricing, state that the group assesses related-party transactions at arms'-length prices in line with the OECD Guidelines in this area. Furthermore, all existing related-party transactions of the group are duly documented on the terms provided by the legal provisions of the various countries. The group is also committed to the preparation and presentation in due time and form of the Country-by-Country Report upon the terms provided by the law of its parent company, Spain. In the Country-by-Country Report for 2016 and 2017, submitted in 2017 and 2018, respectively, information regarding the activities of the



group was reported, as was information regarding all taxes paid and collected by the companies of the group in the various tax jurisdictions in which it is present.

In 2017 and 2018 Iberdrola was ranked as the leading company on the tax transparency ranking of Ibex 35 companies, prepared by Fundación Compromiso y Transparencia based on 2016 and 2017 information, respectively, in recognition of its good tax practices and its transparency.

The taxes paid are presented in the following table:

Tax contribution (€ millions)	2018	2017	2016 ¹¹²
Company contributions	3,096	2,723	2,768
Contributions due to third-party payments	4,843	4,388	4,361
Iberdrola consolidated total	7,939	7,111	7,129

More than 98% of taxes paid (total contribution) by the group occur in the five most relevant countries. A detailed breakdown by geographic area can be found in Annex 1 Supplementary Information.

¹¹² For better comparability of the 2017 and 2016 information, 100% of the taxes paid by Neoenergia in Brazil during 2016 are included.



Competition

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 206

Pursuant to the [Code of Ethics](#), the group undertakes to compete fairly in the market and not to engage in advertising that is misleading or denigrates its competitors or third parties. The group also undertakes to obtain information lawfully, to promote free competition for the benefit of consumers and users, and to promote transparency and free market rules, as provided in the group's [General Sustainable Development Policy](#).

In relation to the foregoing, and specifically pursuant to the provisions of the *Anti-Corruption and Anti-Fraud Policy*, the companies of the group promote a transparent environment, maintaining appropriate internal channels to favour the communication of possible irregularities, including the ethics mailboxes, which allow professionals of the group, suppliers and shareholders of the company to communicate conduct that may entail a breach of the company's Corporate Governance System or the commission by a professional of the group of an act contrary to the law or to the rules of the *Code of Ethics*.

At the country level, each of the country subholding companies endeavours to ensure strict compliance with legal provisions on separation of activities. In many countries like Spain, where a *Code for the Separation of Activities of the Companies of the Iberdrola group in Spain* applies, applicable internal rules go beyond what is required by law, significantly strengthening the measures to prevent any anti-competitive practices deriving from a lack of separation between the liberalised and regulated businesses.

The liberalised head of business companies also have specific controls to avoid any type of anti-competitive practices, particularly in areas like advertising campaigns directed towards individuals and price manipulation.

In Spain, the generation head of business company has access to Autocontrol, a private entity that works for truthful, legal, honest and trustworthy advertising, which among other activities provides a consulting service to advise on the ethical and legal adequacy of campaigns before they are launched. It has also implemented internal processes to ensure compliance with *Regulation (EU) 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency* and the legal provisions in further development thereof, which establish rules prohibiting abusive practices that affect the wholesale energy markets. In other jurisdictions, the liberalised head of business companies have equivalent internal policies and rules.

In the United Kingdom, ScottishPower has implemented internal processes to ensure compliance with REMIT, the EU regulation on the integrity and transparency of the energy market. REMIT provides a specific regulatory framework for wholesale energy markets that defines market abuse (including manipulation or attempted manipulation of the market, use of inside information, explicit prohibition against market abuse, etc.). The regulator Ofgem



supervises compliance with such regulations on integrity and transparency of the electricity and gas market, monitoring, investigating and sanctioning violations of REMIT.

In the practical application of applicable law, the complexity thereof might give rise to interpretations that are not shared by other market players or by the regulatory authority itself, giving rise to situations such as those described below requiring the intervention of the competent courts.

206-1

In 2017, a class action lawsuit was filed with the United States District Court of Massachusetts on behalf of New England customers against the company and Eversource, alleging that certain of their respective subsidiaries that provide natural gas transmission services using the Algonquin Gas Transmission (hereinafter, "AGT") pipeline, which for the company would be its indirect subsidiaries SCG and CNG, engaged in natural gas pipeline capacity scheduling practices with respect to AGT that resulted in an artificial increase in electricity prices in New England. The plaintiffs sought to recover damages, disgorgement, redress in the form of restitution, injunctive relief and an award of costs. The company filed a motion to dismiss all claims on 29 January 2018, and on 27 February 2018, the Federal Energy Regulatory Commission (hereinafter, "FERC") released the results of a staff inquiry into the gas pipeline capacity scheduling practices involving the AGT. The FERC stated that the inquiry did not uncover any evidence of anticompetitive withholding of natural gas pipeline capacity on the AGT and that it would not take any further action on the matter. On 27 April 2018, the company filed a motion to dismiss all claims based on federal pre-emption and lack of any evidence of antitrust behaviour, citing, among other reasons, the results of the inquiry conducted by FERC staff. The plaintiffs filed opposition to the motion to dismiss on 25 May 2018, and the U.S. District Court of Massachusetts held a hearing on the motion to dismiss on 1 August 2018. On 11 September 2018, the U.S. District Court upheld the motion filed by the company and dismissed all of the claims. On 10 October 2018, the plaintiffs filed an appeal. The company cannot predict the outcome of this class action lawsuit.

In addition, on 10 August 2018, PNE Energy Supply LLC, a competitive energy supplier located in New England that purchases electricity in the day-ahead and real time wholesale electric market, filed a civil antitrust action, on behalf of itself and those similarly situated, against Avangrid and Eversource alleging that their respective gas subsidiaries illegally manipulated the supply of pipeline capacity in the "secondary capacity market" in order to artificially inflate New England natural gas and electricity prices. The plaintiff claimed to represent entities which purchased electricity directly in the wholesale electricity market that it claimed was targeted by the alleged anticompetitive conduct of Eversource and the company. On 28 September 2018, the company filed a motion to dismiss all of the claims based on federal pre-emption and lack of any evidence of antitrust behaviour, citing, among other reasons, the results of the FERC staff inquiry and the dismissal of the claim by the same Court in September. The company cannot predict the outcome of this class action lawsuit.

No cases related to monopoly practices or anti-competitive behaviour have been recorded at the other companies of the Iberdrola group during the financial year. Nor do any cases filed in prior years remain open.



Public policy

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



GRI 415

Relations with regulatory entities and social institutions

Iberdrola has two kinds of relationships with regulatory entities:

- Relationships geared towards contributing to the enactment of efficient regulatory provisions allowing for the development of a competitive market in activities that are not subject to a natural monopoly, and sufficient remuneration for regulated businesses. To that end, there is a continuous and constructive dialogue where information, knowledge and positions are exchanged. Iberdrola is thus acquainted with the concerns and proposals of regulatory entities and provides them with its own positions in the legitimate defence of its interests and those of its shareholders and customers. The company also actively participates in “public hearings” held by regulatory entities in order to ascertain the opinions of the players involved in the processes prior to the revision of regulations or the determination of domestic and European energy policies. It also participates in the official processes of enactment of the laws and regulations and the monitoring of the application thereof.
- Provision of all information required by regulatory entities, whether in connection with the normal conduct of its business or as a result of any transitory issue.

In addition to its direct relationships with regulatory entities, Iberdrola and the companies in its group participate in the regulatory process through the domestic and international trade associations of which they are members. **102-13**



International	
World Energy Council	WindEurope
World Economic Forum	Electric Power Research Institute (EPRI)
United Nations Global Compact	European Distribution System Operators (EDSO)
Union of the Electricity Industry EURELECTRIC	Global Wind Energy Council (GWEC)
CSR Europe	Nuclear Industry Association (NIA)
International Electrotechnical Commission/European Committee for Electrotechnical Standardisation (IEC/CENELEC)	European Network of Transmission System Operators for Electricity (ENTSOE)
International Emissions Trading Association (IETA)	World Association Nuclear Operator (WANO)
BetterCoal	European Utilities Telecom Council-EUTC
Institute of Electrical and Electronics Engineers (IEEE)	International Conference on Electricity Distribution (CIRED)
European Round Table (ERT)	Smart Life
Prime Alliance	International Council on Large Electric Systems (CIGRE)
Connection Network Codes	European Technology Platform Smart Grids
Solar Power Europe	
Spain	
Foro de la Industria Nuclear Española	Unión Española Fotovoltaica (UNEF)
Asociación Española del Gas (SEDIGAS)	Red Española del Pacto Mundial
Plataforma Española de Redes Eléctricas (FUTURED)	Confederación Española de Organizaciones Empresariales (CEOE/Cepyme)
Asociación Española de la Industria Eléctrica (AELEC)	Círculo de empresarios
Instituto Tecnológico de la Energía (ITE)	Cámara de Comercio de España
Asociación Española de Normalización (AENOR)	Club de Excelencia en Sostenibilidad
Fundación COTEC para la Innovación	Club Español de la Energía
Asociación Empresarial para el Desarrollo e Impulso del Vehículo Eléctrico	Asociación Empresarial Eólica (AEE)
Corporate Excellence	Grupo Español de Crecimiento Verde
United Kingdom	
The Confederation of British Industry	Aviation Investment Fund Company Limited
The Scottish Council for Development and Industry	Energy UK - Energy Efficiency Group
Energy UK-ECO Group	Generators Safety & Integrity Programme
Energy Networks Association	Business Disability Forum
Scottish Renewables UK	Energy Institute
Energy & Utility Skills	Energy Action Scotland
Scotland's Towns Partnership	Cheshire Energy Hub
National Skills Academy for Power	Joint Environment Programme
Institute of Engineering & Technology	Gas Storage Operators Group
National Energy Action	Energy Efficiency Group
Scottish Rugby Union	British Hydro Association
Distribution Connection and Use of System Agreement (DCUSA)	Glasgow & Edinburgh Chamber of Commerce
United States	
Business Council of New York State	American Wind Energy Association (AWEA)
Mid-Atlantic Renewable Energy Coalition (PJM States)	Center for Energy Workforce Development (CEWD)
Maine Better Transportation Assn	The Nature Conservancy-Maine (TNC)
NY State Economic Development Council	Maine Audubon Society
Greater Binghamton Chamber of Commerce	E2Tech
Maine & Company	Maine State Chamber of Commerce (MSCC)



Northeast Gas Association (NGA)	Renewable Energy Northwest (RENEW)
Renewable Energy Northeast (RENEW)	The Wind Coalition (TWC)
Gas Technology Institute (GTI)	American Gas Association (AGA)
Edison Electric Institute (EEI)	Wind on the Wires (WOW)
Interwest Energy Alliance	Alliance for Clean Energy - New York (ACE-NY)
Center for Energy Efficiency and Renewable Technologies (CEERT)	Independent Energy Producers Association of California
Northeast Underground Committee (NEUC)	New England Power Pool
National Electrical Safe Code	New England-Canada Business Council
Mid-Atlantic Renewable Energy Coalition (MAREC)	Center for Energy Efficiency (CEERT)
North American Electric Reliability Corporation (NERC)	Northeast Transmission Group (NETG)
ISO New England (ISO-NE)	Energy Council of the Northeast (ECNE)
Connecticut Energy Workforce Development Consortium (CTEWDC)	North American Transmission Owner and Operator Forum (NATF)
Call Before You Dig, Connecticut	Association of Edison Illuminating Companies
American National Standards Institute (ANSI)	Operations Technology Development (OTD)
Industrial Asset Management Council (IAMC)	Clean Grid Alliance (WOW)
The Wind Coalition (TWC)	Rochester Business Alliance
Mexico	
Asociación Mexicana de Energía Eólica (AMDEE)	Cámara Española de Comercio, A.C. (CEE)
Asociación Mexicana de Energía, A.C (AME)	Consejo Coordinador Empresarial A.C
Confederación Patronal de la República Mexicana (Coparmex)	Cámara Nacional de la Industria de Transformación Ensenada
Cámara de la Industria de Transformación de Nuevo León (CAINTRA)	Consejo Ejecutivo de Empresas Globales, AC
Empre-Bask México, A.C	
Brazil	
Associação Brasileira de Distribuidoras de Energia Elétrica (ABRADEE)	Associação Brasileira da Infraestrutura e Indústrias de Base (ABDIB)
Associação Brasileira dos Comercializadores de Energia (ABRACEEL)	Sistema Federação das Indústrias do Estado da Bahia (CIEB)
Movimiento Pernambuco Empresarial (ABERJE)	Instituto Ethos de Responsabilidade Social
Associação Brasileira de Energia Solar (ABSOLAR)	American Chamber of Commerce (AMCHAM)
Associação Brasileira de Geradoras Termelétricas (ABRAGET)	Associação Brasileira de Energia Eólica (ABEEOLICA)
Associação Brasileira das Empresas de Transmissão de Energia Elétrica (ABRATE)	Associação Brasileira de Relações Institucionais e Governamentais (ABRIG)
Comitê da Bacia Hidrografica do Rio Doce	Instituto Acende Brasil
Associação Brasileira dos Contadores do Setor de Energia Elétrica (ABRACONE)	Associação Brasileira das Empresas Geradoras de Energia Elétrica (ABRAGE)
Federação das Indústrias do Estado de Pernambuco (FIEPE)	Associação Brasileira dos Produtores Independentes de Energia Elétrica (APINE)
Centro de Pesquisas de Energia Elétrica (CEPEL)	

For more details on the company's commitment to the above, its participation within various committees, the contributions it makes or its strategic involvement, please consult public information or visit the websites of these organisations.



Transparency of regulatory positions

As a general rule, Iberdrola endorses the principles of good regulation: proportionality, effectiveness and efficiency, responsibility and independence, consistency and credibility and, finally, transparency and clarity.

Therefore, a project for the dissemination of regulatory positions has been developed as part of Iberdrola's transparency policy. The company has thus made publicly available a compilation of [Global Regulatory Positions](#), valid for all countries and businesses. The goal is for the regulatory positions advanced by Iberdrola to be transparent and well-known.

Iberdrola backs the objective of decarbonising the economy, taking a leading role in the transformation of the electricity sector. At year-end 2018, 68.2% of its installed capacity is emissions-free, the company being the leading renewable energy producer among European utilities and in the United States.

In order to decarbonise the economy, it is necessary to evolve into more efficient energy uses from emissions-free energy:

- 1- First, **the electricity sector must be transformed**, with fossil fuels being replaced by renewable energy.

Along these lines, all existing energy plans include penetration objectives for renewables; specifically, the European Union has set a binding 32% by the year 2030.

Renewables are intermittent and their costs are mostly fixed; therefore, in order to ensure their development, long-term revenue stabilisation policies are needed, such as auctions and Power Purchase Agreements (PPAs).

In addition, firm and flexible capacities, which are needed to match demand and production, require specific payments associated with capacity, without putting the environmental objectives at risk.

Finally, the electricity grid is key to integrating distributed and intermittent resources and to optimising the global investment. It must be adequately remunerated for these new services, and the associated costs must be allocated among all the system users.

- 2- Furthermore, **the other energy uses, especially transportation and construction, must be electrified**, based on an appropriate cost-benefit analysis.

As far as transportation is concerned, the most efficient and sustainable means of decarbonisation is the development of the electric vehicle. In this regard, technological development and an adequate recharge network must both be promoted. In order to honour the commitments of the Paris Agreement and become carbon-neutral, there should be no internal combustion vehicles by 2050.

As regards construction, the heat pump is an efficient alternative that should be specifically advanced as a renewable solution.

Once the economy has been electrified to the maximum possible extent, other energy alternatives should be considered for uses that do not allow for electrification. For example, electrogas could be a viable alternative for sea and air transport.

- 3- The electrification of the economy must be financed by all the polluting sectors, for which purpose an economic signal, in certain cases coupled with a tax reform, is indispensable.

In this transformation process, it is essential for consumers to be able to make appropriate decisions based on true, adequate and clear information. Smart meters provide customers with



better information on their consumption patterns and allow for continued progress toward custom-made offerings.

Renewable distributed generation (internal consumption) contributes to reducing emissions and makes the customer a more active player. Customers should be allowed to feed their surpluses into the network and receive the energy price in effect at the time of injection.

The company places a greater focus on vulnerable customers, to whom it wishes to guarantee basic energy supply. Several countries have developed protection policies in this regard that must be funded from general budget revenues.

The most prominent institutions share this view of electrification of the economy: MIT, EPRI, NARUC, CEER, etc.

External initiatives to which the organisation subscribes or which it endorses

102-12

The company has subscribed to or endorsed external initiatives aligned with sustainable development and encouraged its affiliated companies to adhere to them. Iberdrola supports or subscribes to:

Iberdrola is fully aligned with the [Sustainable Development Goals \(SDGs\)](#), including them in its business strategy and its *General Sustainable Development Policy*. In addition to meeting its goals to reduce the intensity of CO₂ emissions 30% by 2020 and 50% by 2030 and being carbon-neutral by 2050, Iberdrola is actively working to contribute to the success of the SDGs and for other citizens and companies to be aware of them and contribute to the achievement thereof. Along these lines, it is working with universities (Universidad de Salamanca and Universidad Politécnica de Madrid, ESADE), organising informational seminars, publishing materials and participating in forums like the *High Level Political Forum 2018* in New York and the *Youth Speak Forum* (of which Iberdrola is once again a Gold Partner) of the AIESEC initiative. A partial summary of the organisations and initiatives with which it has collaborated more actively during the whole process is provided below:

- World Economic Forum (WEF) –CEO Climate Leaders–.
 - World Business Council of Sustainable Development (WBCSD)
 - UN Global Compact LEAD.
 - European Round Table of Industrialists.
 - The Prince of Wales's Corporate Leaders Group. Green Growth Platform.
 - Carbon Pricing Leadership Coalition.
 - REDS, Red Española de Desarrollo Sostenible.
 - SE4ALL.
 - We Mean Business.
 - The Climate Group.
 - Fundación Rafael del Pino- Programa Inicia
 - Bruegel.
-
- Items of note in the Spanish context are a very active collaboration with the Spanish Office of Climate Change and Iberdrola's participation in the Spanish Green Growth Group, of which it is vice-president.
 - The *Good Tax Practices Code* of the Large Business Forum of the Spanish Tax Agency, part of the Ministry of Treasury since 2010, which involves following a course of conduct that goes beyond respect for and strict compliance with statutes and



regulations, to contribute actively and voluntarily to economic, social and environmental improvement.

- The Global Compact since 2002. Iberdrola has also engaged in other initiatives in collaboration with this organisation, like the participation of Iberdrola's chairman Ignacio Galán in the [UN Global Compact Leaders Summit](#), and the *LEAD global programme*, projects relating to human rights, the fight against climate change, and membership in other platforms and activities at the domestic and international levels. This *Progress Report* that Iberdrola prepares annually to communicate progress in complying with and disseminating the *Principles of the Global Compact* has reached the maximum level, defined as *Advanced*.
- In Spain, Iberdrola also adhered to an SF6 emissions reduction initiative, within the framework of an agreement between the Spanish Electrical Industry Association (*Asociación Española de la Industria Eléctrica*) (AELEC) and the Ministry of the Environment.

In the United Kingdom, ScottishPower has created a team dedicated to coordinating activities with the Cancer Research association, and all joint actions carried out since it joined an initiative in 2012 in order to procure funds to investigate this illness. Since then, they have amply achieved their goals, and there have been countless initiatives by ScottishPower employees helping to raise awareness of the treatment of this illness: *Race for Life*, Stand up to Cancer. It also has a specific rate called *Help Beat Cancer Fixed Price*, which when purchased commits the company to work with this organisation by contributing up to 5 pounds per contract per year.

Along these lines, within the framework of collaboration with the Spanish Cancer Association (*Asociación Española Contra el Cáncer*) (AECC), the *Together against cancer (Juntos contra el cáncer)* initiative was launched in Spain in October 2016, offering the opportunity to make small monthly donations via one's electricity bill with a commitment from Iberdrola to double the amount donated by its customers. This initiative continued in 2018, and more than 86,000 customers have already joined to collect funds. The company also participates in the proceedings of World Cancer Day and World Cancer Research Day.

In Brazil there is a continuation of the Together for the Sustainable Development of Communities, which is intended to contribute to improving social and corporate investments and stimulate the participation of private initiatives. For yet another year Iberdrola has supported the Mexican Red Cross in its national drive for 2018, while the company has participated in the creation of the "Fund to Support the Tehuantepec Isthmus" operated by the Mexican Wind Power Association, to rebuild the area affected by the earthquake.

Finally, in the United States, Avangrid participates in *Reforming Energy Vision (REV)* to promote a more efficient use of energy and greater penetration of renewables in the country. It is also a member of *The Partnership on Climate Resilience* of the U.S. Department of Energy to combat the effects of climate change and modernise energy infrastructures for the future. And it is also a signatory of the *American Business Act Climate Pledge* to support the fight against climate change.

**Lobbying activities and contributions to political parties or to related institutions****415-1**

As regards lobbying activities, Iberdrola is registered with the Transparency Register created by European institutions to provide adequate transparency to the relations of such institutions with companies, NGOs, citizens' associations, think tanks, etc. The register was created by the European Parliament and the European Commission, and the Council of the European Union supports the initiative. [Iberdrola's record](#) in such register can be found on the EU's website. In its activities to influence public policies, Avangrid has made the financial contributions shown in the [US register](#).

Iberdrola has a neutral position from a political standpoint. In financial year 2018, none of the group's companies, except in the United Kingdom and the United States, contributed to the financing of political parties or to organisations controlled by them.

Contributions to political parties (€)	2018	2017	2016
United Kingdom	27,696	26,266	26,889
United States	35,129	14,997	129,543
Federal level	0	0	0
State level	35,129	14,997	129,543
Other countries	0	0	0
Total	62,825	41,263	156,432

In the United Kingdom, ScottishPower contributed a total of 27,696 euros, distributed among various parties across the political spectrum, to sponsor lectures and events, pursuant to the *Political Parties, Elections and Referendums Act (2000)*. These occasions are an important opportunity for the group to present its viewpoints to representatives of all political options on a non-partisan basis. The contribution does not involve supporting any particular party.

In the United States, the Renewables Business of Avangrid contributed a total of 35,129 euros to candidates and political parties, and reported such contributions in accordance with applicable law. The contributions are those made by the company and do not include additional voluntary contributions made by employees.



Cybersecurity and information privacy

Contribution to SDGs of the performance described by the indicators of this section (according to SDG Compass www.sdgcompass.org)



In order to ensure appropriate protection of the group's physical and IT assets, Iberdrola has a [Cybersecurity Risk Policy](#), approved by the Board of Directors, which establishes a global framework for the control and management of the cybersecurity risks applicable to all the companies of the group.

In particular, it refers to the risks arising from threats to and vulnerabilities in information, information technology and communications systems and any other asset that forms part of the group's cyber-infrastructure. The framework establishes the guidelines for a cybersecurity management model common to the entire group, based on the establishment of a Cybersecurity Committee and on the development of global rules and standards to be applied within all the businesses and corporate functions. Iberdrola has appointed a chief information security officer (CISO) to lead and supervise the deployment of the global cybersecurity strategy, as well as information security officers at the various country subholding companies to ensure the implementation thereof in each country, taking into account the particularities of their territory.

The group's Cybersecurity Committee, led by the global CISO, and on which all businesses and corporate functions are represented, promotes and supervises the deployment of the cybersecurity strategic plan and rules throughout the organisation, based on risk analysis and management and on the application of technical and organisational measures for appropriate protection and resilience of assets based on the critical nature thereof. It also establishes training and awareness-raising for the entire workforce, cybersecurity in the supply chain and the management of threats and incidents, including collaboration with government authorities and external security services to defend the brand and the company's customers against potential risks and fraud through social engineering.

GRI 418

Iberdrola pays special attention to ensuring the privacy of the personal information of the group's Stakeholders. For this purpose, the company has a [Personal Data Protection Policy](#), approved by the Board of Directors, and conforming to the European *Global Data Protection Regulation*. Its purpose is to guarantee the right to the protection of data of all individuals dealing with companies belonging to the group, ensuring respect for the right to dignity and privacy in processing of the personal data, and particularly the establishment of the common principles and guidelines to govern the group regarding the protection of data, guaranteeing compliance with applicable law on this topic in all countries in which the group is present.

To further develop this policy, the Corporate Security Division has developed a *Global Personal Data Protection Framework* of the Iberdrola group, which establishes the general standards and the global governance model on personal data protection and defines the coordination mechanisms and responsibilities in this area. The Corporate Security Division is the body responsible for developing the global data protection strategy, with the support of Legal



Services and technological support of the Systems Division, for the data processing performed by the group.

The Iberdrola group has also appointed a Global Data Protection Officer, who will rely on a network of Local Data Protection Officers at each of the country subholding companies of the countries in which the group does business, and which ensures the implementation in each country of the global personal data protection strategy, taking into account the particularities of their territory.

The table below shows substantiated complaints regarding breaches of violations of privacy and losses of customer data.

418-1

Incidents relating to privacy (no.)	2018	2017	2016
From regulatory entities	173	163	175
From other sources, substantiated	191	29	14
Total substantiated complaints	364	192	189

Of the incidents arising from regulatory entities, 151 occurred in the United Kingdom and 22 occurred in Spain. Of those having another origin there were 181 in the United Kingdom and 10 in Spain.

During 2018 there were also 6 cases of loss or breach of customer data, 3 in Spain and 3 in the United Kingdom.



Socioeconomic compliance

Contribution to SDGs of the performance described by the indicators of this section (according to SDG Compass www.sdgcompass.org)



GRI 419

As laid down in its [By-Laws](#), Iberdrola aspires for its conduct and that of the persons connected therewith to conform and adhere not only to applicable law and its [Corporate Governance System](#), but also to ethical principles and generally accepted principles of sustainable development. In this connection, the [Code of Ethics](#) of the Iberdrola group provides that:

- Group professionals shall comply strictly with the laws in force in the jurisdiction of their workplace, heeding both the spirit and the purpose of such legal provisions, and shall observe the provisions of the *Code of Ethics*, the rules of the Corporate Governance System, and the basic procedures governing the activities of the group and of the company in which they provide their services. They shall also fully observe all obligations and commitments assumed by the group in its contractual relations with third parties, as well as the usage and good practice of the countries in which they carry out their activities.
- The officers of the group shall have particular knowledge of the laws and regulations, including internal ones, affecting their respective areas of activity, and must ensure that the professionals reporting to them receive the required information and training to enable such professionals to understand and fulfil the legal and regulatory obligations, including internal ones, applicable to their position.
- The group shall respect and abide by all court and/or governmental decisions or resolutions that may be issued, but reserves the right to file such appeals as may be appropriate against any such decisions or resolutions when it believes that they do not conform to the law.

419-1

The following table shows violations of laws and regulations in the social and economic area, i.e. all violations of any kind (whether labour, tax, competition, related to distribution or retail sale of energy and gas, etc.) of the Iberdrola group, other than violations of environmental regulations, which are set out in Chapter II.3.

Significant fines and non monetary sanctions in the social and economic area ¹¹³	2018	2017	2016
Fines imposed (€)	59,544,962	58,891,707	208,758,953
Non-monetary sanctions (no.)	17	1	3
Cases being resolved through arbitration or similar mechanisms (no.)	301	465	575

¹¹³ Arbitration mechanisms are not included in the labour area.



Of the total amount, fines in the amount of 58,508,283 euros have been imposed in Brazil, of which 48,545,380 euros correspond to fines of the Networks Business, mainly a fine for alleged violations in the calculation of corporate income taxes (*impuesto sobre la renta de las personas jurídicas*) (IRPJ) and corporate social contributions (*contribución Social sobre el beneficio neto de las personas jurídicas*) (CSLL). In the Renewables Business, there were fines in the amount of 5,315,971 euros, mainly for a finding of a violation in the collection of the tax on services (*impuesto sobre servicios*) (ISS) in relation to construction contracts for two wind farms. In the Wholesale Business, there were fines in the amount of 3,435,476 euros relating to findings of violations and tax notices, for which the company has submitted a defence. Fines were also imposed at Neoenergia Corporación in the amount of 1,211,456 euros mainly for two tax penalties applied by the Brazilian tax authority for failure to homologate a declared loan in two proceedings and 18,397 euros for labour violations.

Fines in the amount of 654,435 euros were imposed in Spain, of which: 256,325 euros are for fines imposed on the Wholesale and Retail Business (33,040 euros for provisions governing information on and advertising of the prices of goods and services, 83,283 euros for consumer claims due to supply disconnections and management of documentation, and 140,002 euros for penalties regarding personal data protection); and 398,110 imposed on the Networks Business for opening trenches without a construction permit, all of which cases are being appealed.

In the United Kingdom, ScottishPower has received two fines in the amount of 278,797 euros, one corresponding to the Networks Business for disputes in the construction of transmission networks at the Longannet and Blacklaw projects, and another corresponding to the Renewables Business for delay in payment of the Land and Buildings Transaction Tax (LBTT).

In the United States, fines have been imposed in the amount of 85,050 euros mainly corresponds to violations of “Dig Safe” safety regulations during the excavations.

No fines were imposed during 2018 in the other countries in which the company operates.

Finally, in Brazil, Neoenergia received 15 non-monetary penalties: 12 for consumer claims regarding bills and disconnections, for which the company, as a corrective measure, has made visits to PROCON (consumer portal) to explain the regulated right and the increase in the conciliatory attempt to resolve complaints; 2 due to a failure to pay apprentices and 1 for a claim for repair of motorways affected by lorry traffic from the construction of a wind farm. In the United Kingdom, ScottishPower has received two sanctions, one for a legal complaint for unfair dismissal, and the other for the occurrence of four turbine fires at the Arecleoch wind farm.

Labour practices grievance mechanisms

Using the standard that class actions on the same matter are deemed to be a single grievance, the companies of the group received 1,324 grievances about labour practices in 2018¹¹⁴; of these, 894 were resolved in that same year. In addition, 1,436 other grievances pending from previous years have been resolved.

¹¹⁴ The grievances received correspond to Spain, the United Kingdom, the United States, Brazil and Mexico. No grievances of this nature have been received in the other countries in which the group operates. In Spain, the United Kingdom, Brazil and Mexico, this includes the grievances that reach the courts, while in the United States grievances include those filed with the various state and/or federal commissions on human rights and equality.



III. About this Report

- Scope of Information
- Defining Report Content. Materiality Analysis
- Content Index in Relation to the Requirements of Law 11/2018 (Statement of Non-Financial Information)
- GRI Content Index
- Content Index in Relation to the Principles of the Global Compact
- Independent External Assurance



Scope of Information

A. Introduction

Iberdrola, with a presence in almost twenty countries, has followed the GRI recommendations in defining the boundary of this report, taking into account the entities in which it has control, those in which it has significant influence, and the activities that are significant for the group from the economic, environmental and social standpoint.

For purposes of this report, the following terms have the meanings set forth below:

- “Iberdrola” or the “company”: the Spanish company Iberdrola, S.A., parent company of the Iberdrola group.
- “Iberdrola group” or the “group”: Iberdrola (as parent company) and the group of subsidiaries over which Iberdrola has the power of control or joint control.
- “Affiliated companies” or “affiliates”: the group of companies in which Iberdrola has a percentage interest but not the power to exercise control. At these affiliated companies Iberdrola promotes the policies approved within the group through the decision-making bodies of such companies and includes information on those considered significant in terms of sustainability.

The companies in which Iberdrola owns a direct or indirect equity interest are listed in the document *Consolidated Annual Financial Statements and Audit Report* for financial year 2018.

B. Information boundaries of this report

Time scope

102-50 102-51 102-52

Year 2018. The report is published on an annual basis.

Organisational scope

102-6 102-45

The presentation of the company's public information is subject to the following external factors:

- The scope and basis of presentation of financial information must comply with established statutory requirements.
- The environmental and social information is presented in accordance with the new legal requirements as to content, leaving open the reporting framework to be used. This is the reason why Iberdrola has voluntarily elected to use the GRI Standards in the preparation of this report.

To reconcile these factors, Iberdrola has established two quantitative information boundaries: global boundary and report boundary.



B.1. Global boundary (Iberdrola Total)

This includes all of the activities carried out by the group, its subsidiaries and its affiliates.

The economic information that is included in this *Statement of Non-Financial Information. Sustainability Report 2018* comes from the *Annual Financial Report* for financial year 2018.

Other non-financial information stated as within the “global boundary”, such as operating information of the group, results from adding to the “report boundary” the information of affiliates consolidated by the equity method that are not considered significant for purposes of this report (as they are minority interests in companies dedicated to non-strategic activities for the group and whose employees do not belong thereto), which are included under the heading “Other”.

B.2. Report boundary

Made up of Iberdrola, S.A. and its subsidiaries and minority-owned companies that are significant for purposes of sustainability that do business in the countries indicated in the table below and engage in the activities described therein.

Significant countries and activities for the Iberdrola group in terms of sustainability⁽¹⁾ and included in the 2018 reporting boundary

	Group office	Electricity production		Transmission and/or Distribution of electricity or gas	Electricity and/or gas supply (2) (3)		Gas storage	Real estate
		Conventional	Renewable (4)		Wholesale market	Retail market		
Spain (5)	X	X	X	X	LIB	LIB		X
United Kingdom	X	X	X ⁽⁶⁾	X	LIB	LIB	X	
United States	X	X	X	X	LIB	REG	X ⁽⁷⁾	
Brazil	X	X	X	X	LIB	REG		
Mexico	X	X	X		LIB	LIB		X
Portugal	X		X		LIB	LIB ⁽⁸⁾		
Germany	X		X ⁽⁹⁾		LIB	LIB		
Canada	X						X ⁽¹⁰⁾	
Greece	X		X ⁽⁶⁾					
Hungary	X		X					
Poland	X							
Romania	X		X					
France	X		X		LIB	LIB		
Italy	X				LIB	LIB		
Rest countries (11)	X							

- 1) The countries set out herein are those in which the company does business, with facilities and employees. Countries in which the company makes purchases of general supplies and procures fuel are not included. The workforce reported is as at year-end.
- 2) Types of sales activities:
LIB: activities in liberalised markets, independent of distribution activities.
REG: activities in regulated markets, together with distribution activities. The supply to these markets has not been considered as an activity in the wholesale market.
- 3) Environmental information on sales activities in Germany, France and Italy is not consolidated, because it is not yet integrated into the corporate systems as at the date of preparation of this report. It will be included in future reports to the extent the systems collect this information.
- 4) It includes the activities of hydroelectric, wind and solar generation. No social or environmental information is included on facilities in which the company has an interest of less than 50% in Spain, the United Kingdom or the United States. Environmental information on construction projects in Portugal and France is not included.



- 5) Any reference to the 7th *Collective Bargaining Agreement* includes the following companies at 31 December 2018: Iberdrola, S.A., Iberdrola España, S.A.U., Iberdrola Generación, S.A.U., Iberdrola Generación España, S.A.U., Iberdrola Generación Nuclear, S.A.U., Iberdrola Clientes, S.A.U., Iberdrola Operación y Mantenimiento, S.A.U., Iberdrola Distribución Eléctrica, S.A.U. Iberdrola Infraestructuras y Servicios de Redes, S.A.U., Iberdrola Renovables Energía, S.A.U. and Iberdrola Ingeniería y Construcción, S.A.U.
- 6) Renewables and retail activities from the Republic of Ireland are included in the United Kingdom and renewables activities from Cyprus are included in Greece.
- 7) Activities corresponding to assets sold in 2018. These activities are not significant from the environmental standpoint. In the labour area employees are recorded in those indicators that are calculated with data accumulated through the date of sale.
- 8) The activity of electricity and/or gas supply in Portugal are included in Spain.
- 9) Activities related to the 350 MW Wikingen offshore wind farm: After the connection to the German transmission network at the end of 2017, the project entered into the commercial operation phase. Special mention should be made of the official inauguration of the wind farm on 29 October 2018 in Sassnitz-Mukran, which was tremendously successful with the attendance of both guests and the media.
- 10) Activities are not significant from the environmental standpoint. Labour information is included in the information for the United States.
- 11) Other countries: Algeria, Belgium, Bulgaria, Costa Rica, Egypt, Russian Federation, Latvia, Montenegro, Qatar and South Africa. Employees in these countries represent only 0.063% of the employees of the group. Environmental information on these activities is not included as it is not deemed relevant in terms of sustainability.

At affiliate nuclear plants, the percentage interest held by Iberdrola in each of them is used to consolidate environmental performance data: Vandellós (28%), Almaraz (52.69%); Trillo (49%) and Ascó (15%). For social information, on the other hand, because of the structure of the available information systems, nuclear plants are consolidated according to the percentage interest held by Iberdrola in the economic interest grouping created for that purpose; such interest is 51.44% in the case of Trillo-Almaraz and 14.59% in the case of Ascó-Vandellós. A 50% share of the environmental and social data corresponding to the activities of Nuclenor, S.A. is applied according to consolidation by the equity method.

B.3. Summary of the information boundaries by country

Following the GRI recommendation, the information in this report is structured by country. The table below shows the structure of information by country applied to the boundaries described above:



Structure of information by country in this report	
<p>Report boundary = Iberdrola, S.A., subsidiaries and affiliates considered to be significant for sustainability purposes.</p>	<p>Spain</p> <p>United Kingdom</p> <p>United States</p> <p>Brazil</p> <p>Mexico</p> <p>Other countries (Portugal, Germany, Canada, Greece, Hungary, Poland, Romania, France, Italy, Algeria, Belgium, Bulgaria, Costa Rica, Egypt, Russian Federation, Latvia, Montenegro, Qatar and South Africa)</p> <p>Report boundary</p>
<p>Global boundary = report boundary plus the information of affiliates consolidated by the equity method that are not considered significant for purposes of this report.</p>	<p>Other</p> <p>Iberdrola total</p>

C. Limitations on scope of information

Based on the standards set forth above, Iberdrola believes that this report reflects the economic, environmental and social performance of the company in a reasonable and balanced manner. Existing limitations and differences between both boundaries, described in the preceding sections, have a limited influence on aggregate overall data, which, in the opinion of Iberdrola, would not affect a reader's assessment of the company's performance.

In the future, quantitative information may be included with respect to other activities of subsidiaries or affiliates to the extent that such information contributes to an understanding of the activities carried out by Iberdrola.



Significant changes to the organisation and its supply chain

102-10

Changes in activities and/or in operations

In the course of their business, the various subsidiaries and affiliates of Iberdrola have carried out transactions that change the composition of their assets, including the following:

- In Spain, the sale of Iberdrola Energía Solar de Puertollano in Ciudad Real to the Ence Energía, SL. group was agreed on 18 October 2018.
- In the Cogeneration area there was a sale of the interest held (20%) in the energy recovery plant located in Mallorca to the company TIRME, S.A. and the transfer of the participation in COBANE A.I.E. to the company TARRAGONA POWER, S.L., the owner of which is Iberdrola Generación Térmica, S.L.U.
- In the United States, on 19 February 2018 Avangrid formalised a final agreement for the sale of the gas storage business unit (Enstor Gas LLC) to Amphora Gas Storage USA.
- In the United Kingdom, on 31 December 2018 Iberdrola culminated the sale of Scottish Power Generation, which included its conventional generation assets, to Drax Smart Generation Hold Co Limited.
- Finally, in Mexico the Escobedo combined cycle plant (878 MW) was placed into commercial operation during 2018.

These operations are framed within the asset rotation plan that Iberdrola presented in the Outlook 2018-2022.

Changes in capital structure

The shareholders acting at the General Shareholders' Meeting of Iberdrola held on 13 April 2018 approved two increases in capital by means of a scrip issue in order to once again implement the *Iberdrola Flexible Dividend* system, implementing the first increase in capital in July 2018 and the second in January 2019.

Changes in supply chain

There were no significant changes in the company's supply chain during the financial year.



Defining Report Content. Materiality Analysis

102-46

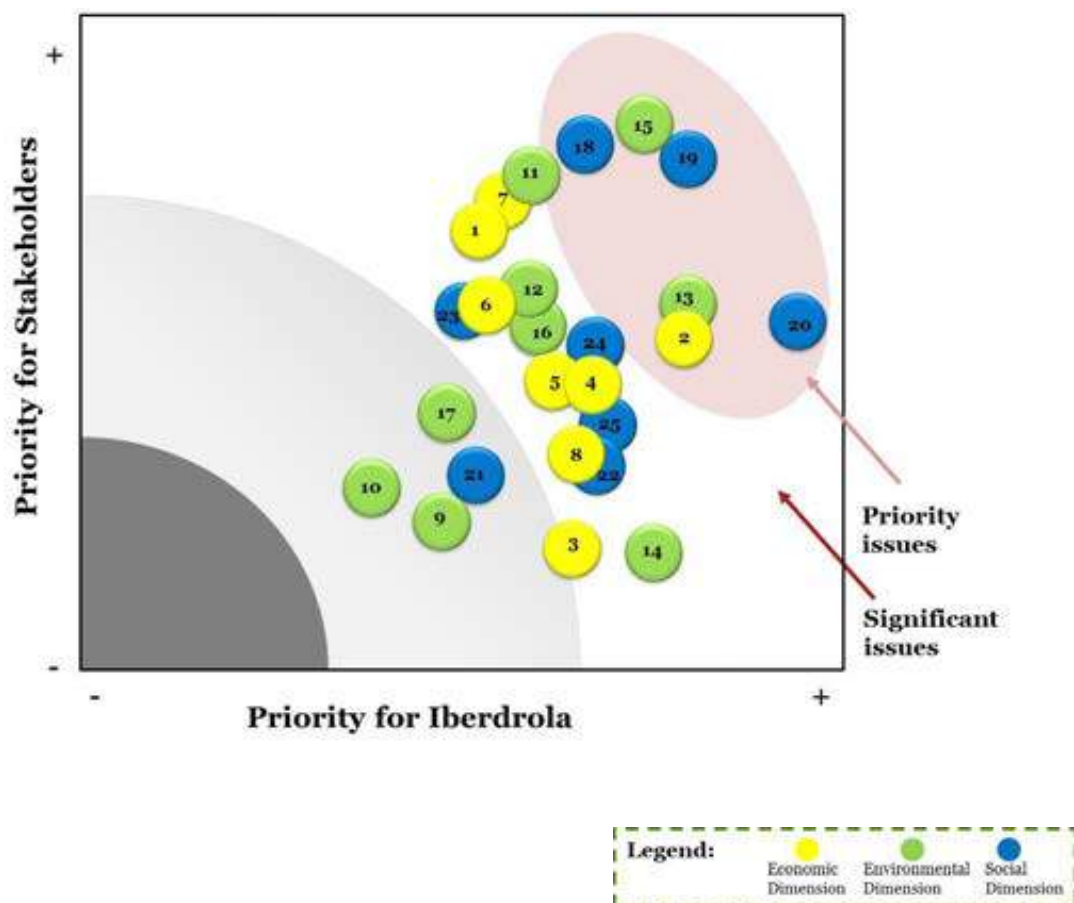
Iberdrola has indirectly identified its material aspects since 2003, using the *GRI Sustainability Reporting Standards* (and prior versions) as well as the *Electric Utility Sector Supplement*, both of the Global Reporting Initiative (GRI), as a model for preparing its annual sustainability report.

These guidelines are the result of a process in which various Stakeholders throughout the world have participated, with representatives from business, unions, civil society, the financial markets, auditors and specialists from various disciplines in the business area, regulators and governmental bodies from various countries.

The company, with a presence in countries on various continents, conforms to the various regional socioeconomic development models and has developed systems and processes to obtain the information needed to meet legal requests on matters of sustainability made by GRI, with its recommendations, and also by other areas of heightened awareness such as the Dow Jones Sustainability Index or the Carbon Disclosure Project. Iberdrola uses its *Sustainability Report* to provide an annual report on these issues, adhering to the materiality requirements, following macro-trends in sustainable development and generally meeting Stakeholder expectations.

For greater precision, Iberdrola also directly identifies its own material aspects by preparing its own *Materiality Study* with the advice of an independent outside firm, with the aim of identifying the specific aspects of interest related to the company's activity by consulting in-house and outside sources. Iberdrola uses this process to identify economic, social, environmental and ethics issues that are significant to its focus on sustainable development.

The analysis for 2018 prioritises those matters of interest identified through the analysis in accordance with their significance both to Stakeholders as well as to the company's strategy. In this way, 6 topics, shown in the following chart, have been identified as "material":



Priority issues
19. Diversity and equal opportunity
15. Energy transition
20. Occupational health and safety
18. Customer satisfaction
13. Climate change
2. Economic and financial performance

Significant issues
11. Innovation and new business models
7. Smart grids and supply quality
1. Socially responsible investment
24. Attraction, development and retention of human capital
12. Integration of renewable energy within the electric system
16. Availability and management of water
4. Ethics and integrity (anti-corruption and free competition)
6. Public policy
25. Connectivity, digitisation and cybersecurity
5. Responsible supply chain
23. Vulnerable customers
22. Human Rights
8. Green financing

Other significant issues
14. Management of biodiversity
21. Impact on local communities
3. Transparency
17. Environmental safety
9. Management of natural capital
10. Circular economy

The coverage of the material topics; that is, whether the topics are significant within the organisation (internal impact on the company or its employees) or outside it (impact outside the company, outside its scope of control or on outside Stakeholders) is reflected in detail in the various sections of this report. In general terms, Iberdrola considers that its material topics have both internal and external coverage, since they directly affect the company as well as the different Stakeholders with which it has relationships.



The various sections of this report offer a concrete response to the aspects identified, as shown in the following table:

102-47

Priority issues	Description	Iberdrola's response
Diversity and equal opportunity	Non-discrimination against women in the labour world and especially in management positions. Merit- and skill-based selection, salary and promotion equality.	<p>"Diversity and equal opportunity" section of Chapter II.2. Workforce health & safety and personal development.</p> <p>"Non-discrimination" section of Chapter II.5. Contribution to the well-being of our communities.</p>
Energy transition	Transition towards a low-carbon economy. Energy efficiency to reduce the industry's energy requirements. Regulatory changes to encourage greater inclusion of renewable energies in the "mix". Improvements in the systems for inclusion of renewable production within the grid. Nuclear plant decommissioning.	<p>"Key operating figures" section of Chapter I. About Iberdrola.</p> <p>"Business model" section of Chapter I. About Iberdrola.</p> <p>"Energy transition and supply costs" section of Chapter II.1. Sustainable economic growth.</p> <p>"Efficiency in energy consumption" section of Chapter II.3. Fight against climate change and protection of biodiversity.</p>
Occupational health and safety	Management of health and safety of employees and contractors, prevention policies and plans Establishment of goals and performance in accident and absenteeism rates. Employee, supplier and subcontractor training.	"A safe work environment" section of Chapter II.2. Workforce health & safety and personal development.
Customer satisfaction	Evaluation of customer satisfaction and establishment of improvement objectives. Accessibility and transparency of information Digitalization. Management of information security and privacy, grievances and claims and other matters related to meter reading, billing, rates and contracts.	"Products and services", "Access to adequate information" and "Innovation projects and Digital transformation" sections of Chapter II.4. Innovation, digitalization and quality for our customers.
Climate change	Science-based goals for reduction of emissions, emissions trading, CO ₂ storage systems, available adaptation and mitigation mechanisms, economic impacts from climate change, evaluation of risks and opportunities, awareness-raising and sensitisation, etc.	<p>"Business model" section of Chapter I. About Iberdrola.</p> <p>"Economic/financial performance" section of Chapter II.1. Sustainable economic growth.</p> <p>"Introduction", "Emissions reduction" and "Efficiency in energy consumption" section of Chapter II.3. Fight against climate change and protection of biodiversity.</p> <p>"Products and services" section of Chapter II.4. Innovation, digitalization and quality for our customers.</p>
Economic and financial performance	Action plans to guarantee results in uncertain environments. Economic value generated and distributed. Tax policy and strategy, cooperation with tax authority, tax contributions. Indirect economic impacts and creation of social value.	<p>"Business model" section of Chapter I About Iberdrola.</p> <p>"Economic/financial performance" section of Chapter II.1. Sustainable economic growth.</p> <p>"Contribution to society (LBG)" section of Chapter II.5. Contribution to the well-being of our communities.</p>



In its commitment to transparency with its Stakeholders, apart from the topics of the GRI Standards identified as material in the table above, Iberdrola also reports on other topics included in such Standards, providing continuity with information for previous financial years. All topics reported are specifically identified in the GRI Content Index that is included in this chapter of the report.

Together with these global processes of identification of and response to material issues, which Iberdrola strengthens in its public information, the company has launched a new *Global Stakeholder Relations Model*, based on the *AA1000 Stakeholder Engagement Standard (AA1000SES) 2015* standard and on its three requirements of inclusiveness, materiality and responsiveness¹¹⁵, as described in the “Stakeholder engagement” section of Chapter II.7 “Good governance, transparency and stakeholder relations”.

¹¹⁵ Iberdrola has been continuously applying Assurance Standard AA1000 for the last eleven years. In 2016 Iberdrola's Operating Committee approved a new *Global Stakeholder Relations Model* (referred to in this report), which was implemented for the first time in 2017.



Statement of Non-Financial Information

In the current context there is a growing demand by society in general, as well as shareholders and investors in particular, for companies to explain the way in which they achieve financial results and their evaluation in terms of sustainability, understanding that adequate disclosure of non-financial information is an essential element for the sustainability of financing activities.

After the entry into force in 2014 of *Directive 2014/95/EU*, the Directive was transposed into the Spanish legal system in 2017 by means of *Royal Decree-law 18/2017, of 24 November*, and in 2018 *Law 11/2018, of 28 December on non-financial and diversity information* was approved. This new Law expands the legal requirements regarding non-financial information to be published regarding its management of environmental and social aspects, the management of people, diversity, respect for human rights and the fight against corruption and bribery, describing the risks, policies and results connected to these issues.

This *Statement of Non-Financial Information. Sustainability Report 2018* covers the requirements arising from the entry into force of the new legal provision, forming an integral part of the company's management report.

This report has been prepared in accordance with the reporting requirements and recommendations of the Consolidated Set of GRI Sustainability Reporting Standards 2016 and the *Electric Utilities Sector Supplement*, both of the *Global Reporting Initiative* (GRI).

The table below sets out the pages of this document in which you can find the information required by the new legal provision.



Disclosures from the Statement of Non Financial Information	Related GRI Disclosures	SNFI pages
Description of the group's business model		
business environment	102-1	10, 22, 23, 28, 30, 55, 60, 63, 74, 87, 300, 332
organisation and structure	102-2	
markets in which it does business	102-3	
objectives and strategies	102-4	
	102-6	
main factors and trends that might affect its future progress	102-7 102-14	
Description of policies that the group applies regarding such issues		
due diligence procedures applied to identify, evaluate, prevent and mitigate significant risks and impacts and for verification and control	103	64, 66, 68, 206
measures adopted		
Results of policies		
key indicators of relevant non-financial results that allow for monitoring and evaluation of progress and that favour comparability among companies and industries, in accordance with the domestic, European or international reference frameworks used for each topic	GRI content index	
Main risks relating to these issues in connection with the group's activities		
when relevant and appropriate, the commercial relations, products or services thereof that might have negative impacts in these areas, and how the group manages these risks, explaining the procedures used to detect and evaluate them in accordance with leading domestic, European or international frameworks for each area	102-15 205-1 413-1 407-1 408-1 409-1	64, 66, 68, 206, 271
information on the impacts detected, providing a breakdown thereof, particularly regarding the main short-, medium- and long-term risks.		
Key indicators of non-financial results that are relevant regarding the specific business activity and that meet the standards of comparability, materiality, relevancy and reliability	102-54	Global Reporting Initiative Standards (GRI content index)
I. Information regarding environmental surveys		
Detailed information regarding the current and expected effects of the company's activities on the environment and, if applicable, on health and safety	102-11 201-2 308-1 308-2	96, 132, 135, 137, 138, 146, 247
environmental evaluation or certification procedures		
resources dedicated to the prevention of environmental risks		
application of the precautionary principle		
amount of reserves and coverage for environmental risks		
Specifically:		
– Pollution:		
measures to prevent, reduce or repair carbon emissions that seriously affect the environ; taking into account any form of atmospheric pollution specific to an activity	305-5 305-6 305-7	155, 157, 158, 156, 342
including noise and light pollution.	Non-material indicator for the company, as described in the Materiality Analysis 2018 (page 319).	
– Circular economy and waste prevention and management:		
measures for the prevention, recycling, reuse, other forms of recovery and elimination of waste	301-2 301-3 306-2	140, 147, 164, 317, 343
actions to combat food waste.	Non-material indicator for the company, as described in the Materiality Analysis 2018 (page 319).	
– Sustainable use of resources:		
water consumption and supply in accordance with local limitations	303-1	25, 55, 83, 159, 340, 161, 140-146, 339
consumption of raw materials and measures adopted to improve the efficient use thereof	303-2 303-3	
direct and indirect consumption of energy	301-1 301-2	
measures taken to improve energy efficiency and the use of renewable energy	302-1 302-2 302-3 302-4 302-5	
– Climate change:		
important elements of greenhouse gas emissions generated as a result of the company's activities, including the use of property and services that produce it	305-1 305-2 305-3	



measures adopted to adapt to the consequences of climate change voluntarily established medium- and long-term targets established to reduce greenhouse gas emissions and the means implemented to such end	305-4 305-5 201-2 305-5	
– Protection of biodiversity:		
measures taken to preserve or restore biodiversity	304-3 306-5	163, 169, 172- 174, 340
impacts cause by activities or operations in protected areas	304-1 304-2	
II. Information regarding social issues and personnel		
– Employment:		
total number and distribution of employees by gender, age, country and professional classification	102-8	28, 32, 93,
total number and distribution of types of employment contracts	405-1	346, 376-380
annual average of permanent contracts, temporary contracts and part-time contracts by gender, age and professional classification, number of dismissals by gender, age and professional classification	103	99
average remuneration and evolution thereof broken down by gender, age and professional or similar classification	103	97
salary gap	405-2	126
remuneration of same or average job positions of the company	103	97
average remuneration of directors and officers, including variable remuneration, attendance fees, severance pay, payment into long-term savings benefit systems and any other remuneration broken down by gender	102-35 102-36 102-38 102-39	Note 47 to the Annual Financial Report 2018
implementation of labour disengagement policies	103	126
employees with disabilities	405-1	128
– Organisation of work:		
organisation of work time	103	123
number of hours of absenteeism	403-2	112, 113, 369
measures to facilitate enjoyment of reconciliation and encouragement of the responsible co-exercise of responsibility by both parents	103	123
– Health and safety:		
occupational health and safety conditions	103	101
occupational accidents, particularly the frequency and seriousness thereof broken down by gender	403-2	112, 113, 369
occupational diseases; broken down by gender	403-3	114
– Social relations:		
organisation of social dialogue, including procedures to inform and consult with staff and negotiate with them	407-1	206, 248
percentage of employees covered by collective bargaining agreements by country	102-41	101, 356
balance of collective bargaining agreements, particularly in the field of workplace health and safety	403-4	109
– Training:		
policies implemented in the field of training	103	110
total hours of training by professional category	404-1	118, 373, 374
– Universal accessibility of disabled persons	103	124
– Equality:		
measures adopted to promote equality of treatment and opportunities between women and men	405	120-124
equality plans (Chapter III of Organic Law 3/2007, of 22 March, for the effective equality of women and men)	405	123
protocols against sexual and gender-based harassment	405	120, 121
measures adopted to promote the employment, integration and universal accessibility of disabled persons	405	128
policy against all types of discrimination and, if applicable, management of diversity	405	210
III. Information regarding respect for human rights		
application of human rights due diligence procedures	102-16 102-17 412-3 412-2 410-1 412-1	20, 57, 98, 205-209, 214- 215, 270
prevention of the risks of violating human rights and, if applicable, measures to mitigate, manage and repair possible abuses	412	207
complaints of human rights violations	406-1	210
promotion of and compliance with the provisions of the basic treaties of the International Labour Organization regarding respect for the freedom of association and the right to collective bargaining; the elimination of discrimination in respect of employment and	407-1 406-1 409-1 408-1	206, 248



occupation; the elimination of forced or compulsory labour; the effective abolition of child labour		
IV. Information regarding the fight against corruption and bribery:		
measures adopted to prevent corruption and bribery	102-16 102-17 205-1 205-2 205-3	20, 57, 98, 271- 281
measures to combat money laundering	205-2	278
contributions to non-profit foundations and entities	103	221
VI. Information about the society:		
– Commitments of the company to sustainable development:		
impact of the company's operations on employment and local development	203-1 203-2 413-1	79, 81, 217
impact of the company's operations on local communities and on the land	203-1 203-2 411-1 413-1 413-2	79, 81, 217, 210, 206- 214
relations with local players and types of dialogue therewith	102-43 413-1	210, 266,
association or sponsorship activities	102-12 102-13	288, 292
– Subcontracting and suppliers:		
inclusion of social, gender equality and environmental issues in the procurement policy	102-9 308-1 414-1	Procurement Policy 243, 245, 247, 248, 381
consideration of social and environmental responsibility of suppliers and subcontractors in relations with them	414-1 414-2	248
supervision and auditing systems and results thereof	414-1 414-2	248
– Consumers:		
consumer health and safety measures	416-1	188
grievance systems, complaints received and resolution thereof	416-2	188-191
– Tax information:		
profits per country	201	334
taxes on profit paid	201	336
public subsidies received	201-4	316

Readers of this *Sustainability Report 2018* can also read the *Annual Corporate Governance Report 2018*, the *Annual Financial Report 2018* and the *Integrated Report. February 2019*, all of which are accessible in the “[Annual Reports](#)” section of the corporate website, and which contain additional useful information for a better understanding of Iberdrola’s performance during the financial year and of its future prospects.



GRI Content Index

102-54 102-55

This report has been prepared in accordance with the GRI Standards: Comprehensive option.

External assurance: the contents of this index have been externally assured by an independent entity (PwC). The corresponding assurance report can be found in Annex 4 of this document.

Electric Utilities Sector Supplement: this index incorporates the topics and disclosures required by such supplement, published by GRI in 2014. They symbol * indicates those general standard disclosures and topics of the of GRI Standards where specific sector information is requested.

GRI Standard	Description	SNFI pages	External assurance	Relationship with SDGs
GRI 100 UNIVERSAL STANDARDS				
GRI 101 Foundation 2016 (Note: does not require disclosure of information)				
GRI 102 General disclosures 2016				
1.- Organisational profile *				
102-1	Name of the organisation	Iberdrola S.A.	✓	
102-2	Primary activities, brands, products and services	23	✓	
102-3	Location of headquarters	The registered office of Iberdrola, S.A. is: Plaza Euskadi número 5 48009 Bilbao, Biscay Spain	✓	
102-4	Location of operations	22	✓	
102-5	Ownership and legal form	36	✓	
102-6	Markets served	23, 26, 300	✓	
102-7	Scale of the organisation	28, 30, 332	✓	
102-8	Information on employees and other workers	28, 346 Iberdrola supervises the subcontracted activities performed, and does not deem it necessary to keep statistics regarding subcontracted personnel, except as regards health and safety	✓	8
102-9	Supply chain	243, 245	✓	
102-10	Significant changes to the organisation and its supply chain	304	✓	
102-11	Precautionary Principle or approach	132, 135, 168	✓	
102-12	External initiatives to which the organisation subscribes or which it endorses	292	✓	
102-13	Main memberships of associations	288	✓	
EU1*	Installed capacity	25, 326	✓	7
EU2*	Energy output	25, 328	✓	7, 14
EU3*	Electricity users and producers	26, 330	✓	
EU4*	Transmission and distribution lines	27, 331	✓	
EU5*	Allocation of CO ₂ emissions allowances or equivalent	157	✓	14, 15



102-14	Statement from senior decision-maker	10	✓	
102-15	Key impacts, risks and opportunities	55, 64, 66	✓	
102-16	Values, principles, standards and norms of behaviour	20, 57, 58	✓	16
102-17	Mechanisms for advice and concerns about ethics	270	✓	16
102-18	Governance structure	32	✓	
102-19	Delegating authority	35	✓	
102-20	Executive-level positions with responsibility for economic, social and environmental topics	62	✓	
102-21	Processes for consultation between Stakeholders and the Board of Directors	257	✓	16
102-22	Composition of the highest governance body and its committees	32, 33, 35	✓	5, 16
102-23	Chair of the highest governance body	33	✓	16
102-24	Selection and nomination of the members of the highest governance body	256	✓	5, 16
102-25	Processes for the highest governance body to avoid conflicts of interest	Section D.6 of the <i>Annual Corporate Governance Report</i> for financial year 2018 describes the mechanisms used to detect, determine and resolve potential conflicts of interest between Iberdrola and its directors, officers and significant shareholders.	✓	16
102-26	Role of highest governance body in setting purpose, values and strategy	20, 57	✓	
102-27	Collective knowledge of highest governance body	257	✓	4
102-28	Evaluating the highest governance body's performance	258	✓	
102-29	Identifying and managing economic, environmental and social impacts	258	✓	16
102-30	Effectiveness of risk management processes	67	✓	
102-31	Review of economic, environmental and social topics	258	✓	
102-32	Highest governance body's role in sustainability reporting	Iberdrola's Board of Directors is the body responsible for reviewing the <i>Sustainability Report 2018</i> , which was approved on 19 February 2019 (following a report from the Sustainable Development Committee), the date of preparation of the company's annual accounts for financial year 2018.	✓	
102-33	Communicating critical concerns	256	✓	
102-34	Nature and total number of critical concerns	255	✓	
102-35	Remuneration policies	260	✓	
102-36	Process for determining remuneration	260	✓	
102-37	Stakeholders' involvement in remuneration	261	✓	16
102-38	Annual total compensation ratio	261	✓	



102-39	Percentage increase in annual total compensation ratio	261	✓	
5.-Stakeholder engagement				
102-40	Stakeholder groups engaged by the organisation	265	✓	
102-41	Collective bargaining agreements	101, 356 Iberdrola supervises the subcontracted activities performed, and does not deem it necessary to keep statistics regarding subcontracted personnel, except as regards health and safety	✓	8
102-42	Identifying and selecting stakeholders	265	✓	
102-43	Approach to stakeholder engagement	266	✓	
102-44	Key topics and concerns raised	267	✓	
6.-Reporting practice				
102-45	Entities included in the consolidated financial statements and in the boundary of this report	300	✓	
102-46	Defining report content and scope and topic boundaries	305	✓	
102-47	List of material topics	307	✓	
102-48	Restatements of information provided in previous reports	It was not considered necessary to reformulate the information from prior reports during financial year 2018. If a specific indicator requires reformulation, it will be specifically explained in the indicator itself.	✓	
102-49	Significant changes in scope and topic boundaries	There were no changes deemed significant in the scope, coverage or methods of valuation used in the report in financial year 2018, keeping the ability to compare the group's key figures with those of prior years.	✓	
102-50	Reporting period	300	✓	
102-51	Date of most recent report	300	✓	
102-52	Reporting cycle	300	✓	
102-53	Contact point for questions regarding the report	429	✓	
102-54	Claims of reporting in accordance with the GRI Standards	313	✓	
102-55	GRI content index	313	✓	
102-56	External assurance	323	✓	
GRI 103 Management approach 2016				
General management approach, applicable to all aspects of this report.		54, 58, 60, 61, 62, 63	✓	1, 5, 8, 12, 13, 14, 15, 16
GRI 200 ECONOMIC DIMENSION				
Material topics	Reporting on management approach and corresponding disclosures	ENF page	Omissions External assurance	Relationship with SDGs
A. Topics of the GRI Standards				
-	GRI 201 Economic performance Management approach (103-1, 103-2 and 103-3)	78	✓	2, 5, 7, 8, 9, 13



e 2016	201-1	79, 334	✓	
	201-2	68	✓	
	201-3	102	✓	
	201-4	The Iberdrola group is not aware of government participation in the shareholding structure.	✓	
- GRI 202 Market presence 2016	Management approach (103-1, 103-2 and 103-3)	94	✓	1, 5, 8
	202-1	97	✓	
	202-2	96	✓	
- GRI 203 Indirect economic impacts 2016	Management approach (103-1, 103-2 and 103-3)	79	✓	1, 2, 3, 5, 7, 8, 9, 10, 11, 17
	203-1	81	✓	
	203-2	79	✓	
- GRI 204 Procurement practices 2016	Management approach (103-1, 103-2 and 103-3)	245	✓	12
	204-1	244	✓	
- GRI 205 Anti-corruption 2016	Management approach (103-1, 103-2 and 103-3)	270	✓	16
	205-1	271	✓	
	205-2	278	✓	
	205-3	281	✓	
- GRI 206 Anti-competitive behavior 2016	Management approach (103-1, 103-2 and 103-3)	286	✓	16
	206-1	287	✓	
- Availability and reliability	Management approach (103-1, 103-2 and 103-3)	85	✓	7
	EU10	85	✓	
- System efficiency	Management approach (103-1, 103-2 and 103-3)	141	✓	7, 8, 12, 13, 14
	EU11	145, 339	✓	
	EU12	145	✓	
- Demand-side management	Management approach (103-1, 103-2 and 103-3)	83	✓	
- Research and development	Management approach (103-1, 103-2 and 103-3)	194	✓	
- Nuclear plant decommissioning	Management approach (103-1, 103-2 and 103-3)	90	✓	
- Supply costs		87	✓	
- Green financing		81, 404	✓	
- Fiscal responsibility		283	✓	



-	Cybersecurity	395		✓	
-	Privacy of the personal information of Stakeholders	395		✓	
GRI 300 ENVIRONMENTAL DIMENSION					
Material topics	Reporting on management approach and corresponding disclosures	ENF page	Omissions	External assurance	Relationship with SDGs
A. Topics of the GRI Standards					
- GRI 301 Materials * 2016	Management approach (103-1, 103-2 and 103-3)	140		✓	8, 12
	301-1	140		✓	
	301-2	140		✓	
	301-3	Iberdrola's main activity is the sale of electricity and gas, a product that cannot be reused and that does not generate packaging waste in the final use thereof.		✓	
- GRI 302 Energy 2016	Management approach (103-1, 103-2 and 103-3)	141		✓	7, 8, 12, 13
	302-1	142, 143, 309		✓	
	302-2	146		✓	
	302-3	141		✓	
	302-4	143		✓	
	302-5	146		✓	
- GRI 303 Water * 2016	Management approach (103-1, 103-2 and 103-3)	159		✓	6, 8, 12
	303-1	159, 340		✓	
	303-2	161		✓	
	303-3	161		✓	
- GRI 304 Biodiversity * 2016	Management approach (103-1, 103-2 and 103-3)	167		✓	6, 14, 15
	304-1	172		✓	
	304-2	169		✓	
	304-3	174		✓	
	304-4	173, 340		✓	
	EU13	170		✓	
- GRI 305 Emissions * 2016	Management approach (103-1, 103-2 and 103-3)	147		✓	3, 12, 13, 14, 15
	305-1	152, 341		✓	
	305-2	153, 341		✓	
	305-3	154		✓	
	305-4	151		✓	
	305-5	155		✓	
	305-6	158		✓	



	305-7	157, 342		✓	
	Management approach (103-1, 103-2 and 103-3)	162		✓	3, 6, 12, 13, 14, 15
	306-1	163		✓	
	306-2	164, 343		✓	
	306-3	178		✓	
	306-4	Iberdrola does not directly transport, import or export hazardous waste covered by the Basel Convention in any of the countries in which it engages in its activities.		✓	
	306-5	163		✓	
- GRI 306 Effluents and waste * 2016					
	Management approach (103-1, 103-2 and 103-3)	179		✓	12, 13, 14, 15, 16
	307-1	179		✓	
- GRI 307 Environmental compliance 2016					
	Management approach (103-1, 103-2 and 103-3)	247		✓	
	308-1	247		✓	
	308-2	247		✓	
- GRI 308 Supplier environmental assessment 2016					
GRI 400 SOCIAL DIMENSION					
Material topics	Reporting on management approach and corresponding disclosures	ENF page	Omissions	External assurance	Relationship with SDGs
A. Topics of the GRI Standards					
	Management approach (103-1, 103-2 and 103-3)	92		✓	5, 8
	401-1	94, 357		✓	
	401-2	102, 365		✓	
	401-3	127, 366		✓	
- GRI 401 Employment * 2016					
	Management approach (103-1, 103-2 and 103-3)	92		✓	8
	402-1	101		✓	
	EU15	103, 367		✓	
	EU17	94		✓	
	EU18	107		✓	
- GRI 402 Labour/management relations* 2016					
	Management approach (103-1, 103-2 and 103-3)	106		✓	3, 8
	403-1	109, 114, 369		✓	
	403-2	112, 113, 369		✓	
	403-3	114		✓	
	403-4	109		✓	
- GRI 403 Occupational health and safety * 2016					
	Management approach (103-1, 103-2 and 103-3)	115		✓	4, 5, 8
	404-1	11, 373, 374		✓	
- GRI 404 Training and education 2016					



	404-2	116	✓	
	404-3	119, 375	✓	
- GRI 405 Diversity and equal opportunity 2016	Management approach (103-1, 103-2 and 103-3)	120	✓	5, 8, 10
	405-1	32, 93, 376, 377, 379, 380	✓	
	405-2	126	✓	
- GRI 406 Non- discrimination 2016	Management approach (103-1, 103-2 and 103-3)	210	✓	5, 8, 16
	406-1	210	✓	
- GRI 407 Freedom of association and collective bargaining* 2016	Management approach (103-1, 103-2 and 103-3)	205	✓	8
	407-1	206, 248	✓	
- GRI 408 Child labour 2016	Management approach (103-1, 103-2 and 103-3)	205	✓	8, 16
	408-1	206, 248	✓	
- GRI 409 Forced or compulsory labour 2016	Management approach (103-1, 103-2 and 103-3)	205	✓	8
	409-1	206, 248	✓	
- GRI 410 Security practices 2016	Management approach (103-1, 103-2 and 103-3)	213	✓	16
	410-1	214	✓	
- GRI 411 Rights of indigenous peoples 2016	Management approach (103-1, 103-2 and 103-3)	210	✓	2
	411-1	210	✓	
- GRI 412 Human rights assessment 2016	Management approach (103-1, 103-2 and 103-3)	205	✓	
	412-1	206	✓	
	412-2	214	✓	
	412-3	215	✓	
- GRI 413 Local communities * 2016	Management approach (103-1, 103-2 and 103-3)	216	✓	1.2
	413-1	217	✓	
	413-2	217	✓	
	EU22	220	✓	
- GRI 414 Supplier social assessment 2016	Management approach (103-1, 103-2 and 103-3)	248	✓	5, 8, 16
	414-1	248, 381	✓	
	414-2	248, 381	✓	
- GRI 415 Public policy 2016	Management approach (103-1, 103-2 and 103-3)	288	✓	16
	415-1	394	✓	
















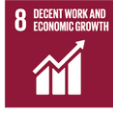










- GRI 416 Customer health and safety *2016	Management approach (103-1, 103-2 and 103-3)	187	✓	16
	416-1	188	✓	
	416-2	188	✓	
	EU25	188	✓	
- GRI 417 Marketing and labelling 2016	Management approach (103-1, 103-2 and 103-3)	185	✓	12, 16
	417-1	186	✓	
	417-2	187	✓	
	417-3	186	✓	
- GRI 418 Customer privacy 2016	Management approach (103-1, 103-2 and 103-3)	295	✓	16
	418-1	296	✓	
- GRI 419 Socioeconomic compliance 2016	Management approach (103-1, 103-2 and 103-3)	297	✓	16
	419-1	297	✓	
- Disaster/emergency planning and response	Management approach (103-1, 103-2 and 103-3)	177	✓	
- Access to electricity	Management approach (103-1, 103-2 and 103-3)	201	✓	1, 7
	EU26	201	✓	
	EU27	204, 382	✓	
	EU28	184	✓	
	EU29	185	✓	
	EU30	87, 345	✓	
- Access to adequate information	Management approach (103-1, 103-2 and 103-3)	190	✓	
- Iberdrola and the Global Compact		240	✓	
- Contribution to society (LBG)		221	✓	
- Iberdrola, promoting women's sport		129	✓	














Content Index in Relation to the Principles of the Global Compact

The table below shows the GRI indicators of this report that offer more relevant information on compliance with the 10 Principles of the Global Compact, as well as the content of the management approaches to each GRI aspect. Using the table's index, each Stakeholder can assess the level of Iberdrola's advancement with respect to each of such principles:

Issue	Global Compact Principles	Most relevant GRI Standards Indicators	Related SDGs
Human Rights	Principle 1. Businesses should support and respect the protection of internationally proclaimed human rights.	410-1 to 412-1, 412-2, 413-1, 413-2	           
	Principle 2. Businesses should make sure they are not complicit in human rights abuses.	412-3, 414-1, 414-2	
Labour Rules	Principle 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	102-41, 407-1, 402-1	       
	Principle 4. Businesses should uphold the elimination of all forms of forced and compulsory labour.	409-1	
	Principle 5. Businesses should uphold the effective abolition of child labour.	408-1	
	Principle 6. Businesses should uphold the elimination of discrimination in respect of employment and occupation.	102-8, 202-1, 202-2, 401-1, 401-3, 404-1, 404-3, 405-2, 406-1	
Environment	Principle 7. Businesses should support a precautionary approach to environmental challenges.	201-2, 301-1, 302-1, 303-1, 305-1 to 305-3, 305-6, 305-7	   
	Principle 8. Businesses should undertake initiatives to promote greater environmental responsibility.	301-1 to 308-2	



			      
	Principle 9. Businesses should encourage the development and diffusion of environmentally friendly technologies.	302-4, 302-5, 305-5	
Anti-corruption	Principle 10. Businesses should work against corruption in all its forms, including extortion and bribery.	102-16, 102-17 205-1 to 205-3, 415-1	   



Independent External Assurance

102-56

Iberdrola obtains independent external assurance of its annual information, the annual accounts and management reports (individual and consolidated with those of its subsidiaries) by KPMG Auditores, S.L. and the *Statement of Non-Financial Information. Sustainability Report* by PricewaterhouseCoopers Asesores de Negocio, S.L. Annex 4 hereto includes the external independent assurance report on this document.



■ IV. Annexes

- Annex 1: Information Supplementary to the Sustainability Report
- Annex 2: Iberdrola's Contribution to the SDGs and targets of the 2030 Agenda
- Annex 3: Report on Green Financing Returns
External independent assurance report on green financing
- Annex 4: External Independent Assurance Report on the Sustainability Report



Annex 1: Information Supplementary to the Sustainability Report 2018

- Key figures
- Economic dimension
- Environmental dimension
- Social dimension



Key figures¹¹⁶

Installed capacity by region and energy source (MW) EU1				
		2018	2017	2016
Spain	Renewables	15,789	15,821	15,819
	Onshore wind	5,770	5,752	5,752
	Offshore wind	0	0	0
	Hydroelectric	9,715	9,715	9,715
	Mini-hydro	303	303	302
	Solar and others	0	50	50
	Nuclear	3,177	3,177	3,410
	Combined cycle	5,695	5,695	5,695
	Cogeneration	353	368	364
	Coal	874	874	874
	Total	25,887	25,934	26,161
United Kingdom	Renewables	2,100	2,666	2,572
	Onshore wind	1,906	1,906	1,812
	Offshore wind	194	194	194
	Hydroelectric	0	566	566
	Mini-hydro	0	0	0
	Solar and others	0	0	0
	Nuclear	0	0	0
	Combined cycle	0	2,000	2,000
	Cogeneration	0	1	1
	Coal	0	0	0
	Total	2,100	4,667	4,573
United States	Renewables	6,713	6,625	6,035
	Onshore wind	6,466	6,387	5,853
	Offshore wind	0	0	0
	Hydroelectric	118	118	118
	Mini-hydro	0	0	0
	Solar and others	129	119	63
	Nuclear	0	0	0
	Combined cycle	212	212	209
	Cogeneration	636	636	636
	Coal	0	0	0
	Total	7,561	7,472	6,880
Brazil	Renewables	2,935	2,629	2,399
	Onshore wind	516	516	421
	Offshore wind	0	0	0
	Hydroelectric	2,419	2,113	1,978

¹¹⁶ Operating figures include figures corresponding to partially owned and uncontrolled companies, applying the percentage interest.



Installed capacity by region and energy source (MW) EU1				
	2018	2017	2016	
	<i>Mini-hydro</i>	0	0	0
	<i>Solar and others</i>	0	0	0
	Nuclear	0	0	0
	Combined cycle	533	533	533
	Cogeneration	0	0	77
	Coal	0	0	0
	Total	3,467	3,162	3,009
Mexico	Renewables	679	410	367
	<i>Onshore wind</i>	409	367	367
	<i>Offshore wind</i>	0	0	0
	<i>Hydroelectric</i>	0	0	0
	<i>Mini-hydro</i>	0	0	0
	<i>Solar and others</i>	270	43	0
	Nuclear	0	0	0
	Combined cycle	6,446	5,546	5,200
	Cogeneration	346	294	237
	Coal	0	0	0
Rest of countries	Total	7,471	6,250	5,804
	Renewables	961	961	621
	<i>Onshore wind</i>	605	605	615
	<i>Offshore wind</i>	350	350	0
	<i>Hydroelectric</i>	0	0	0
	<i>Mini-hydro</i>	0	0	0
	<i>Solar and others</i>	6	6	6
	Nuclear	0	0	0
	Combined cycle	0	0	0
	Cogeneration	0	0	0
Iberdrola total	Coal	0	0	0
	Total	961	961	621
	Renewables	29,177	29,112	27,813
	<i>Onshore wind</i>	15,671	15,533	14,820
	<i>Offshore wind</i>	544	544	194
	<i>Hydroelectric</i>	12,252	12,513	12,378
	<i>Mini-hydro</i>	303	303	302
	<i>Solar and others</i>	406	219	120
	Nuclear	3,177	3,177	3,410
	Combined cycle	12,885	13,985	13,637
	Cogeneration	1,335	1,299	1,315
	Coal	874	874	874
	Total	47,448	48,447	47,049



Net energy output, by region and source of energy (GWh) EU2				
		2018	2017	2016
Spain	Renewables	25,973	19,587	30,319
	Onshore wind	11,654	11,216	11,236
	Offshore wind	N/A	N/A	N/A
	Hydroelectric	13,590	7,903	18,325
	Mini-hydro	670	394	686
	Solar and others	58	74	71
	Nuclear	23,536	23,254	24,381
	Combined cycle	4,092	3,812	3,709
	Cogeneration	2,472	2,608	2,290
	Coal	1,637	2,642	2,084
	Total	57,711	51,903	62,783
United Kingdom	Renewables	5,145	4,880	3,688
	Onshore wind	3,812	3,358	2,370
	Offshore wind	755	820	728
	Hydroelectric	578	702	590
	Mini-hydro	N/A	N/A	N/A
	Solar and others	N/A	N/A	N/A
	Nuclear	N/A	N/A	N/A
	Combined cycle	5,530	7,260	8,341
	Cogeneration	N/A	0	N/A
	Coal	N/A	N/A	N/A
	Total	10,675	12,140	13,748
United States	Renewables	17,261	15,738	15,320
	Onshore wind	16,650	15,103	14,803
	Offshore wind	N/A	N/A	N/A
	Hydroelectric	269	386	327
	Mini-hydro	N/A	N/A	N/A
	Solar and others	342	250	190
	Nuclear	N/A	N/A	N/A
	Combined cycle	8	12	14
	Cogeneration	2,713	2,354	2,557
	Coal	N/A	N/A	N/A
	Total	19,983	18,105	17,891
Brazil	Renewables	10,099	8,195	4,559
	Onshore wind	2,120	1,865	1,204
	Offshore wind	N/A	N/A	N/A
	Hydroelectric	7,979	6,330	3,355
	Mini-hydro	N/A	N/A	N/A
	Solar and others	N/A	N/A	N/A
	Nuclear	N/A	N/A	N/A
	Combined cycle	3,553	3,956	4,033
	Cogeneration	0	91	446
	Coal	N/A	N/A	N/A



Net energy output, by region and source of energy (GWh) EU2				
		2018	2017	2016
Mexico	Total	13,652	12,242	9,038
	Renewables	1,095	963	1,119
	Onshore wind	1,084	963	1,119
	Offshore wind	N/A	N/A	N/A
	Hydroelectric	N/A	N/A	N/A
	Mini-hydro	N/A	N/A	N/A
	Solar and others	12	0	N/A
	Nuclear	N/A	N/A	N/A
	Combined cycle	37,470	39,013	34,795
	Cogeneration	2,831	1,801	1,654
	Coal	N/A	N/A	N/A
	Total	41,396	41,777	37,569
Rest of countries	Renewables	2,180	1,382	1,437
	Onshore wind	1,284	1,373	1,429
	Offshore wind	887	0	N/A
	Hydroelectric	N/A	N/A	N/A
	Mini-hydro	N/A	N/A	N/A
	Solar and others	9	9	9
	Nuclear	N/A	N/A	N/A
	Combined cycle	N/A	N/A	N/A
	Cogeneration	N/A	N/A	N/A
	Coal	N/A	N/A	N/A
	Total	2,180	1,382	1,437
Iberdrola total	Renewables	61,754	50,747	56,443
	Onshore wind	36,605	33,878	32,162
	Offshore wind	1,642	821	728
	Hydroelectric	22,416	15,321	22,597
	Mini-hydro	670	394	686
	Solar and others	421	333	270
	Nuclear	23,536	23,254	24,381
	Combined cycle	50,654	54,053	50,892
	Cogeneration	8,016	6,853	6,947
	Coal	1,637	2,642	3,803
	Total	145,597	137,549	142,466


EU3

Electricity users (%)				
		2018	2017	2016
Spain	Residential	93.0	92.8	92.8
	Industrial	1.5	1.7	1.6
	Institutional	1.1	1.1	1.1
	Commercial	4.4	4.4	4.5
	Other	0.0	0.0	0.0
	Total users (millions)	10.4	10.3	10.3
	Users that are producers of electricity (no.)	0	0	4,832
United Kingdom	Residential	93.8	93.9	93.9
	Industrial	2.0	2.1	2.1
	Institutional	0.1	0.1	0.1
	Commercial	4.1	3.9	3.9
	Other	0.0	0.0	0.0
	Total users (millions)	3.0	3.1	3.2
	Users that are producers of electricity (no.)	67,913	66,264	64,936
United States	Residential	88.2	88.2	87.7
	Industrial	0.3	0.3	0.3
	Institutional	0.0	0.0	0.0
	Commercial	10.6	10.6	11.8
	Other	0.9	0.9	0.2
	Total users (millions)	2.3	2.2	1.6
	Users that are producers of electricity (no.)	12,268	3,776	13,581
Brazil	Residential	87.6	87.4	87.5
	Industrial	0.3	0.3	0.3
	Institutional	1.2	1.2	1.0
	Commercial	6.6	6.6	6.7
	Other	4.3	4.5	4.5
	Total users (millions)	13.8	13.6	13.4
	Users that are producers of electricity (no.)	6,900	2,033	277
Rest of countries	Residential	0	0	0
	Industrial	0	0	0
	Institutional	0	0	0
	Commercial	0	0	0
	Other	0	0	0
	Total users (millions)	0	0	0
	Users that are producers of electricity (no.)	0	0	0
Iberdrola total	Residential	90.2	90.1	90.2
	Industrial	0.9	1.0	1.0
	Institutional	0.9	1.0	0.9
	Commercial	5.9	5.8	5.8
	Other	2.1	2.1	2.1
	Total users (millions)	29.5	29.2	28.5
	Users that are producers of electricity (no.)	87,081	72,073	83,626



		Power lines (Km) EU4					
		Transmission			Distribution		
		2018	2017	2016	2018	2017	2016
Spain	Areas	0	0	0	161,754	155,589	155,317
	Underground	0	0	0	107,885	112,981	112,259
	Total	0	0	0	269,639	268,570	267,576
United Kingdom	Areas	3,752	3,636	3,637	38,599	38,679	38,718
	Underground	642	404	352	66,964	66,541	66,111
	Total	4,394	4,040	3,989	105,563	105,220	104,829
United States	Areas	13,334	30,620	30,835	139,962	122,884	102,431
	Underground	602	1,557	604	16,185	14,899	14,463
	Total	13,936	32,177	31,439	156,147	137,783	116,894
Brazil	Areas	679	13,832	13,560	622,625	594,322	578,674
	Underground	0	38	31	689	629	452
	Total	679	13,870	13,591	623,314	594,951	579,126
Rest of countries	Areas	0	0	0	0	0	0
	Underground	0	0	0	0	0	0
	Total	0	0	0	0	0	0
Iberdrola total	Areas	17,765	48,088	48,032	962,940	911,474	875,140
	Underground	1,244	1,999	987	191,723	195,050	193,285
	Total	19,009	50,087	49,019	1,154,663	1,106,524	1,068,425



Locations of operation of the Iberdrola group

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The group of companies that belong to the Iberdrola group carry out various activities in a large number of countries, and more than 1,200 sites or facilities have been identified.

For purposes of reporting under the *GRI Sustainability Reporting Standards*, in order to deal with such a large number of facilities, only those considered to be principal locations of operation have been included, by business and by country, adopting as a basic standard the number of persons performing their activities at a facility, and based thereon:

- In the countries deemed to be at low risk for the violation of human rights, the most important facilities are identified as principal locations of operation, assuming that the personnel at the smaller facilities are part of a functional or hierarchical reporting structure that assures their rights through the tools and procedures established at the organisation.
- In countries with a higher risk the standard is more restrictive: if there are several facilities of different sizes dedicated to similar activities, the largest facilities are included as principal locations of operation, with the smaller ones deemed to be dependent centres with the same basic guarantees; if the number of facilities is low or it is deemed that the risk is higher, such facilities are included as principal locations of operation, regardless of the number of persons working therein.

According to these standards, the principal locations of operation identified in 2018, by business and by country, are reflected in the following tables:

Significant locations of operation 2018 by business		Significant locations of operation 2018 by country	
Corporate	17	Spain	33
Wholesale and Retail Business	39	United Kingdom	31
Networks Business	56	United States	28
Renewables Business	38	Brazil	40
		Mexico	17
		Rest of countries	1
Iberdrola total	150	Iberdrola total	150

Based on this data, the company has performed a study to identify the significant locations of operation at which there might be some risk of violation of human rights, which is described in detail in the Protection of Human Rights section of Chapter III.5 of this report.



Economic dimension

Sales ¹¹⁷ (net amount in € millions)	2018	2017	2016
Spain	14,282	13,733	13,501
United Kingdom	6,176	5,908	6,524
United States	5,325	5,016	4,948
Brazil	2,346	2,407	1,566
Mexico	5,717	3,430	1,569
Rest of countries	1,229	768	651
Iberdrola consolidated total	35,075	31,262	28,759

Operating costs (€ millions)	2018	2017	2016
Spain	9,510	8,412	8,472
United Kingdom	4,022	4,080	4,621
United States	2,534	2,545	2,474
Brazil	4,389	2,682	1,268
Mexico	1,790	1,999	1,120
Rest of countries	206	728	669
Iberdrola consolidated total	22,433	20,446	18,624

¹¹⁷ Sales in accordance with the grouping for the segmentation of management.


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Economic value generated, distributed and retained ¹¹⁸ (€ millions)				
		2018	2017	2016
Spain	Revenue (sales and other income)	15,310	13,564	14,280
	Operating costs	9,510	8,412	8,457
	Employee remuneration (excluding company social security costs)	806	912	847
	Payments to providers of capital	861	1,365	1,784
	Payments to government administrations	1,170	1,496	1,581
	Community investments (verified according to the LBG Model)	16	20	15
	Economic value retained	2,347	1,359	1,596
United Kingdom	Revenue (sales and other income)	6,351	6,077	6,776
	Operating costs	4,022	4,080	4,607
	Employee remuneration (excluding company social security costs)	427	468	466
	Payments to providers of capital	198	197	231
	Payments to government administrations	377	353	380
	Community investments (verified according to the LBG Model)	15	14	14
	Economic value retained	1,312	965	1,078
United States	Revenue (sales and other income)	5,381	5,337	5,430
	Operating costs	2,534	2,545	2,470
	Employee remuneration (excluding company social security costs)	812	879	806
	Payments to providers of capital	349	501	315
	Payments to government administrations	627	583	596
	Community investments (verified according to the LBG Model)	4	6	4
	Economic value retained	1,055	823	1,239
Brazil	Revenue (sales and other income)	6,003	3,628	1,717
	Operating costs	4,389	2,682	1,266
	Employee remuneration (excluding company social security costs)	291	201	94
	Payments to providers of capital	584	283	119
	Payments to government administrations	164	160	51
	Community investments (verified according to the LBG Model)	18	22	2
	Economic value retained	587	280	185
Mexico	Revenue (sales and other income)	2,709	2,770	1,769
	Operating costs	1,790	1,999	1,119
	Employee remuneration (excluding company social security costs)	36	39	32
	Payments to providers of capital	268	217	189
	Payments to government administrations	136	100	108

¹¹⁸ The grouping by country corresponds to the registered office of each company and does not necessarily coincide with the segmentation of the information for management.



	Community investments (verified according to the LBG Model)	1	1	1
	Economic value retained	478	414	320
Rest of countries	Revenue (sales and other income)	519	1,338	734
	Operating costs	206	728	669
	Employee remuneration (excluding company social security costs)	15	18	15
	Payments to providers of capital	142	353	54
	Payments to government administrations	22	31	24
	Community investments (verified according to the LBG Model)	0	0	0
	Economic value retained	134	209	(28)
Iberdrola total	Revenue (sales and other income)	36,273	32,714¹¹⁹	30,706
	Operating costs	22,433	20,446	18,588
	Employee remuneration (excluding company social security costs)	2,387	2,517	2,260
	Payments to providers of capital	2,402	2,916	2,692
	Payments to government administrations	3,096	2,723	2,740
	Community investments (verified according to the LBG Model)	54	63	36
	Economic value retained	5,901	4,049	4,390

¹¹⁹ Includes Sales in the amount of €31,263 million and Other revenue €1,451 million.


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Financial assistance received (€ millions)		2018	2017	2016
Spain	Capital subsidies	2	10	13
	Operating subsidies	3	6	3
	Investment tax credits	0	0	0
	Production tax credits	0	0	0
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	5	16	13
United Kingdom	Capital subsidies	0	0	0
	Operating subsidies	0	0	0
	Investment tax credits	0	0	0
	Production tax credits	0	0	0
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	0	0	0
United States	Capital subsidies	4	0	0
	Operating subsidies	0	0	0
	Investment tax credits	8	30	0
	Production tax credits	91	90	87
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	103	120	0
Brazil	Capital subsidies	0	0	0
	Operating subsidies	0	0	0
	Investment tax credits	0	0	0
	Production tax credits	0	0	0
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	0	0	0
Mexico	Capital subsidies	0	0	0
	Operating subsidies	0	0	0
	Investment tax credits	0	0	0
	Production tax credits	0	0	0
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	0	0	0
Rest of countries	Capital subsidies	0	0	0
	Operating subsidies	0	0	0
	Investment tax credits	0	0	0
	Production tax credits	0	0	0
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	0	0	0
Iberdrola total	Capital subsidies	6	10	13
	Operating subsidies	3	6	3
	Investment tax credits	8	30	0
	Production tax credits	91	90	87
	Assistance for other items included in the GRI Protocol	0	0	0
	Total	108	136	103



Pre tax profit ¹²⁰ (millions of euros)	2018
Spain	1,618.6
United Kingdom	1,096.9
United States	622.0
Brazil	452.9
Mexico	561.9
Rest of countries	-68.9
Iberdrola consolidated total	4,283.4

¹²⁰ Includes consolidated results from continuing and discontinued activities.



Tax contribution (€ millions)			
	2018	2017	2016 ¹²¹
Company contributions			
Spain	1,770	1,496	1,548
<i>Corporate income tax</i>	589	311	449
<i>Other</i>	1,181	1,185	1,099
United Kingdom	377	353	380
<i>Corporate income tax</i>	74	50	108
<i>Other</i>	303	303	272
United States	627	583	584
<i>Corporate income tax</i>	-13	11	9
<i>Other</i>	640	572	575
Brazil	164	160	126
<i>Corporate income tax</i>	93	86	25
<i>Other</i>	71	74	101
Mexico	136	100	106
<i>Corporate income tax</i>	130	95	102
<i>Other</i>	6	5	4
Rest of countries	22	31	24
<i>Corporate income tax</i>	14	22	11
<i>Other</i>	8	9	13
Total	3,096	2,723	2,768
<i>Corporate income tax</i>	887	575	704
<i>Other</i>	2,209	2,148	2,064
Contributions due to third party payments			
Spain	1,872	1,761	1,904
United Kingdom	235	168	156
United States	277	292	275
Brazil	2,269	1,997	1,855
Mexico	23	86	101
Rest of countries	167	84	70
Total	4,843	4,388	4,361
Iberdrola consolidated total			
Spain	3,642	3,257	3,452
United Kingdom	612	521	536
United States	904	875	859
Brazil	2,433	2,157	1,981
Mexico	159	186	207
Rest of countries	189	115	94
Total	7,939	7,111	7,129

¹²¹ For better comparability of the 2017 and 2016 information, 100% of the taxes paid by Neoenergia in Brazil during 2016 are included.



Environmental dimension

Energy

Energy consumption within the organization

302-1

Energy consumption within the organisation (GJ)	2018	2017	2016
Spain	230,023,199	236,355,590	241,428,586
United Kingdom	20,179,322	30,155,278	47,145,185
United States	10,799,405	10,547,765	11,251,751
Brazil	13,005,615	11,861,813	6,788,139
Mexico	126,533,470	159,609,431	135,538,671
Rest of countries	17,545	17,587	17,873
Total	400,558,556	440,547,464	442,170,204

Energy consumption in buildings (GJ)	2018	2017	2016
Spain	193,679	157,422	165,637
United Kingdom	89,280	109,159	121,327
United States	416,507	346,431	401,236
Brazil	1,719	166,256	46,099
Mexico	8,606	554	911
Rest of countries ¹²²	1,309	1,146	1,218
Total	711,101	780,969	736,428

System efficiency

EU11

Average efficiency ¹²³ at thermal generating facilities (%)	Spain ¹²⁴			United Kingdom			United States		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Combined cycle	49.67	49.55	48.28	52	51.10	49.93	N/A	N/A	N/A
Conventional	34.28	34.38	33.00	N/A	0.00	33.00	N/A	N/A	N/A
Cogeneration	63.24	63.26	62.08	N/A	56.00	48.00	48	48.00	47.00

Average efficiency ¹²³ at thermal generating facilities (%)	Brazil			Mexico			Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Combined cycle	55	49	49	55	54	53	54	54	52
Conventional	N/A	N/A	N/A	N/A	N/A	N/A	34	34	33
Cogeneration	N/A	0.00	69	57	50	58	56	54	56

¹²² Other countries: Greece, Romania and Hungary.

¹²³ Average of efficiencies weighted by the annual production of each thermal power plant.

¹²⁴ Does not include the Puertollano thermosolar plant.



Water

Total water withdrawal by source

303-1

Water use in thermal generation ¹²⁵ 2018 (hm ³)	Withdrawal		Discharge		
	Total withdrawal	Withdrawal process and standby services	Withdrawal for cooling	Evaporation of water used for cooling	Discharge into receptor environment
Spain	1,535.22	4.56	1,530.67	55.96	1,476
United Kingdom ¹²⁶	165.57	0.32	165.25	0.06	167
United States	3.44	3.44	0.00	1.93	2
Brazil	0.52	0.02	0.51	0.00	0.00
Mexico	279.97	3.18	276.79	22.20	254
Total¹²⁷	1,985	12	1,973	80	1,899

Water consumption at offices and control facilities ¹²⁸ (m ³)	2018	2017	2016
Spain	55,489	94,239	84,693
United Kingdom	4,496	63,242	93,375
United States	1,181,165	183,256	139,385
Brazil	9,369	1,975	89,576
Mexico	2,002	36,604	1,124
Rest of countries	2,775	5,132	901
Total	1,255,296	384,448	409,054

Biodiversity

Threatened species included in the IUCN Red List and national and regional lists

304-4

	IUCN Red List Classification					
	Critically endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near threatened (NT)	Least concern (LC)	Not on IUCN List
Spain	3	26	60	5	59	5
United Kingdom	0	0	2	5	21	0
United States - Canada	3	16	19	22	84	7
Brazil	12	31	89	13	13	19
Mexico	0	0	0	1	4	1
Rest of countries	0	1	3	2	66	0
Total	18	74	173	48	247	32

¹²⁵ Withdrawal of water at the thermal generation facilities (coal, combined cycle, nuclear and cogeneration)

¹²⁶ The cooling systems in the United Kingdom are open circuits or air condensers, and therefore it is estimated that the volume of evaporated water is practically zero, except for steam from cogeneration. The data include the Daldowie thermal drying facility and the Hatfield gas storage facility.

¹²⁷ The total discharge figure includes the return from cooling, the return of water used in processes, and rainwater collected at some thermal facilities without an independent storm sewer system.

¹²⁸ Includes offices, substations and control buildings at wind farms.



Emissions

Direct greenhouse gas emissions. Scope 1 (per GHG Protocol)

305-1

CO ₂ emissions (t)	2018	2017	2016
Spain	4,932,724	5,945,175	5,268,737
Generating plants	3,469,461	4,399,869	3,912,787
Cogeneration	1,463,263	1,545,306	1,355,950
United Kingdom	2,174,241	2,900,987	4,944,407
Generating plants	2,156,928	2,882,992	4,927,630
Cogeneration	17,313	17,995	16,777
United States	991,612	965,570	1,040,335
Generating plants	0	0	N/A
Cogeneration	991,612	965,570	1,040,335
Brazil	1,306,374	1,568,890	1,739,902
Generating plants	1,306,374	1,471,816	1,369,047
Cogeneration	0	97,074	370,855
Mexico	14,929,874	15,334,845	13,543,565
Generating plants	13,396,657	14,267,041	12,598,905
Cogeneration	1,533,217	1,067,804	944,660
Total	24,334,824	26,715,466	26,536,946
Generating plants	20,329,419	23,021,718	22,808,369
Cogeneration	4,005,405	3,693,748	3,728,577

Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol)

305-2

Emissions associated with the consumption of energy at offices 2018	CO ₂ (t)
Spain	10,645
United Kingdom	6,425
United States	31,877
Brazil	34
Mexico	120
Rest of countries ¹²⁹	0
Total	49,101

¹²⁹ Not taken into account to calculate the Carbon Footprint as it entails less than 0.1% of the internal energy consumption of the group.



NO_x, SO_x and other significant air emissions

305-7

NO _x emissions (t)	2018	2017	2016
Spain	7,149	12,490	12,172
Generating plants	2,623	4,394	5,013
Cogeneration	4,526	8,096	7,159
United Kingdom	1,141	989	5,363
Generating plants	1,141	989	5,363
Cogeneration	0	0	N/A
United States	629	18	152
Generating plants	0	0	N/A
Cogeneration	629	18	152
Brazil	221	233	702
Generating plants	221	233	233
Cogeneration	0	0	469
Mexico	3,612	2,422	2,583
Generating plants	2,565	1,997	2,325
Cogeneration	1,047	425	258
Total	12,751	16,152	20,971
Generating plants	6,549	7,613	12,934
Cogeneration	6,202	8,539	8,037

Sulphur dioxide (SO ₂) emissions (t)	2018	2017	2016
Spain	3,058	4,936	3,277
Generating plants	2,327	3,723	2,744
Cogeneration	731	1,213	533
United Kingdom	2	2	3,384
Generating plants	2	2	3,384
Cogeneration	0	0	N/A
United States	6	5	6
Generating plants	0	0	N/A
Cogeneration	6	5	6
Brazil	11	0	23
Generating plants	11	0	12
Cogeneration	0	0	11
Mexico	438	449	398
Generating plants	393	418	370
Cogeneration	45	31	28
Total	3,515	5,392	7,088
Generating plants	2,733	4,143	6,510
Cogeneration	782	1,249	578



Particulate emissions (t)	2018	2017	2016
Spain	174	375	305
Generating plants	141	298	259
Cogeneration	33	77	46
United Kingdom	1	2	88
Generating plants	1	1	88
Cogeneration	0	1	N/A
United States	20	19	19
Generating plants	0	0	N/A
Cogeneration	20	19	19
Brazil	0	0	22
Generating plants	0	0	0
Cogeneration	0	0	22
Mexico	691	876	774
Generating plants	603	815	720
Cogeneration	88	61	54
Total	886	1,272	1,208
Generating plants	745	1,114	1,067
Cogeneration	141	158	141

Effluents and waste

Total weight of waste by type and disposal method

306-2

Hazardous waste generation ¹³⁰ (t)	Spain			United Kingdom			United States		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Recovered, recycled, reused	4,819	4,328	4,539	3,056	1,600	2,161	358	337	478
Deposited and/or incinerated	2,804	1,256	849	810	562	482	17	425	601
Produced (Total)	7,604	5,564	5,418	3,864	2,214	3,558	375	573	1,183

Hazardous waste generation ¹³⁰ (t)	Brazil			Mexico			Rest of countries			Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Recovered, recycled, reused	563	981	140	0	0	0	43	43	35	8,839	7,288	7,353
Deposited and/or incinerated	316	593	76	186	171	126	27	15	15	4,161	3,023	2,148
Produced (Total)	1,069	614	234	186	171	126	70	58	60	13,169	9,193	10,579

¹³⁰ Liquid waste has been converted into kg using a density of 1.3 kg/m³.



Non hazardous waste generation ¹³¹ (t)	Spain			United Kingdom			United States		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Recovered, recycled, reused	74,618	109,727	79,512	70,265	304,434	155,103	4,605	34,097	231,038
Deposited and/or incinerated	71,629	165,443	129,178	195,897	224,698	189,640	64,063	96,988	107,134
Produced (Total)	146,671	277,282	208,681	266,224	589,432	387,925	69,046	131,006	338,276

Non hazardous waste generation ¹³¹ (t)	Brazil			Mexico			Rest of countries			Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
Recovered, recycled, reused	19,589	1,614	5,179	117	47	0	9	1	0	294,845	449,920	470,832
Deposited and/or incinerated	23,630	38,516	1,346	17,660	17,573	16,449	18	2	3	247,256	543,220	443,747
Produced (Total)	49,525	38,370	27,513	17,661	17,578	16,449	18	3	3	549,146	1,053,671	978,847

¹³¹ Liquid waste has been converted into kg using a density of 1.3 kg/m³.



Average plant availability

EU30

The availability of a plant (during a particular period) is the percentage of time within such period that the plant is able to produce energy. It is calculated using normalising indicators, for which reason, knowing the availability of each facility and the net installed capacity thereof yields the average availability factors of the group, as presented in the following table:

Average availability factor (%)		2018	2017	2016
Spain	Combined cycle	91.94	91.87	89.94
	Conventional thermal	94.28	93.94	85.54
	Cogeneration	96.28	92.65	88.90
	Nuclear	89.31	89.29	85.98
	Hydroelectric	85.59	84.45	86.00
	Wind	97.30	91.87	97.80
United Kingdom	Combined cycle	89.67	88.30	86.63
	Conventional thermal	N/A	N/A	N/A
	Cogeneration	N/A	1.70	82.00
	Nuclear	N/A	N/A	N/A
	Hydroelectric	82.95	87.23	94.00
	Wind	95.80	95.21	95.91
United States	Combined cycle	N/A	N/A	N/A
	Conventional thermal	N/A	N/A	N/A
	Cogeneration	88.05	82.04	90.00
	Nuclear	N/A	N/A	N/A
	Hydroelectric	36.17	36.78	31.21
	Wind	95.40	95.58	N/A
Brazil	Combined cycle	90.95	85.41	86.00
	Conventional thermal	N/A	N/A	N/A
	Cogeneration	N/A	N/A	96.65
	Nuclear	N/A	N/A	N/A
	Hydroelectric	94.75	95.66	93.00
	Wind	97.60	97.34	97.50
Mexico	Combined cycle	91.94	94.95	95.32
	Conventional thermal	N/A	N/A	N/A
	Cogeneration	95.56	72.18	95.17
	Nuclear	N/A	N/A	N/A
	Hydroelectric	N/A	N/A	N/A
	Wind	97.10	96.22	97.50
Rest of countries	Combined cycle	N/A	N/A	N/A
	Conventional thermal	N/A	N/A	N/A
	Cogeneration	N/A	N/A	N/A
	Nuclear	N/A	N/A	N/A
	Hydroelectric	N/A	N/A	N/A
	Wind	97.5	97.61	97.90
Iberdrola total	Combined cycle	90.39	90.94	89.94
	Conventional thermal	94.28	93.94	85.54
	Cogeneration	92.17	82.75	91.00
	Nuclear	89.31	89.29	85.98
	Hydroelectric	86.92	86.02	86.96
	Wind	96.36	94.36	96.84



Social dimension

Employment¹³²

102-8

Total workforce by employment type, region and gender							
		Full time			Part time		
		2018	2017	2016	2018	2017	2016
Spain	Men	7,852	8,309	8,404	0	4	4
	Women	1,970	1,981	1,986	0	2	1
	Total	9,822	10,290	10,390	0	6	5
United Kingdom	Men	3,670	4,032	4,224	51	62	56
	Women	1,306	1,329	1,407	584	644	686
	Total	4,976	5,361	5,631	635	706	742
United States	Men	4,601	4,664	4,836	1	1	2
	Women	1,838	1,886	1,998	9	10	13
	Total	6,439	6,550	6,834	10	11	15
Brazil	Men	7,746	8,048	7,387	1,050	112	143
	Women	1,924	1,749	1,694	29	187	205
	Total	9,670	9,797	9,081	1,079	299	348
Mexico	Men	909	779	736	0	0	0
	Women	203	164	138	0	1	0
	Total	1,112	943	874	0	1	0
Rest of countries	Men	237	218	133	0	0	0
	Women	98	73	29	0	0	0
	Total	335	291	162	0	0	0
Iberdrola total	Men	25,015	26,050	25,720	1,102	179	205
	Women	7,339	7,182	7,252	622	844	905
	Total	32,354	33,232	32,972	1,724	1,023	1,110

¹³² As the percentage interests in certain companies may not be 100%, the sums added may not correspond to the total presented due to rounding.



Total workforce by contract type, region and gender							
		Permanent contract			Temporary contract		
		2018	2017	2016	2018	2017	2016
Spain	Men	7,830	8,287	8,368	22	26	40
	Women	1,964	1,975	1,970	6	8	17
	Total	9,794	10,262	10,338	28	34	57
United Kingdom	Men	3,704	4,069	4,255	17	25	25
	Women	1,874	1,958	2,085	16	15	8
	Total	5,578	6,027	6,340	33	40	33
United States	Men	4,594	4,661	4,829	8	4	9
	Women	1,845	1,889	2,001	2	7	10
	Total	6,439	6,550	6,830	10	11	19
Brazil	Men	8,790	8,134	7,379	6	26	151
	Women	1,951	1,929	1,832	2	7	67
	Total	10,741	10,063	9,211	8	33	218
Mexico	Men	690	708	580	219	71	156
	Women	158	141	102	45	24	36
	Total	848	849	682	264	95	192
Rest of countries	Men	232	214	120	5	4	13
	Women	98	73	28	0	0	1
	Total	330	287	148	5	4	14
Iberdrola total	Men	25,840	26,073	25,531	277	156	394
	Women	7,890	7,965	8,018	71	61	139
	Total	33,730	34,038	33,549	348	217	533



Total workforce by employment type, gender, age and region 2018			
		Full time	Part time
Spain	Men	7,852	0
	Up to 30 years old	341	0
	Between 31 and 50 years old	4,298	0
	More than 50 years old	3,213	0
	Women	1,970	0
	Up to 30 years old	100	0
	Between 31 and 50 years old	1,332	0
	More than 50 years old	538	0
	Total	9,822	0
	Up to 30 years old	441	0
United Kingdom	Men	3,670	51
	Up to 30 years old	590	2
	Between 31 and 50 years old	1,942	23
	More than 50 years old	1,138	26
	Women	1,306	584
	Up to 30 years old	173	19
	Between 31 and 50 years old	800	472
	More than 50 years old	333	93
	Total	4,976	635
	Up to 30 years old	763	21
United States	Men	4,601	1
	Up to 30 years old	515	0
	Between 31 and 50 years old	2,136	0
	More than 50 years old	1,950	1
	Women	1,838	9
	Up to 30 years old	155	0
	Between 31 and 50 years old	875	6
	More than 50 years old	808	3
	Total	6,439	10
	Up to 30 years old	670	0
Brazil	Men	7,746	1,050
	Up to 30 years old	2,187	301
	Between 31 and 50 years old	4,782	676
	More than 50 years old	777	73
	Women	1,924	29
	Up to 30 years old	611	19
	Between 31 and 50 years old	1,194	9
	More than 50 years old	119	1
	Total	9,670	1,079
	Up to 30 years old	2,798	320



Total workforce by employment type, gender, age and region 2018			
		Full time	Part time
Mexico	Between 31 and 50 years old	5,976	685
	More than 50 years old	896	74
	Men	909	0
	Up to 30 years old	247	0
	Between 31 and 50 years old	587	0
	More than 50 years old	75	0
	Women	203	0
	Up to 30 years old	82	0
	Between 31 and 50 years old	117	0
	More than 50 years old	4	0
	Total	1,112	0
	Up to 30 years old	329	0
	Between 31 and 50 years old	704	0
	More than 50 years old	79	0
Rest of countries	Men	232	5
	Up to 30 years old	16	3
	Between 31 and 50 years old	190	1
	More than 50 years old	26	1
	Women	98	0
	Up to 30 years old	17	0
	Between 31 and 50 years old	73	0
	More than 50 years old	8	0
	Total	330	5
	Up to 30 years old	33	3
Iberdrola total	Men	25,010	1,107
	Up to 30 years old	3,896	306
	Between 31 and 50 years old	13,935	700
	More than 50 years old	7,179	101
	Women	7,339	622
	Up to 30 years old	1,138	38
	Between 31 and 50 years old	4,391	487
	More than 50 years old	1,810	97
	Total	32,349	1,729
	Up to 30 years old	5,034	344
	Between 31 and 50 years old	18,326	1,187
	More than 50 years old	8,989	198



Total workforce by employment type, gender, professional category and region 2018			
		Full time	Part time
Spain	Men	7,852	0
	Management team	405	0
	Middle managers and skilled technicians	3,348	0
	Skilled workers and support personnel	4,099	0
	Women	1,970	0
	Management team	94	0
	Middle managers and skilled technicians	1,348	0
	Skilled workers and support personnel	528	0
	Total	9,822	0
	Management team	499	0
	Middle managers and skilled technicians	4,696	0
	Skilled workers and support personnel	4,627	0
United Kingdom	Men	3,670	51
	Management team	108	0
	Middle managers and skilled technicians	2,361	27
	Skilled workers and support personnel	1,201	24
	Women	1,306	584
	Management team	30	3
	Middle managers and skilled technicians	835	236
	Skilled workers and support personnel	441	345
	Total	4,976	635
	Management team	138	3
	Middle managers and skilled technicians	3,196	263
	Skilled workers and support personnel	1,642	369
United States	Men	4,601	1
	Management team	41	0
	Middle managers and skilled technicians	1,660	1
	Skilled workers and support personnel	2,900	0
	Women	1,838	9
	Management team	13	0
	Middle managers and skilled technicians	757	6
	Skilled workers and support personnel	1,068	3
	Total	6,439	10
	Management team	54	0
	Middle managers and skilled technicians	2,417	7
	Skilled workers and support personnel	3,968	3
Brazil	Men	7,746	1,050
	Management team	75	0
	Middle managers and skilled technicians	1,641	11
	Skilled workers and support personnel	6,030	1,039
	Women	1,924	29
	Management team	21	0
	Middle managers and skilled technicians	1,094	3
	Skilled workers and support personnel	809	26
	Total	9,670	1,079
	Management team	96	0



Total workforce by employment type, gender, professional category and region 2018			
		Full time	Part time
	Middle managers and skilled technicians	2,735	14
	Skilled workers and support personnel	6,839	1,065
Mexico	Men	909	0
	Management team	21	0
	Middle managers and skilled technicians	488	0
	Skilled workers and support personnel	400	0
	Women	203	0
	Management team	6	0
	Middle managers and skilled technicians	173	0
	Skilled workers and support personnel	24	0
	Total	1,112	0
	Management team	27	0
	Middle managers and skilled technicians	661	0
	Skilled workers and support personnel	424	0
Rest of countries	Men	237	0
	Management team	10	0
	Middle managers and skilled technicians	164	0
	Skilled workers and support personnel	63	0
	Women	98	0
	Management team	3	0
	Middle managers and skilled technicians	87	0
	Skilled workers and support personnel	8	0
	Total	335	0
	Management team	13	0
	Middle managers and skilled technicians	251	0
	Skilled workers and support personnel	71	0
Iberdrola total	Men	25,015	1,102
	Management team	660	0
	Middle managers and skilled technicians	9,662	39
	Skilled workers and support personnel	14,693	1,063
	Women	7,339	622
	Management team	167	3
	Middle managers and skilled technicians	4,294	245
	Skilled workers and support personnel	2,878	374
	Total	32,354	1,724
	Management team	827	3
	Middle managers and skilled technicians	13,956	284
	Skilled workers and support personnel	17,571	1,437



Total workforce by contract type, gender, age and region			
		Permanent contract	Temporary contract
Spain	Men	7,830	22
	Up to 30 years old	336	5
	Between 31 and 50 years old	4,281	17
	More than 50 years old	3,213	0
	Women	1,964	6
	Up to 30 years old	98	2
	Between 31 and 50 years old	1,328	4
	More than 50 years old	538	0
	Total	9,794	28
	Up to 30 years old	434	7
	Between 31 and 50 years old	5,609	21
	More than 50 years old	3,751	0
United Kingdom	Men	3,704	17
	Up to 30 years old	586	6
	Between 31 and 50 years old	1,955	10
	More than 50 years old	1,163	1
	Women	1,874	16
	Up to 30 years old	189	3
	Between 31 and 50 years old	1,261	11
	More than 50 years old	424	2
	Total	5,578	33
	Up to 30 years old	775	9
	Between 31 and 50 years old	3,216	21
	More than 50 years old	1,587	3
United States	Men	4,594	8
	Up to 30 years old	509	6
	Between 31 and 50 years old	2,134	2
	More than 50 years old	1,951	0
	Women	1,845	2
	Up to 30 years old	154	1
	Between 31 and 50 years old	880	1
	More than 50 years old	811	0
	Total	6,439	10
	Up to 30 years old	663	7
	Between 31 and 50 years old	3,014	3
	More than 50 years old	2762	0
Brazil	Men	8,790	6
	Up to 30 years old	2,486	2
	Between 31 and 50 years old	5,455	3
	More than 50 years old	849	1
	Women	1,951	2
	Up to 30 years old	628	2
	Between 31 and 50 years old	1,203	0
	More than 50 years old	120	0
	Total	10,741	8
	Up to 30 years old	3,114	4



Total workforce by contract type, gender, age and region			
		Permanent contract	Temporary contract
Mexico	Between 31 and 50 years old	6,658	3
	More than 50 years old	969	1
	Men	690	219
	Up to 30 years old	141	105
	Between 31 and 50 years old	485	103
	More than 50 years old	64	11
	Women	158	45
	Up to 30 years old	54	28
	Between 31 and 50 years old	100	17
	More than 50 years old	4	0
	Total	848	264
	Up to 30 years old	195	133
	Between 31 and 50 years old	585	120
	More than 50 years old	68	11
	Men	232	5
Rest of countries	Up to 30 years old	16	3
	Between 31 and 50 years old	190	1
	More than 50 years old	26	1
	Women	98	0
	Up to 30 years old	17	0
	Between 31 and 50 years old	73	0
	More than 50 years old	8	0
	Total	330	5
	Up to 30 years old	33	3
	Between 31 and 50 years old	263	1
Iberdrola total	More than 50 years old	34	1
	Men	25,840	277
	Up to 30 years old	4,074	127
	Between 31 and 50 years old	14,500	136
	More than 50 years old	7,266	14
	Women	7,890	71
	Up to 30 years old	1,140	36
	Between 31 and 50 years old	4,845	33
	More than 50 years old	1,905	2
	Total	33,730	348
	Up to 30 years old	5,214	163
	Between 31 and 50 years old	19,345	169
	More than 50 years old	9,171	16



Total workforce by contract type, gender, professional category and region 2018			
		Permanent contract	Temporary contract
Spain	Men	7,830	22
	Management team	405	0
	Middle managers and skilled technicians	3,338	10
	Skilled workers and support personnel	4,087	12
	Women	1,964	16
	Management team	94	0
	Middle managers and skilled technicians	1,343	5
	Skilled workers and support personnel	527	1
	Total	9,794	28
	Management team	499	0
	Middle managers and skilled technicians	4,681	15
	Skilled workers and support personnel	4,614	13
United Kingdom	Men	3,704	17
	Management team	108	0
	Middle managers and skilled technicians	2,371	17
	Skilled workers and support personnel	1,225	0
	Women	1,874	16
	Management team	33	0
	Middle managers and skilled technicians	1,058	13
	Skilled workers and support personnel	783	3
	Total	5,578	33
	Management team	141	0
	Middle managers and skilled technicians	3,429	30
	Skilled workers and support personnel	2,008	3
United States	Men	4,594	8
	Management team	41	0
	Middle managers and skilled technicians	1,661	0
	Skilled workers and support personnel	2,892	8
	Women	1,845	2
	Management team	13	0
	Middle managers and skilled technicians	762	1
	Skilled workers and support personnel	1,070	1
	Total	6,439	10
	Management team	54	0
	Middle managers and skilled technicians	2,423	1
	Skilled workers and support personnel	3,962	9
Brazil	Men	8,790	6
	Management team	75	0
	Middle managers and skilled technicians	1,650	2
	Skilled workers and support personnel	7,065	4
	Women	1,951	2
	Management team	21	0
	Middle managers and skilled technicians	1,096	1
	Skilled workers and support personnel	834	1
	Total	10,741	8
	Management team	96	0



Total workforce by contract type, gender, professional category and region 2018			
		Permanent contract	Temporary contract
	Middle managers and skilled technicians	2,746	3
	Skilled workers and support personnel	7,899	5
	Men	690	219
	Management team	21	0
	Middle managers and skilled technicians	381	107
	Skilled workers and support personnel	288	112
	Women	158	45
	Management team	6	0
	Middle managers and skilled technicians	140	33
	Skilled workers and support personnel	12	12
	Total	848	264
	Management team	27	0
	Middle managers and skilled technicians	521	140
	Skilled workers and support personnel	300	124
Mexico	Men	232	5
	Management team	10	0
	Middle managers and skilled technicians	159	5
	Skilled workers and support personnel	63	0
	Women	98	0
	Management team	3	0
	Middle managers and skilled technicians	87	0
	Skilled workers and support personnel	8	0
	Total	330	5
	Management team	13	0
Rest of countries	Men	25,840	277
	Management team	660	0
	Middle managers and skilled technicians	9,560	141
	Skilled workers and support personnel	15,620	136
	Women	7,890	71
	Management team	170	0
	Middle managers and skilled technicians	4,486	53
	Skilled workers and support personnel	3,234	18
	Total	33,730	348
	Management team	830	0
Iberdrola total	Middle managers and skilled technicians	14,046	194
	Skilled workers and support personnel	18,854	154



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Personnel covered by a collective bargaining agreement, by region						
	2018		2017		2016	
	No. of Employees	%	No. of Employees	%	No. of Employees	%
Spain	8,582	87.38	9,109	88.47	9,753	93.82
United Kingdom	4,149	73.94	4,219	69.54	4,510	70.77
United States	3,112	48.26	3,146	47.95	3,234	47.22
Brazil	10,735	99.87	9,805	97.12	9,190	97.47
Mexico	294	26.44	203	21.50	241	27.57
Rest of countries	28	8.36	161	55.53	82	50.62
Total	26,900	78.94	26,643	77.78	27,010	79.25



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New hires by region, gender and age group						
		Men			Women	
		2018	2017	2016	2018	2017
Spain	By age group	221	252	244	114	64
	Up to 30 years old	104	116	121	45	31
	Between 31 and 50 years old	106	125	116	68	31
	More than 50 years old	11	11	7	1	2
	By age group (%)	2.82	3.03	2.90	5.81	3.23
	Up to 30 years old	30.55	35.26	30.17	45.12	41.89
	Between 31 and 50 years old	2.47	2.92	2.65	5.14	2.34
	More than 50 years old	0.34	0.3	0.19	0.19	0.34
	Total workforce	7,852	8,313	8,408	1,970	1,983
United Kingdom	By age group	270	464	261	138	177
	Up to 30 years old	135	141	112	69	59
	Between 31 and 50 years old	120	245	109	56	104
	More than 50 years old	15	78	40	13	14
	By age group (%)	7.26	11.33	6.10	7.30	8.97
	Up to 30 years old	22.80	23.46	18.51	35.94	30.41
	Between 31 and 50 years old	6.11	11.84	5.01	4.40	7.76
	More than 50 years old	1.29	5.48	2.67	3.05	3.2
	Total workforce	3,721	4,094	4,280	1,890	1,973
United States	By age group	380	322	369	137	148
	Up to 30 years old	149	114	141	44	54
	Between 31 and 50 years old	187	171	181	74	70
	More than 50 years old	44	37	47	19	24
	By age group (%)	8.26	6.9	7.63	7.42	13.81
	Up to 30 years old	28.93	23.17	27.87	28.39	24.86
	Between 31 and 50 years old	8.75	8.07	8.24	8.40	11.55
	More than 50 years old	2.26	1.8	2.20	2.34	1.62
	Total workforce	4,602	4,665	4,838	1,847	1,896
Brazil	By age group	1,583	1,127	808	272	174
	Up to 30 years old	840	550	515	169	108
	Between 31 and 50 years old	731	559	289	101	64
	More than 50 years old	12	18	4	2	2
	By age group (%)	18.00	7.81	6.27	13.93	8.99
	Up to 30 years old	33.76	34.39	22.98	26.83	18.15
	Between 31 and 50 years old	13.39	7.76	7.89	8.40	5.47
	More than 50 years old	1.41	2.87	2.00	1.67	1.17
	Total workforce	8,796	8,160	7,530	1,953	1,936
Mexico	By age group	184	323	146	51	74
	Up to 30 years old	114	73	72	39	37
	Between 31 and 50 years old	68	210	67	12	36
	More than 50 years old	2	40	7	0	1
	By age group (%)	20.24	41.46	19.84	25.12	44.85
	Up to 30 years old	46.15	42.69	39.13	47.56	61.67
	Between 31 and 50 years old	11.58	38.82	13.7	10.26	36.00
	More than 50 years old	2.67	59.7	11.11	0.00	20.00
	Total workforce	909	779	736	203	165



New hires by region, gender and age group						
		Men			Women	
		2018	2017	2016	2018	2017
		2016				
Rest of countries	By age group	35	66	13	28	19
	Up to 30 years old	9	18	1	11	6
	Between 31 and 50 years old	23	43	9	17	13
	More than 50 years old	3	5	3	0	0
	By age group (%)	14.77	30.28	9.77	28.57	26.03
	Up to 30 years old	47.37	60	11.11	64.71	66.67
	Between 31 and 50 years old	12.04	25.75	8.04	23.29	22.41
	More than 50 years old	11.11	23.81	25	0.00	0
	Total workforce	237	218	133	98	73
		29				
Iberdrola total	By age group	2,673	2,554	1,841	740	656
	Up to 30 years old	1,351	1,012	962	377	295
	Between 31 and 50 years old	1,235	1,353	771	328	318
	More than 50 years old	87	189	108	35	43
	By age group (%)	10.23	9.74	7.10	9.30	8.17
	Up to 30 years old	32.15	26.39	24.9	32.06	27.09
	Between 31 and 50 years old	8.44	9.65	5.68	6.72	6.5
	More than 50 years old	1.19	2.26	1.27	1.84	2.1
	Total workforce	26,117	26,229	25,925	7,961	8,026
		8,157				



Persons leaving the company by region, gender and age group						
		Men			Women	
		2018	2017	2016	2018	2017
Spain	By age group	682	461	452	130	76
	Up to 30 years old	11	4	6	5	2
	Between 31 and 50 years old	48	99	74	31	36
	More than 50 years old	623	358	372	94	38
	By age group (%)	8.69	5.55	5.38	6.58	3.83
	Up to 30 years old	3.23	1.22	1.5	5.01	2.7
	Between 31 and 50 years old	1.12	2.31	1.69	2.30	2.72
	More than 50 years old	19.38	9.68	10.23	17.46	6.48
	Total workforce	7,852	8,313	8,408	1,970	1,983
United Kingdom	By age group	643	346	516	220	214
	Up to 30 years old	61	26	33	24	18
	Between 31 and 50 years old	194	75	173	86	85
	More than 50 years old	388	245	310	110	111
	By age group (%)	17.28	8.45	12.06	11.64	10.85
	Up to 30 years old	10.30	4.33	5.45	12.50	9.28
	Between 31 and 50 years old	9.87	3.62	7.95	6.76	6.34
	More than 50 years old	33.33	17.21	20.69	25.82	25.34
	Total workforce	3,721	4,094	4,280	1,890	1,973
United States	By age group	453	471	320	186	252
	Up to 30 years old	38	53	69	20	34
	Between 31 and 50 years old	127	137	89	60	61
	More than 50 years old	288	281	162	106	157
	By age group (%)	9.84	10.10	6.61	10.07	13.29
	Up to 30 years old	7.38	10.77	13.64	12.90	21.66
	Between 31 and 50 years old	5.95	6.47	4.05	6.81	6.76
	More than 50 years old	14.76	13.68	7.59	13.07	18.76
	Total workforce	4,602	4,665	4,838	1,847	1,896
Brazil	By age group	941	580	544	247	165
	Up to 30 years old	165	137	116	59	51
	Between 31 and 50 years old	403	269	219	119	84
	More than 50 years old	373	174	209	69	30
	By age group (%)	10.70	7.11	7.22	12.65	8.52
	Up to 30 years old	6.63	6.19	5.38	9.37	8.57
	Between 31 and 50 years old	7.38	5.56	5.19	9.89	7.18
	More than 50 years old	43.88	15.68	18.06	57.50	17.54
	Total workforce	8,796	8,160	7,530	1,953	1,936
Mexico	By age group	62	80	95	13	23
	Up to 30 years old	14	20	30	6	7
	Between 31 and 50 years old	38	47	55	6	16
	More than 50 years old	10	13	10	1	0
	By age group (%)	6.82	10.27	12.91	6.40	13.94
	Up to 30 years old	5.67	11.7	16.3	7.32	11.67
	Between 31 and 50 years old	6.47	8.69	11.25	5.13	16
	More than 50 years old	13.33	19.4	15.87	25.00	0
	Total workforce	909	779	736	203	165



Persons leaving the company by region, gender and age group							
		Men			Women		
		2018	2017	2016	2018	2017	2016
Rest of countries	By age group	45	14	11	20	7	5
	Up to 30 years old	4	2	0	3	1	0
	Between 31 and 50 years old	29	11	10	15	6	5
	More than 50 years old	12	1	1	2	0	0
	By age group (%)	18.99	6.25	8.27	20.41	18.92	17.24
	Up to 30 years old	21.05	5.88	0	17.65	33.33	0
	Between 31 and 50 years old	15.18	6.56	8.93	20.55	19.35	20
	More than 50 years old	44.44	4.76	8.33	25.00	0	0
	Total workforce	237	218	133	98	73	29
Iberdrola total	By age group	2,826	1,952	1,931	816	737	564
	Up to 30 years old	293	242	254	117	113	106
	Between 31 and 50 years old	839	638	614	317	288	242
	More than 50 years old	1694	1,072	1,063	382	336	216
	By age group (%)	10.82	7.44	7.45	10.25	9.18	6.91
	Up to 30 years old	6.97	6.31	6.58	9.94	10.38	9.68
	Between 31 and 50 years old	5.73	4.55	4.53	6.50	5.88	4.86
	More than 50 years old	23.27	12.8	12.5	20.04	16.45	10.36
	Total workforce	26,117	26,229	25,925	7,961	8,026	8,157



Redundancies by region, gender and age group			
		Men	Women
Spain	By age group	13	2
	Up to 30 years old	0	1
	Between 31 and 50 years old	7	0
	More than 50 years old	6	1
	By age group (%)	0.16	0.10
	Up to 30 years old	0.00	1.00
	Between 31 and 50 years old	0.16	0.00
	More than 50 years old	0.17	0.19
United Kingdom	By age group	8	1
	Up to 30 years old	4	1
	Between 31 and 50 years old	2	0
	More than 50 years old	2	0
	By age group (%)	0.21	0.05
	Up to 30 years old	0.68	0.52
	Between 31 and 50 years old	0.10	0.00
	More than 50 years old	0.17	0.00
United States	By age group	23	22
	Up to 30 years old	5	2
	Between 31 and 50 years old	12	15
	More than 50 years old	6	5
	By age group (%)	0.50	1.19
	Up to 30 years old	0.97	1.29
	Between 31 and 50 years old	0.56	1.70
	More than 50 years old	0.31	0.62
Brazil	By age group	617	141
	Up to 30 years old	81	20
	Between 31 and 50 years old	241	57
	More than 50 years old	295	64
	By age group (%)	7.01	7.22
	Up to 30 years old	3.26	3.17
	Between 31 and 50 years old	4.42	4.74
	More than 50 years old	34.71	53.33
Mexico	By age group	11	2
	Up to 30 years old	3	0
	Between 31 and 50 years old	8	2
	More than 50 years old	0	0
	By age group (%)	1.21	0.99
	Up to 30 years old	1.21	0.00
	Between 31 and 50 years old	1.36	1.71
	More than 50 years old	0.00	0.00



Redundancies by region, gender and age group			
		Men	Women
Rest of countries	By age group	0	0
	Up to 30 years old	0	0
	Between 31 and 50 years old	0	0
	More than 50 years old	0	0
	By age group (%)	0.00	0.00
	Up to 30 years old	0.00	0.00
	Between 31 and 50 years old	0.00	0.00
	More than 50 years old	0.00	0.00
	By age group	672	168
	Up to 30 years old	93	24
Iberdrola total	Between 31 and 50 years old	270	74
	More than 50 years old	309	70
	By age group (%)	2.57	2.11
	Up to 30 years old	2.21	2.04
	Between 31 and 50 years old	1.84	1.52
	More than 50 years old	4.24	3.67



Redundancies by region, gender and professional category			
		Men	Women
Spain	By professional category	13	2
	Management team	3	1
	Middle managers and skilled technicians	8	1
	Skilled workers and support personnel	2	0
	By professional category (%)	0.16	0.10
	Management team	0.74	1.06
	Middle managers and skilled technicians	0.24	0.07
	Skilled workers and support personnel	0.05	0.00
United Kingdom	By professional category	8	1
	Management team	0	0
	Middle managers and skilled technicians	2	0
	Skilled workers and support personnel	6	1
	By professional category (%)	0.21	0.05
	Management team	0.00	0.00
	Middle managers and skilled technicians	0.08	0.00
	Skilled workers and support personnel	0.49	0.13
United States	By professional category	23	22
	Management team	1	0
	Middle managers and skilled technicians	9	14
	Skilled workers and support personnel	13	8
	By professional category (%)	0.50	1.19
	Management team	2.44	0.00
	Middle managers and skilled technicians	0.54	1.83
	Skilled workers and support personnel	0.45	0.75
Brazil	By professional category	617	141
	Management team	9	1
	Middle managers and skilled technicians	142	78
	Skilled workers and support personnel	466	62
	By professional category (%)	7.01	7.22
	Management team	12.00	4.76
	Middle managers and skilled technicians	8.60	7.11
	Skilled workers and support personnel	6.59	7.43
Mexico	By professional category	11	2
	Management team	0	0
	Middle managers and skilled technicians	10	2
	Skilled workers and support personnel	1	0
	By professional category (%)	1.21	0.99
	Management team	0.00	0.00
	Middle managers and skilled technicians	2.05	1.16
	Skilled workers and support personnel	0.25	0.00



Redundancies by region, gender and professional category			
		Men	Women
Rest of countries	By professional category	0	0
	Management team	0	0
	Middle managers and skilled technicians	0	0
	Skilled workers and support personnel	0	0
	By professional category (%)	0.00	0.00
	Management team	0.00	0.00
	Middle managers and skilled technicians	0.00	0.00
	Skilled workers and support personnel	0.00	0.00
Iberdrola total	By professional category	672	168
	Management team	13	2
	Middle managers and skilled technicians	171	95
	Skilled workers and support personnel	488	71
	By professional category (%)	2.57	2.11
	Management team	1.97	1.18
	Middle managers and skilled technicians	1.76	2.09
	Skilled workers and support personnel	3.09	2.18



Average seniority of workforce by region (years)	2018
Spain	19.64
United Kingdom	15.90
United States	14.07
Brazil	7.78
Mexico	6.05
Rest of countries	6.32
Iberdrola total	13.66

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Benefits offered ¹³³	2018					
	Life insurance	Medical insurance	Disability insurance	Maternity/paternity leave	Pension fund	Shares
Spain	All	All	All	All	All	N/A
United Kingdom	All	All	N/A	All	All	All
United States	All	All	Full-time	All	All	N/A
Brazil	All ¹³⁴	All ¹³⁵	All	All ¹³⁶	All	All ¹³⁷
Mexico	Full-time	Full-time	All	All	Full-time	Full-time

¹³³ All: Applies to both full-time and part-time employees.

¹³⁴ Valid for all employees (excluding non-executive employees of Elektro), including officers, interns and trainees

¹³⁵ Excluding interns.

¹³⁶ Maternity/paternity leave (employees covered by collective bargaining agreement).

¹³⁷ Elektro executives. (The share programme was paid in cash, the last delivery will occur in March 2019. There is no new programme contemplating the grant of shares).



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Leaves from and returns to work due to maternity/paternity, by region and gender									
	Men			Women			Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Employees entitled to parental leave									
Spain	7,852	8,313	8,408	1,970	1,983	1,987	9,822	10,296	10,395
United Kingdom	3,721	4,094	4,280	1,890	1,973	2,093	5,611	6,067	6,373
United States	4,602	4,665	4,838	1,847	1,896	2,011	6,449	6,561	6,849
Brazil	8,796	8,160	7,530	1,953	1,936	1,899	10,749	10,096	9,429
Mexico	909	779	736	203	165	138	1,112	944	874
Rest of countries	237	218	133	98	73	29	335	291	162
Total	26,117	26,299	25,295	7,961	8,026	8,157	34,078	34,255	34,082
Employees taking parental leave									
Spain	21	31	276	130	145	158	151	176	434
United Kingdom	36	39	26	147	130	151	183	169	177
United States	0	0	0	53	48	125	53	48	125
Brazil	370	274	132	98	105	18	468	379	150
Mexico	10	0	0	12	9	10	22	9	10
Rest of countries	4	1	0	4	3	1	8	4	1
Total	441	345	434	444	440	463	885	785	897
Employees that returned to work after parental leave ended									
Spain	21	29	N/Av.	126	114	N/Av.	147	143	N/Av.
United Kingdom	36	39	N/Av.	73	73	N/Av.	109	112	N/Av.
United States	76	0	N/Av.	53	48	N/Av.	129	48	N/Av.
Brazil	369	290	N/Av.	98	103	N/Av.	467	393	N/Av.
Mexico	10	4	N/Av.	12	10	N/Av.	22	14	N/Av.
Rest of countries	4	1	N/Av.	4	1	N/Av.	8	2	N/Av.
Total	516	363	N/AV.	366	349	N/AV.	871	712	N/AV.
Employees that returned to work after parental leave ended that were still employed 12 months after their return to work.									
Spain	20	28	N/Av.	132	114	N/Av.	152	142	N/Av.
United Kingdom	40	28	N/Av.	68	80	N/Av.	108	108	N/Av.
United States	73	41	N/Av.	49	137	N/Av.	122	178	N/Av.
Brazil	230	226	N/Av.	76	74	N/Av.	306	300	N/Av.
Mexico	10	4	N/Av.	12	6	N/Av.	22	10	N/Av.
Rest of countries	0	1	N/Av.	0	0	N/Av.	0	1	N/Av.
Total	373	328	N/AV.	337	411	N/AV.	710	739	N/AV.
Return to work rate									
Spain	100	93.55	N/Av.	97.41	78.62	N/Av.	97.76	86.08	N/Av.
United Kingdom	100	100.00	N/Av.	49.66	56.15	N/Av.	59.56	78.08	N/Av.
United States	N/A	N/A	N/Av.	100.00	100.00	N/Av.	100.00	100.00	N/Av.
Brazil	99.73	105.84	N/Av.	100.00	98.10	N/Av.	99.57	101.97	N/Av.
Mexico	100.00	100.00	N/Av.	100.00	111.11	N/Av.	100.00	55.56	N/Av.
Rest of countries	100.00	100.00	N/Av.	100.00	33.33	N/Av.	100.00	66.67	N/Av.
Total	117.01¹³⁸	105.22	N/AV.	82.34	79.32	N/AV.	99.61	92.27	N/AV.

¹³⁸ Greater than 100% because employees who were entitled to leave in 2017 returned to work in 2018


EU15

Employees eligible to retire in the next 5 years							
		By professional category (no.)			By professional category (%)		
		2018	2017	2016	2018	2017	2016
Spain	Management team	55	55	46	11.06	11.11	11.31
	Middle managers and skilled technicians	344	396	303	7.33	8.38	6.18
	Skilled workers and support personnel	658	850	606	14.22	16.74	12.53
	Total	1,057	1,301	955	10.76	12.64	9.56
United Kingdom	Management team	2	5	6	1.42	3.6	5.04
	Middle managers and skilled technicians	173	222	300	5.00	11.84	12.20
	Skilled workers and support personnel	224	286	320	11.14	13.83	14.66
	Total	399	513	626	7.11	10.32	10.80
United States	Management team	14	80	36	25.93	49.08	39.88
	Middle managers and skilled technicians	834	1,109	685	34.41	40.56	32.00
	Skilled workers and support personnel	1,573	1,553	726	39.61	42.39	29.78
	Total	2,421	2,742	1,447	37.54	41.79	30.96
Brazil	Management team	7	13	2	7.29	14.13	7.14
	Middle managers and skilled technicians	153	379	666	5.57	13.51	1.37
	Skilled workers and support personnel	222	571	383	2.81	7.93	0.30
	Total	382	963	1,051	3.55	9.54	1.17
Mexico	Management team	1	2	2	3.7	7.14	1.09
	Middle managers and skilled technicians	21	25	14	3.18	4.27	2.14
	Skilled workers and support personnel	5	4	3	1.18	1.21	1.65
	Total	27	31	19	2.43	3.28	1.78
Rest of countries	Management team	2	2	1	15.38	18.18	9.09
	Middle managers and skilled technicians	2	2	1	0.8	0.95	0.47
	Skilled workers and support personnel	0	0	0	0	0	0.00
	Total	4	4	2	1.19	1.37	2.90
Iberdrola total	Management team	81	157	93	9.78	16.92	15.63
	Middle managers and skilled technicians	1,527	2,133	1,969	10.72	16.89	13.67
	Skilled workers and support personnel	2,682	3,264	2,038	14.11	17.50	15.58
	Total	4,290	5,554	4,100	12.59	16.22	14.71



Employees eligible to retire in the next 10 years							
		By professional category (no.)			By professional category (%)		
		2018	2017	2016	2018	2017	2016
Spain	Management team	135	149	120	27.11	30.10	25.86
	Middle managers and skilled technicians	824	931	809	17.54	19.70	16.83
	Skilled workers and support personnel	1,607	1,845	1,689	34.73	36.34	33.94
	Total	2,566	2,925	2,618	26.12	28.41	25.70
United Kingdom	Management team	29	28	29	20.57	20.14	22.30
	Middle managers and skilled technicians	611	713	823	17.66	32.49	33.32
	Skilled workers and support personnel	518	646	739	25.76	31.95	36.49
	Total	1,158	1,387	1,591	20.64	26.22	26.85
United States	Management team	15	94	80	27.78	57.67	53.99
	Middle managers and skilled technicians	1,027	1,488	1,263	42.37	54.43	43.60
	Skilled workers and support personnel	1,984	2,032	1,451	49.96	55.46	40.23
	Total	3,026	3,614	2,794	46.92	55.08	41.98
Brazil	Management team	8	24	7	8.33	17.86	21.43
	Middle managers and skilled technicians	212	484	905	7.71	5.46	4.27
	Skilled workers and support personnel	318	959	634	4.02	6.06	4.85
	Total	538	1,467	1,546	5.01	6.04	4.98
Mexico	Management team	6	5	5	22.22	26.09	5.43
	Middle managers and skilled technicians	61	32	26	9.23	17.25	6.24
	Skilled workers and support personnel	22	20	15	5.19	13.32	7.13
	Total	89	57	46	8	14.53	6.86
Rest of countries	Management team	4	1	1	30.77	9.09	9.09
	Middle managers and skilled technicians	10	4	2	3.98	1.90	0.47
	Skilled workers and support personnel	3	0	0	4.23	0.00	0.00
	Total	17	5	3	5.07	7.25	2.90
Iberdrola total	Management team	197	301	242	23.77	32.44	31.02
	Middle managers and skilled technicians	2,745	3,652	3,828	19.27	24.88	25.72
	Skilled workers and support personnel	4,452	5,502	4,528	23.42	29.50	31.73
	Total	7,394	9,455	8,598	21.70	27.60	28.96



Workplace Health and Safety

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Employees represented on health and safety committees, by region (%)	2018	2017	2016
Spain	97.50	96.88	95.89
United Kingdom	100.00	100.00	94.68
United States	100.00	100.00	99.40
Brazil	100.00	100.00	90.76
Mexico	100.00	100.00 ¹³⁹	100.00
Rest of countries	31.94	37.46	66.05
Iberdrola total	98.61	98.53	95.70

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Number of accidents by region and gender				
		2018	2017	2016
Spain	Men	88	69	83
	Women	5	13	8
	Total	93	82	91
United Kingdom	Men	47	61	74
	Women	11	31	27
	Total	58	92	101
United States	Men	161	176	154
	Women	13	33	20
	Total	174	209	174
Brazil	Men	66	69	89
	Women	7	0	10
	Total	73	69	99
Mexico	Men	1	1	6
	Women	0	2	0
	Total	1	3	6
Rest of countries	Men	0	0	1
	Women	0	0	0
	Total	0	0	1
Iberdrola total	Men	363	376	407
	Women	36	79	65
	Total	399	455	472

¹³⁹ There has been a recalculation of the data from 2016 and 2017, including the Renewables and Engineering businesses.



Number of accidents by type, region and gender										
Accident types	Men			Women			Total			
	2018	2017	2016	2018	2017	2016	2018	2017	2016	
Spain	Fatal	0	0	0	0	0	0	0	0	0
	With leave	23	24	25	1	0	1	24	24	26
	Without leave	65	58	58	4	0	7	69	58	65
United Kingdom	Fatal	0	0	0	0	0	0	0	0	0
	With leave	6	3	7	0	0	0	6	3	7
	Without leave	41	58	67	11	31	27	52	89	94
United States	Fatal	0	0	0	0	0	0	0	0	0
	With leave	35	40	38	3	3	8	38	43	46
	Without leave	126	136	116	10	30	12	136	166	128
Brazil	Fatal	0	0	0	0	0	0	0	0	0
	With leave	11	34	23	1	0	3	12	34	26
	Without leave	55	35	66	6	0	7	61	35	73
Mexico	Fatal	0	0	0	0	0	0	0	0	0
	With leave	0	0	2	0	0	0	0	0	2
	Without leave	1	1	4	0	2	0	1	3	4
Rest of countries	Fatal	0	0	0	0	0	0	0	0	0
	With leave	0	0	1	0	0	0	0	0	1
	Without leave	0	0	0	0	0	0	0	0	0
Iberdrola total	Fatal	0	0	0	0	0	0	0	0	0
	With leave	75	101	96	5	3	12	80	104	108
	Without leave	288	265	311	31	76	53	319	341	364



Accident rate by region ¹⁴⁰				
		2018	2017	2016
Spain	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	0	1	1
	Number of lost days	1,788	1,558	998
	Injury rate	1,65	1.77	1.87
	Occupational disease rate (ODR)	0.01	0.00	0.01
	Severity indices	0.12	0.11	0.06
United Kingdom	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	0	1	0
	Number of lost days	154	214	164
	Injury rate	0,64	0.28	0.61
	Occupational disease rate (ODR)	0.00	0.02	0.00
	Severity indices	0.02	0.02	0.02
United States	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	0	1	0
	Number of lost days	1,518	2,141	1,274
	Injury rate	2.97	3.27	3.49
	Occupational disease rate (ODR)	0.00	0.08	0.00
	Severity indices	0.12	0.16	0.10
Brazil	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	3	10	0
	Number of lost days	469	461	326
	Injury rate	0.58	1.99	1.48
	Occupational disease rate (ODR)	0.01	0.01	0.01
	Severity indices	0.02	0.03	0.02
Mexico	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	0	0	0
	Number of lost days	0	0	105
	Injury rate	0.00	0.00	1.37
	Occupational disease rate (ODR)	0.00	0.00	0.00
	Severity indices	0.00	0.08	0.07
Rest of countries	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	0	0	0
	Number of lost days	0	0	10
	Injury rate	0.00	0.00	3.22
	Occupational disease rate (ODR)	0.00	0.00	0.00
	Severity indices	0.00	0.00	0.03
Iberdrola total	Number of fatalities - company	0	0	0
	Number of fatalities - subcontractor	3	13	1
	Number of lost days	3,929	4,374 ¹⁴¹	2,877
	Frequency ratio	1,37	1.75	1.82
	Occupational disease rate (ODR)	0.01	0.02	0.01
	Severity index	0.07	0.07	0.05

¹⁴⁰ Methodology for calculating the indicators:

- Injury rate (IR) = (number of accidents with leave*1,000,000)/hours worked.
- Occupational disease rate (ODR) = (number of occupational disease cases/hours worked)*200,000.
- Severity index = (calendar days lost per accident, as from first day of leave/hours worked)*1,000.

¹⁴¹ In 2017 there was a lower number of accidents with leave but a higher mayor number of lost days.



		Absenteeism by region and gender								
		Men			Women			Total		
		2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Number of sick leaves per year	1,275	1,381	1,486	464	545	654	1,739	1,926	2,140
	Lost days	48,243	67,341	66,689	16,001	23,650	25,450	64,244	90,991	92,139
	Lost hours	426,189	N/Av.	N/Av.	128,185	N/Av.	N/Av.	554,995	N/Av.	N/Av.
United Kingdom	Number of sick leaves per year	1,407	1,443	1,632	928	1,047	1,144	2,335	2,490	2,776
	Lost days	26,232	26,491	29,835	19,173	19,986	23,081	45,405	46,477	52,916
	Lost hours	193,746	N/Av.	N/Av.	126,185	N/Av.	N/Av.	319,931	N/Av.	N/Av.
United States	Number of sick leaves per year	3,523	3,587	3,147	1,616	1,721	1,653	5,139	5,308	4,800
	Lost days	21,831	20,848	21,924	13,081	13,173	14,350	34,912	34,021	36,274
	Lost hours	187,661	N/Av.	N/Av.	94,199	N/Av.	N/Av.	281,860	N/Av.	N/Av.
Brazil	Number of sick leaves per year	3,088	886	3,833	1,586	666	2,029	4,674	1,552	5,862
	Lost days	12,228	11,155	11,900	8,444	6,199	6,213	20,672	17,354	18,113
	Lost hours	293,472	N/Av.	N/Av.	202,656	N/Av.	N/Av.	496,128	N/Av.	N/Av.
Mexico	Number of sick leaves per year	78	123	116	16	48	37	94	171	153
	Lost days	1,078	120	87	240	62	110	1,318	182	197
	Lost hours	8,596	N/Av.	N/Av.	1,914	N/Av.	N/Av.	10,510	N/Av.	N/Av.
Rest of countries	Number of sick leaves per year	0	0	3	0	0	0	0	0	3
	Lost days	0	0	26	0	0	0	0	0	26
	Lost hours	0	N/Av.	N/Av.	0	N/Av.	N/Av.	0	N/Av.	N/Av.
Iberdrola total	Number of sick leaves per year	9,371	7,420	10,217	4,610	4,610	5,517	13,981	11,447	15,734
	Lost days	109,612	125,955	130,461	56,939	62,279	69,204	166,551	189,025	199,665
	Lost hours	1,109,664	N/Av.	N/Av.	553,760	553,800	N/Av.	1,663,424	N/Av.	N/Av.

Absenteeism rate (AR) by region ¹⁴²			
	2018	2017	2016
Spain	6,842.97 ¹⁴³	N/Av.	N/Av.
United Kingdom	6,667.40	6,989.38	7,234.95
United States	4,361.44	4,135.13	4,468.46
Brazil	1,898.90	1,626.70	1,651.9
Mexico	1.658.48 ¹⁴⁴	N/Av.	N/Av.
Rest of countries	0.00	0.00	189.54
Iberdrola total	4,615.21	N/AV.	N/AV.

¹⁴² Methodology for calculating the indicators (per GRI standard):

- Absenteeism rate (AR) = (missed days due to absenteeism, as from first day of leave/days worked)*200,000.

¹⁴³ The data for Spain and Mexico has been recalculated due to a change in methodology, the information for 2016 and 2017 cannot be recalculated due to a lack of data. Therefore, the information for Spain, Mexico and Iberdrola total is not comparable.

¹⁴⁴ The calculation standard has been revised in 2018.



Training and education

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Total number of training hours by professional category, region and gender										
		Men			Women			Total		
	Professional category	2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Management team	11,875	12,752	12,910	3,165	2,952	3,299	15,040	15,704	16,209
	Middle managers and skilled technicians	171,725	150,887	152,006	69,776	52,992	59,571	241,501	203,879	211,577
	Skilled workers and support personnel	190,787	197,645	207,328	10,065	11,593	11,961	200,852	209,238	219,289
	Total workforce	374,387	361,284	372,244	83,006	67,537	74,831	457,393	428,821	447,075
United Kingdom	Management team	1,981	3,061	3,510	786	1,200	141	2,767	4,261	3,651
	Middle managers and skilled technicians	49,282	64,319	84,433	12,702	15,282	7,589	61,984	79,601	92,022
	Skilled workers and support personnel	93,238	88,230	51,319	2,683	6,141	5,279	95,921	94,371	56,598
	Total workforce	144,501	155,610	139,262	16,171	22,623	13,009	160,672	178,233	152,271
United States	Management team	574	1,036	1,576	269	540	587	843	1,576	2,163
	Middle managers and skilled technicians	31,256	42,425	50,698	14,168	13,524	25,100	45,424	55,949	75,798
	Skilled workers and support personnel	107,581	154,129	212,079	35,164	27,443	89,160	142,745	181,572	301,239
	Total workforce	139,411	197,590	264,353	49,601	41,507	114,847	189,012	239,097	379,200
Brazil	Management team	2,534	2,354	1,186	766	400	217	3,300	2,754	1,403
	Middle managers and skilled technicians	75,946	64,789	132,450	51,748	40,535	33,231	127,694	105,324	165,681
	Skilled workers and support personnel	481,863	412,476	156,809	63,551	50,193	13,622	545,414	462,669	170,431
	Total workforce	560,343	479,619	290,445	116,065	91,128	47,070	676,408	570,747	337,515
Mexico	Management team	2,433	1,968	544	883	117	522	3,316	2,085	1,066
	Middle managers and skilled technicians	42,641	28,982	19,703	15,620	8,542	3,709	58,261	37,524	23,412
	Skilled workers and support personnel	40,204	40,328	20,745	552	1,122	1,159	40,756	41,450	21,904
	Total workforce	85,278	71,278	40,992	17,055	9,781	5,390	102,333	81,059	46,382
Rest of countries	Management team	107	306	8	2	16	0	109	322	8
	Middle managers and skilled technicians	1,077	4,436	1254	237	1,198	280	1,314	5,634	1,534
	Skilled workers and support personnel	363	3,000	980	62	198	29	425	3,198	1,009
	Total workforce	1,547	7,742	2,242	301	1,412	309	1,848	9,154	2,551
Iberdrola total	Management team	19,504	21,477	19,734	5,871	5,225	4,766	25,375	26,702	24,500
	Middle managers and skilled technicians	371,927	355,838	440,544	164,251	132,073	129,480	536,178	487,911	570,024
	Skilled workers and support personnel	914,036	895,808	649,260	112,077	96,690	121,210	1,026,113	992,498	770,470
	Total workforce	1,305,467	1,273,123	1,109,538	282,199	233,988	255,456	1,587,666	1,507,111	1,364,994



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Average hours of training per employee trained, broken down by professional category, region and gender										
		Men			Women			Total		
	Professional category	2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Management team	29.98	14.83	36.37	34.77	36.44	45.19	30.88	16.69	37.87
	Middle managers and skilled technicians	51.80	42.96	47.00	52.26	40.42	47.77	51.93	42.27	47.22
	Skilled workers and support personnel	45.87	44.52	45.64	19.31	20.23	21.51	42.91	41.75	43.01
	Total workforce	47.57	41.00	45.77	42.62	34.37	39.91	46.59	39.79	44.67
United Kingdom	Management team	17.38	28.34	39.89	24.56	41.38	14.10	18.95	31.10	37.26
	Middle managers and skilled technicians	18.74	25.04	39.02	11.68	14.50	18.93	16.68	21.97	35.88
	Skilled workers and support personnel	69.89	60.39	40.28	3.41	6.82	15.35	45.18	39.95	34.98
	Total workforce	35.43	37.61	39.50	8.48	11.40	17.23	26.84	29.11	35.57
United States	Management team	12.75	9.17	15.92	14.95	10.19	15.05	13.38	9.49	15.67
	Middle managers and skilled technicians	17.60	20.30	27.27	17.51	11.65	22.86	17.57	17.21	25.63
	Skilled workers and support personnel	35.93	48.05	75.10	31.51	30.73	112.29	34.73	44.28	83.26
	Total workforce	28.95	36.52	55.28	25.53	19.70	59.48	27.97	31.80	56.49
Brazil	Management team	35.69	34.62	40.90	42.56	25.00	27.13	37.08	32.79	37.92
	Middle managers and skilled technicians	44.03	36.28	40.60	45.51	35.40	30.74	44.62	35.93	38.15
	Skilled workers and support personnel	66.17	65.37	44.64	73.38	62.43	28.20	66.94	65.04	42.65
	Total workforce	61.73	58.75	42.69	57.43	46.38	29.94	60.94	56.35	40.30
Mexico	Management team	90.11	70.29	36.27	126.11	29.25	174.00	97.54	65.16	59.20
	Middle managers and skilled technicians	93.72	69.17	78.19	94.66	64.71	67.45	93.97	68.10	76.26
	Skilled workers and support personnel	126.43	139.06	103.21	32.45	43.15	231.80	121.66	131.17	106.33
	Total workforce	106.60	96.71	87.59	90.24	60.38	85.56	103.47	90.17	87.35
Rest of countries	Management team	6.66	25.50	8.00	0.51	5.33	0	5.69	21.47	8.00
	Middle managers and skilled technicians	4.66	19.20	10.63	2.67	12.61	17.50	4.11	17.28	11.45
	Skilled workers and support personnel	3.91	12.35	6.58	4.80	22.00	4.83	4.02	12.69	6.51
	Total workforce	4.55	15.93	8.37	2.87	13.20	14.05	4.15	15.44	8.80
Iberdrola total	Management team	29.15	18.06	33.74	34.73	28.09	35.82	30.28	19.42	34.11
	Middle managers and skilled technicians	36.71	33.55	40.66	35.54	26.96	33.23	36.34	31.47	38.71
	Skilled workers and support personnel	56.49	56.16	51.92	33.74	30.16	55.40	52.62	51.81	52.44
	Total workforce	48.38	45.88	46.33	34.78	28.23	41.08	45.24	41.82	45.25



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Employees receiving performance reviews by region, professional category and gender (%)										
	Professional category	Men			Women			Total		
		2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Management team	87.68	97.55	100	84.97	90.80	97.50	87.17	96.36	29.39
	Middle managers and skilled technicians	87.61	94.58	95.84	84.56	93.66	93.41	86.73	94.31	100
	Skilled workers and support personnel	96.14	95.42	94.64	96.44	92.86	92.82	96.17	95.12	74.37
	Total	92.06	95.18	95.49	87.76	93.29	94.67	91.20	94.80	95.33
United Kingdom	Management team	100	100	98.20	96.97	100	100	99.29	100	98.56
	Middle managers and skilled technicians	99.83	100	99.42	100	100	100	99.94	100	99.61
	Skilled workers and support personnel	99.76	100	100	99.62	100	100	99.70	100	100
	Total	99.81	100	99.60	99.89	100	100	99.84	100	99.75
United States	Management team	97.56	99.11	100	100	98.04	100	98.15	98.77	100
	Middle managers and skilled technicians	97.05	98.90	99.57	97.12	98.72	99.54	97.07	98.83	99.56
	Skilled workers and support personnel	16.14	13.42	13.00	34.08	13.69	16.28	20.98	13.48	13.76
	Total	46.07	47.03	48.08	60.58	61.34	63.45	50.22	51.17	52.59
Brazil	Management team	77.33	61.64	92.31	52.38	47.37	100	71.88	58.70	96.88
	Middle managers and skilled technicians	89.35	92.78	100	88.33	90.56	86.85	88.94	91.91	98.86
	Skilled workers and support personnel	75.71	81.48	85.64	75.21	86.01	91.06	75.66	81.99	86.34
	Total	78.29	83.66	93.60	82.33	88.22	88.31	79.02	84.54	92.53
Mexico	Management team	100	100	4.55	100	100	33.33	100	100	8.00
	Middle managers and skilled technicians	100	100	69.62	100	100	73.64	100	100	70.45
	Skilled workers and support personnel	100	100	15.54	100	100	36.00	100	100	17.13
	Total	100	100	45.92	100	100	65.94	100	100	49.08
Rest of countries	Management team	80.00	75.00	66.67	100	100	100	84.62	81.82	75.00
	Middle managers and skilled technicians	90.85	62.16	61.33	82.76	61.90	27.27	88.05	62.09	53.61
	Skilled workers and support personnel	98.41	22.58	28.85	100	28.57	60.00	98.59	23.19	31.58
	Total	92.41	51.38	48.87	84.69	60.27	37.93	90.15	53.61	46.91
Iberdrola total	Management team	89.41	94.57	97.11	85.22	90.10	98.14	88.55	95.92	97.31
	Middle managers and skilled technicians	93.21	96.20	98.23	91.82	95.23	94.31	92.77	96.76	97.09
	Skilled workers and support personnel	72.64	74.91	73.13	71.25	72.15	72.95	72.40	74.09	73.10
	Total	80.70	83.58	85.13	83.28	86.00	86.18	81.30	84.15	85.38



Diversity and equal opportunity

Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership and other indicators of diversity.

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Total workforce by region, gender and professional category										
		Men			Women			Total		
	Professional category	2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Management team	405	408	424	94	87	80	499	495	504
	Middle managers and skilled technicians	3,348	3,430	3,435	1,348	1,294	1,308	4,696	4,724	4,743
	Skilled workers and support personnel	4,099	4,475	4,549	528	602	599	4,627	5,077	5,148
	Total	7,852	8,313	8,408	1,970	1,983	1,987	9,822	10,296	10,395
United Kingdom	Management team	108	111	111	33	28	28	141	139	139
	Middle managers and skilled technicians	2,388	2,547	2,576	1,071	1,068	1,054	3,459	3,615	3,630
	Skilled workers and support personnel	1,225	1,436	1,593	786	877	1,011	2,011	2,313	2,604
	Total	3,721	4,094	4,280	1,890	1,973	2,093	5,611	6,067	6,373
United States	Management team	41	112	104	13	51	42	54	163	146
	Middle managers and skilled technicians	1,661	1,722	1,856	763	1,012	1,097	2,424	2,734	2,953
	Skilled workers and support personnel	2,900	2,831	2,878	1,071	833	872	3,971	3,664	3,750
	Total	4,602	4,665	4,838	1,847	1,896	2,011	6,449	6,561	6,849
Brazil	Management team	75	73	26	21	19	6	96	92	32
	Middle managers and skilled technicians	1,652	1,704	3,360	1,097	1,102	1,278	2,749	2,806	4,638
	Skilled workers and support personnel	7,069	6,383	4,144	835	815	615	7,904	7,198	4,759
	Total	8,796	8,160	7,530	1,953	1,936	1,899	10,749	10,096	9,429
Mexico	Management team	21	24	22	6	4	3	27	28	25
	Middle managers and skilled technicians	488	454	418	173	132	110	661	586	528
	Skilled workers and support personnel	400	301	296	24	29	25	424	330	321
	Total	909	779	736	203	165	138	1,112	944	874
Rest of countries	Management team	10	8	6	3	3	2	13	11	8
	Middle managers and skilled technicians	164	148	75	87	63	22	251	211	97
	Skilled workers and support personnel	63	62	52	8	7	5	71	69	57
	Total	237	218	133	98	73	29	335	291	162
Iberdrola total	Management team	660	736	693	170	192	161	830	928	854
	Middle managers and skilled technicians	9,701	10,005	11,720	4,539	4,671	4,869	14,240	14,676	16,589
	Skilled workers and support personnel	15,756	15,488	13,512	3,252	3,163	3,127	19,008	18,651	16,639
	Total	26,117	26,229	25,925	7,961	8,026	8,157	34,078	34,255	34,082



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Total workforce by region, gender and professional category (%)										
Professional category	Men			Women			Total			
	2018	2017	2016	2018	2017	2016	2018	2017	2016	
Spain	Management team	4%	4%	4%	1%	1%	1%	5%	5%	5%
	Middle managers and skilled technicians	34%	33%	33%	14%	13%	12%	48%	46%	46%
	Skilled workers and support personnel	42%	43%	44%	5%	6%	6%	47%	49%	50%
	Total	80%	81%	81%	20%	19%	19%	100%	100%	100%
United Kingdom	Management team	2%	2%	2%	1%	0%	0%	3%	2%	2%
	Middle managers and skilled technicians	42%	42%	40%	19%	18%	17%	61%	60%	57%
	Skilled workers and support personnel	22%	24%	25%	14%	14%	16%	36%	38%	41%
	Total	66%	67%	67%	34%	33%	33%	100%	100%	100%
United States	Management team	1%	2%	2%	0%	1%	1%	1%	2%	2%
	Middle managers and skilled technicians	25%	26%	27%	12%	15%	16%	37%	42%	43%
	Skilled workers and support personnel	45%	43%	42%	17%	13%	12%	62%	56%	55%
	Total	71%	71%	71%	29%	29%	29%	100%	100%	100%
Brazil	Management team	1%	1%	0%	0%	0%	0%	1%	1%	0%
	Middle managers and skilled technicians	15%	17%	36%	10%	11%	14%	25%	28%	49%
	Skilled workers and support personnel	66%	63%	44%	8%	8%	7%	74%	71%	50%
	Total	82%	81%	80%	18%	19%	20%	100%	100%	100%
Mexico	Management team	2%	3%	3%	0%	0%	0%	2%	3%	3%
	Middle managers and skilled technicians	44%	48%	48%	16%	14%	12%	60%	62%	60%
	Skilled workers and support personnel	36%	32%	34%	2%	3%	3%	38%	35%	37%
	Total	82%	83%	84%	18%	17%	16%	100%	100%	100%
Rest of countries	Management team	3%	3%	4%	1%	1%	1%	4%	4%	5%
	Middle managers and skilled technicians	49%	51%	46%	26%	22%	14%	75%	73%	60%
	Skilled workers and support personnel	19%	21%	32%	2%	2%	3%	21%	24%	35%
	Total	71%	75%	82%	29%	25%	18%	100%	100%	100%
Iberdrola total	Management team	2%	2%	2%	0%	1%	0%	2%	3%	3%
	Middle managers and skilled technicians	29%	29%	35%	13%	14%	14%	42%	43%	49%
	Skilled workers and support personnel	46%	45%	40%	10%	9%	9%	56%	54%	49%
	Total	77%	77%	76%	23%	23%	24%	100%	100%	100%



405-1

Total workforce by region, gender and age										
	Age	Men			Women			Total		
		2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Up to 30 years old	341	329	401	100	74	88	441	403	489
	Between 31 and 50 years old	4,298	4,284	4,370	1,332	1,323	1,367	5,630	5,607	5,737
	More than 50 years old	3,213	3,700	3,637	538	586	532	3,751	4,286	4,169
	Total	7,852	8,313	8,408	1,970	1,983	1,987	9,822	10,296	10,395
United Kingdom	Up to 30 years old	592	601	605	192	194	210	784	795	815
	Between 31 and 50 years old	1,965	2,069	2,177	1,272	1,341	1,407	3,237	3,410	3,584
	More than 50 years old	1,164	1,424	1,498	426	438	476	1,590	1,862	1,974
	Total	3,721	4,094	4,280	1,890	1,973	2,093	5,611	6,067	6,373
United States	Up to 30 years old	515	492	506	155	157	161	670	649	667
	Between 31 and 50 years old	2,136	2,119	2,197	881	902	950	3,017	3,021	3,147
	More than 50 years old	1,951	2,054	2,135	811	837	900	2,762	2,891	3,035
	Total	4,602	4,665	4,838	1,847	1,896	2,011	6,449	6,561	6,849
Brazil	Up to 30 years old	2,488	2,212	2,155	630	595	596	3,118	2,807	2,751
	Between 31 and 50 years old	5,458	4,838	4,218	1,203	1,170	1,133	6,661	6,008	5,351
	More than 50 years old	850	1,110	1,157	120	171	170	970	1,281	1,327
	Total	8,796	8,160	7,530	1,953	1,936	1,899	10,749	10,096	9,429
Mexico	Up to 30 years old	247	171	184	82	60	38	329	231	222
	Between 31 and 50 years old	587	541	489	117	100	95	704	641	584
	More than 50 years old	75	67	63	4	5	5	79	72	68
	Total	909	779	736	203	165	138	1,112	944	874
Rest of countries	Up to 30 years old	19	30	9	17	9	2	36	39	11
	Between 31 and 50 years old	191	167	112	73	58	25	264	225	137
	More than 50 years old	27	21	12	8	6	2	35	27	14
	Total	237	218	133	98	73	29	335	291	162
Iberdrola total	Up to 30 years old	4,202	3,835	3,859	1,176	1,089	1,095	5,378	4,924	4,954
	Between 31 and 50 years old	14,635	14,018	13,564	4,878	4,894	4,977	19,513	18,912	18,541
	More than 50 years old	7,280	8,376	8,502	1,907	2,043	2,085	9,187	10,419	10,587
	Total	26,117	26,229	25,925	7,961	8,026	8,157	34,078	34,255	34,082



405-1

Total workforce by region, gender and age (%)										
		Men			Women			Total		
	Age	2018	2017	2016	2018	2017	2016	2018	2017	2016
Spain	Up to 30 years old	3%	3%	4%	1%	1%	1%	4%	4%	5%
	Between 31 and 50 years old	44%	42%	42%	14%	13%	13%	58%	54%	55%
	More than 50 years old	33%	36%	35%	5%	5%	5%	38%	42%	40%
	Total	80%	81%	81%	20%	19%	19%	100%	100%	100%
United Kingdom	Up to 30 years old	11%	10%	9%	3%	3%	3%	14%	13%	13%
	Between 31 and 50 years old	35%	34%	34%	23%	22%	22%	58%	56%	56%
	More than 50 years old	21%	24%	24%	8%	7%	8%	28%	31%	31%
	Total	66%	67%	67%	34%	33%	33%	100%	100%	100%
United States	Up to 30 years old	8%	8%	8%	2%	2%	2%	10%	10%	10%
	Between 31 and 50 years old	33%	32%	32%	14%	14%	14%	47%	46%	46%
	More than 50 years old	30%	31%	31%	13%	13%	13%	43%	44%	44%
	Total	71%	71%	71%	29%	29%	29%	100%	100%	100%
Brazil	Up to 30 years old	23%	22%	23%	6%	6%	6%	29%	28%	29%
	Between 31 and 50 years old	51%	48%	45%	11%	11%	12%	62%	60%	57%
	More than 50 years old	8%	11%	12%	1%	2%	2%	9%	13%	14%
	Total	82%	81%	80%	18%	19%	20%	100%	100%	100%
Mexico	Up to 30 years old	22%	18%	21%	7%	6%	4%	29%	24%	25%
	Between 31 and 50 years old	53%	57%	56%	11%	11%	11%	64%	68%	67%
	More than 50 years old	7%	7%	7%	0%	1%	1%	7%	8%	8%
	Total	82%	83%	84%	18%	17%	16%	100%	100%	100%
Rest of countries	Up to 30 years old	6%	10%	6%	5%	3%	1%	11%	13%	7%
	Between 31 and 50 years old	57%	58%	69%	22%	20%	15%	79%	77%	85%
	More than 50 years old	8%	7%	8%	2%	2%	1%	10%	9%	9%
	Total	71%	75%	82%	29%	25%	18%	100%	100%	100%
Iberdrola total	Up to 30 years old	12%	11%	11%	3%	3%	3%	15%	14%	15%
	Between 31 and 50 years old	43%	41%	40%	14%	14%	15%	57%	55%	54%
	More than 50 years old	22%	25%	25%	6%	6%	6%	28%	30%	31%
	Total	77%	77%	76%	23%	23%	24%	100%	100%	100%



405-1

Breakdown of Board of Directors by gender and age group						
Number of members of the Board	2018		2017		2016	
	no.	%	no.	%	no.	%
Men						
Up to 30 years old	0	0%	0	0%	0	0%
Between 31 and 50 years old	1	7%	1	7%	1	7%
More than 50 years old	8	57%	8	57%	8	57%
Women						
Up to 30 years old	0	0%	0	0%	0	0%
Between 31 and 50 years old	1	7%	1	7%	2	14%
More than 50 years old	4	29%	4	29%	3	21%

**Supplier social assessment****414-1 414-2**

Volume of general procurement purchases in countries considered to be at risk (%)	2018
Brazil	17.33
Mexico	8.56

Volume of fuel purchases in countries considered to be at risk (%)	2018
Brazil	3
Mexico	37
Others (Colombia + Algeria + Nigeria + Peru + Trinidad and Tobago)	11

The standards used to identify countries at risk are the same as those described in the “Protection of Human Rights” section of Chapter “II.5. Contribution to the well-being of our communities” of this report.



Access to electricity

EU27

Residential disconnections of electricity for non payment by region (no.)		2018	2017	2016
Spain	Paid up to 48 h after disconnection	37,428	24,811	103,802
	Paid between 48 h and one week after disconnection	3,166	1,942	11,473
	Paid between one week and one month after disconnection	4,146	2,212	14,963
	Paid between one month and one year	2,131	1,095	11,465
	Paid after more than one year	0	0	0
	Outstanding and unclassified	0	0	0
	Total	46,871	30,060	141,703
United Kingdom	Paid up to 48 h after disconnection	0	0	0
	Paid between 48 h and one week after disconnection	0	0	0
	Paid between one week and one month after disconnection	0	0	0
	Paid between one month and one year	0	0	0
	Paid after more than one year	0	0	0
	Outstanding and unclassified	0	0	0
	Total	0	0	0
United States ¹⁴⁵	Paid up to 48 h after disconnection	62,878	40,229	64,437
	Paid between 48 h and one week after disconnection	35,675	7,487	9,004
	Paid between one week and one month after disconnection	3,181	3,441	4,299
	Paid between one month and one year	1,805	1,723	2,221
	Paid after more than one year	0	0	0
	Outstanding and unclassified	0	0	0
	Total	103,539	52,880	79,961
Brazil	Paid up to 48 h after disconnection	1,170,543	1,239,946	1,014,227
	Paid between 48 h and one week after disconnection	214,718	227,007	217,099
	Paid between one week and one month after disconnection	231,919	221,001	195,483
	Paid between one month and one year	193,486	178,323	174,818
	Paid after more than one year	8	7	0
	Outstanding and unclassified	0	0	48,606
	Total	1,810,674	1,866,284	1,650,233
Iberdrola total	Paid up to 48 h after disconnection	1,270,849	1,304,986	1,182,466
	Paid between 48 h and one week after disconnection	253,559	236,436	237,576
	Paid between one week and one month after disconnection	239,246	226,654	214,745
	Paid between one month and one year	197,422	181,141	188,504
	Paid after more than one year	8	7	0
	Outstanding and unclassified	0	0	48,606
	Total	1,961,084	1,949,224	1,871,897

¹⁴⁵ The 2016 and 2017 data do not include the U.S. subsidiary UI.



Residential reconnections of electricity following payment of unpaid bills, by region (no.) EU27				
		2018	2017	2016
Spain	Less than 24 h after payment	46,234	28,784	139,706
	Between 24 h and one week after payment	760	803	3,537
	More than one week after payment	141	141	173
	Unclassified	0	0	0
	Total	47,135	29,728	143,416
United Kingdom	Less than 24 h after payment	0	0	0
	Between 24 h and one week after payment	0	0	0
	More than one week after payment	0	0	0
	Unclassified	0	0	0
	Total	0	0	0
United States	Less than 24 h after payment	38,322	42,560	43,262
	Between 24 h and one week after payment	3,324	4,180	5,663
	More than one week after payment	0	7,082	5,296
	Unclassified	0	0	0
	Total	48,440	53,822	54,221
Brazil	Less than 24 h after payment	1,555,944	1,541,234	1,378,234
	Between 24 h and one week after payment	158,660	179,797	182,132
	More than one week after payment	117,787	109,172	96,599
	Unclassified	0	0	14,634
	Total	1,832,391	1,830,203	1,671,599
Iberdrola total	Less than 24 h after payment	1,640,500	1,612,578	1,561,202
	Between 24 h and one week after payment	162,744	184,780	191,332
	More than one week after payment	124,722	116,395	102,068
	Unclassified	0	0	14,634
	Total	1,927,966	1,913,753	1,869,236



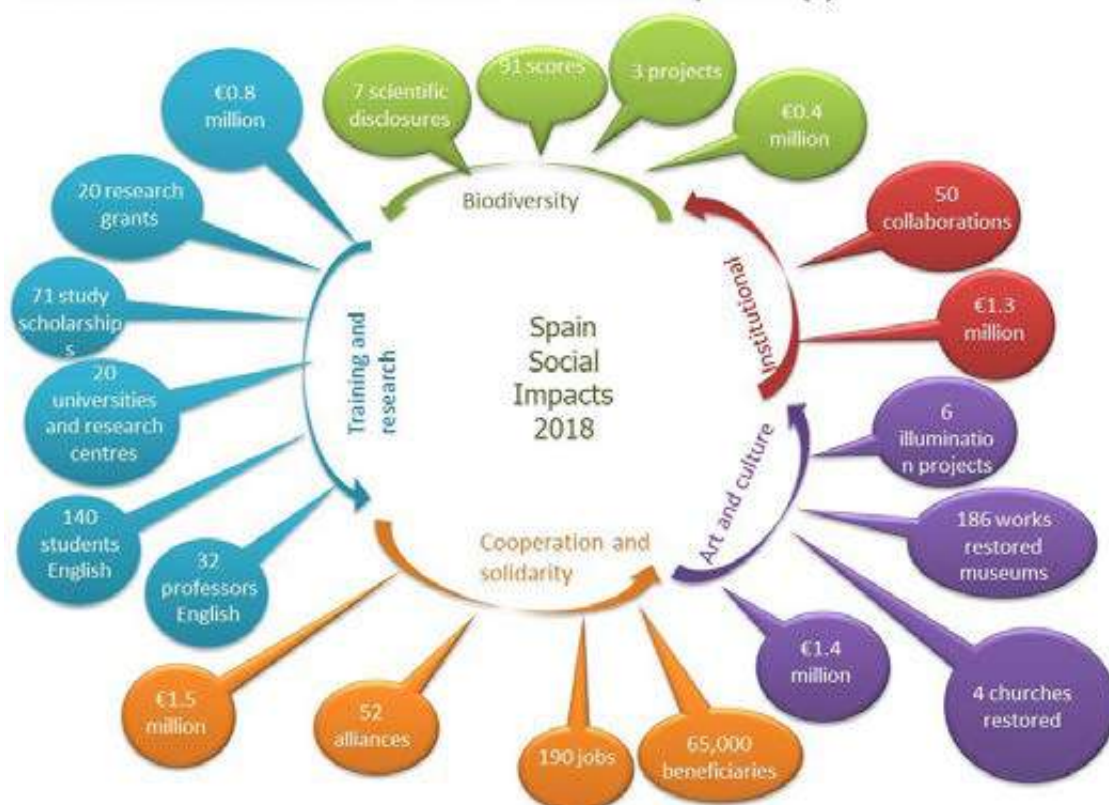
Iberdrola's contribution to the community

Outputs and impacts

Iberdrola has been measuring the results achieved by its community support programmes using various parameters. Iberdrola's foundations are applying a methodology adapted from LBG to measure outputs and impacts for its most important programmes and projects.

The charts below show the results and achievements by country during 2018:

FUNDACION IBERDROLA ESPAÑA - Results in areas of activity in 2018 (€)

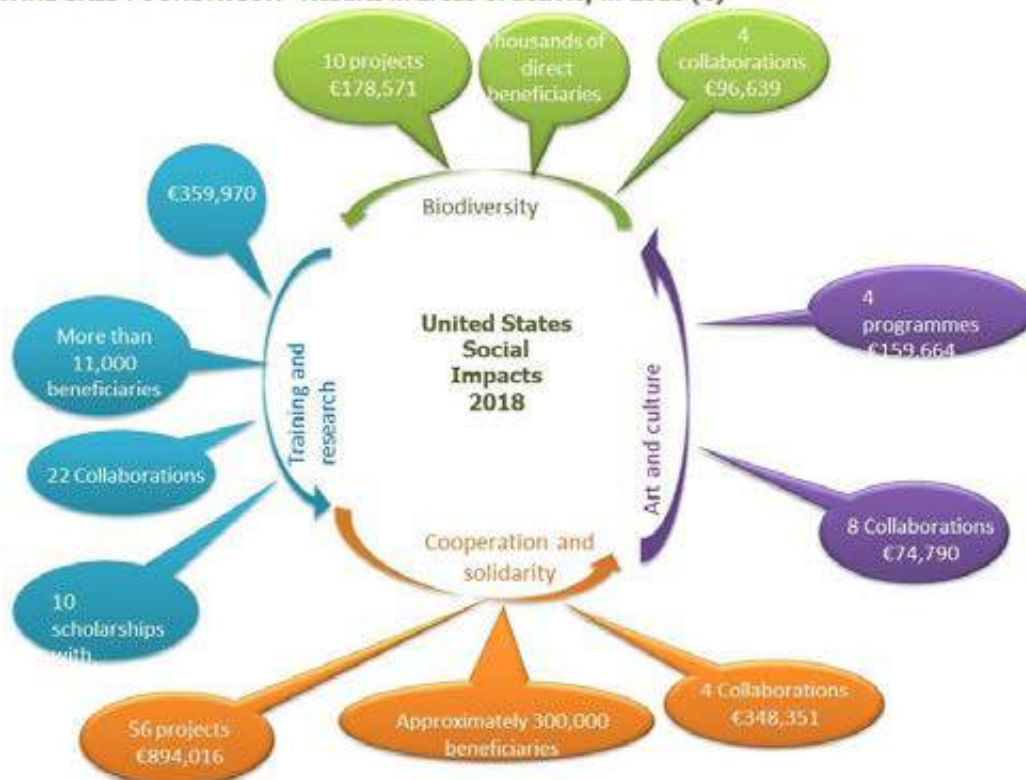




ScottishPower FOUNDATION: Results in areas of activity in 2018 (€)



AVANDGRID FOUNDATION - Results in areas of activity in 2018 (€)





INSTITUTO NEOENERGIA BRASIL - Results in areas of activity in 2018 (€)



FUNDACION IBERDROLA MEXICO - Results in areas of activity in 2018 (€)





Annex 2:

Iberdrola's Contribution

to the SDGs and Targets

of the 2030 Agenda



The information regarding the company's contribution to SDGs 7 and 13 is contained in the "Our main focus" section of Chapter I.2.

	Goal 1: End poverty			
	End poverty in all its forms everywhere			
<p>From an economic standpoint, the expansion of electricity systems drives the regional economy in the region where it occurs and creates employment opportunities, contributing to economic and social enhancement. Positive effects include:</p> <ul style="list-style-type: none"> – Facilities for the production, transmission and distribution of electrical energy are built in dispersed geographic locations. This contributes to the generation of economic activity and jobs in urban and rural environments. This can also support the revitalisation and repopulation of underpopulated rural areas. – These same facilities create significant indirect employment in the region in the form of local contracting companies, creating demand for various lodging, security, health, mechanical, supplier services, etc. – In local communities, professional training is promoted and skilled labour, such as services for building and maintaining wind farms, is boosted. – Local communities are supported through sponsorship of the initiatives of social and environmental institutions and organisations. – Due to their geographic reach, electricity activities generate fees, taxes and duties at the local, regional and national levels. <p>During the construction and operation of its facilities, Iberdrola also carries out certain infrastructure activities that are unrelated to its facilities and without a specific commercial purpose, but rather that are intended to meet the needs of the social environment, resolving existing shortcomings in the local communities.</p>	Target	GRI Indicator	Description	Pag.
	1.2.- By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.	202-1	Ratios of entry level wage to local minimum wage.	97
		203-2	Significant indirect economic impacts.	79
	1.4.- By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources , as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.	413-1	Local community engagement, impact assessments and development programmes.	217



Goal 2: Zero hunger

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

	Target	GRI Indicator	Description	Pag.
<p>One third of the food we produce is wasted on the world scale. Approximately 1,300 million tons of food are thrown into the trash each year. While food is thrown away in some countries, the reality is different in others: 815 million people (11% of the world population) suffers from malnutrition. 155 million of them are children less than 5 years old, who suffer delayed growth as a result of chronic malnutrition.</p> <p>Changes in the system for cultivation and for sustainably feeding the population, ending malnutrition, ensuring sustainability in the production systems and doubling small-scale productivity and income are some of the targets proposed by the United Nations to end hunger.</p> <p>At Iberdrola, our donations of primary products needed by groups at risk of exclusion are collected from various points at the work centres. Everything collected is distributed to needy families and people with limited resources by various local associations like Cáritas, Banco de Alimentos, Red Acoge and Casa de la Caridad, as well as directly by our volunteers. We have already distributed 27 tons of donations since we began the Operation in 2012.</p> <p>4,222 kg were collected in Spain and Portugal and 1,897 kg in Mexico at 11 work centres during 2018. Employees also participated in volunteer initiatives to distribute food at soup kitchens</p>	2.3.- By 2030, double the agricultural productivity and incomes of small-scale food producers , in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.	411-1	Total number of incidents of violations involving rights of indigenous people.	210
	2.a.- Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.	LBG	LBG contribution.	222
		203-1	Development and impact of infrastructure investments and services supported.	81
		203-2	Significant indirect economic impacts.	79



3 GOOD HEALTH AND WELL-BEING



Goal 3: Good health and well-being

Ensure healthy lives and promote well-being for all at all ages

Iberdrola has an *Occupational Safety and Health Policy* approved by the Board of Directors, which describes the principles that should guide the behaviour of the group's companies in this area. It also has a Global Occupational Safety and Health System, which is aligned with said policy and with the strictest of international standards, and incorporates the group's best practices from all of the countries where it has a presence.

Furthermore, the System is based on the principle that the group's contractors are its collaborators, and Iberdrola involves them in its occupational safety culture.

The company has a health and safety organisational structure created within a Prevention Area, within the Human Resources Division, in most countries. The companies of the group also have occupational safety and health committees, under different names, to establish channels for consultation and participation with the employee representatives in this area, to monitor indicators, and to plan and take measures to correct deficiencies and to improve the Safety and Health System.

As regards protection of the environment, leadership in the development of clean energy and respect for the environment being significant aspects of our business model, a competitive element that distinguishes us in the industry as one of the leading companies worldwide.

Iberdrola supports this vision in a benchmark Environmental Management System for all organisations of the group. This system allows for alignment of the environmental dimension within the group's sustainability model, articulating the mechanisms to measure and evaluate the group's environmental performance from the Life Cycle perspective, including in the management thereof the concept of circular economy and return on natural capital.

Target	GRI Indicator	Description	Pag.
3.4.- By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.	403-1	Employees represented on health and safety committees, by region (%).	109
	Own indicator	Programmes and projects relating to healthy living habits, balanced meals.	107
3.9.- By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	305-1	Direct greenhouse gas emissions. Scope 1 (per GHG Protocol).	152
	305-2	Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol).	153
	305-6	Emissions of ozone-depleting substances.	158
	305-7	NOx, SOx and other significant air emissions.	157
	306-2	Total weight of waste by type and disposal method.	164



Goal 4: Quality education

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

	Target	GRI Indicator	Description	Pag.
<p>Iberdrola has a <i>Knowledge Management Policy</i>, approved by the Board of Directors, the objective of which is to disseminate and share knowledge within the company, encouraging continuous learning and cultural exchange. Iberdrola reaffirms that the company's intellectual capital depends on its people, its operational and organisational structures, and its internal and external relationships with all Stakeholders. At Iberdrola, learning is thus permanent, ongoing and aligned with the strategy of the group.</p> <p>At Iberdrola, specific programmes are designed to equip its professionals with the qualifications needed to perform their roles, and to foster a culture of development, value creation and ongoing improvement that allows them to assume new responsibilities in the future.</p>	<p>4.3.- By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.</p>	404-1	Average hours of training per employee trained by gender.	118
		Own indicator	<i>Iberdrola U</i> programme.	96
	<p>4.4.- By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.</p>	404-1 Shift of SDG indicator C040501	Average hours of training per employee trained.	118
		404-2	Programmes for skills management and lifelong learning.	116



Goal 5: Gender equality

Achieve gender equality and empower all women and girls

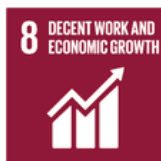
	Target	GRI Indicator	Description	Pag.
<p>The development of labour relations based on equal opportunity, non-discrimination and respect for diversity are key goals in Iberdrola's <i>Human Resources Framework Policy</i>. The company also has an <i>Equal Opportunity and Reconciliation Policy</i>, which strengthens the commitments to equal treatment between men and women.</p> <p>The group's companies, in the various countries in which they operate, promote equal opportunity and respect diversity, effective equality between men and women in access to employment, training, promotion and working conditions.</p> <p>Iberdrola has appropriate procedures in place to prevent any discrimination for reasons of gender, marital status, pregnancy, sexual orientation or other any personal condition that is unrelated to job-performance requirements.</p> <p>The principles of non-discrimination and equal opportunity applied at the Iberdrola group are contained in both the <i>Code of Ethics</i> and in the global policies and procedures that have been approved and implemented (<i>Recruitment and Selection Policy</i>, <i>Equal Opportunity and Reconciliation Policy</i>, etc.) and in local collective bargaining agreements and policies.</p> <p>Iberdrola has been included in Bloomberg's 2018 GEI (Gender Equality Index) as one of the best companies recognised for its policies in favour of gender equality and its best practices in the area of work/life balance.</p>	5.1.- End all forms of discrimination against all women and girls everywhere.	401-3	Return to work and retention rates after parental leave, by gender.	127
		404-1	Average hours of training per employee trained by gender.	118
		405-1	Composition of governance bodies and employees	376
		405-2	Ratio of basic salary and remuneration of women to men.	126
		406-1	Incidents of (gender) discrimination.	210
	5.4.- Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	401-3	Return to work and retention rates after parental leave, by gender.	127
		102-22 Shift of indicators C050501 and C050502 from SDGs	Composition of the highest governance body and its committees.	32
		102-24	Selection and nomination of the members of the highest governance body.	256
	5.5.- Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.			



Goal 6: Clean water and sanitation

Ensure availability and sustainable management of water and sanitation for all.

	Target	GRI Indicator	Description	Pag.
<p>Water is a basic and irreplaceable natural resource in many of Iberdrola's activities. The company's awareness of this dependency and of the risks arising from water shortages has led it to set itself the objective of ensuring an increasingly rational and sustainable use of this resource.</p> <p>The main actions taken by the group for a more sustainable use of water are:</p> <ul style="list-style-type: none"> – Limiting the volume of withdrawal and consumption of inland water in all technologies. – Establishing and controlling limits on ecological flows at the hydroelectric generation reservoirs. – Continually improving processes at facilities to reduce consumption and impact. – Avoiding withdrawal of water in water-stressed areas. – Reusing and recycling water at facilities. – Conducting awareness-raising campaigns to achieve a more efficient and responsible use of sanitary water by employees at offices. <p>During their respective life cycles, generation, transmission, distribution and sales activities cause interactions with various ecosystems, landscapes and species. For this reason, Iberdrola has a Biodiversity Policy establishing a commitment to progress in developing methods of analysis of effects and actions for the preservation of biodiversity into the planning and subsequent implementation of their activities.</p>	<p>6.3.- By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p>	303-3	Water recycled and reused (% of water used that is returned to the ecosystem in optimum conditions).	161
		303-3	Water recycled and reused (% of water used that comes from waste water).	161
		306-1	Total water discharge by quality and destination.	163
		306-2	Total weight of waste by type and disposal method (hazardous and non-hazardous).	164
		306-3	Significant spills.	178
	<p>6.4.- By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.</p>	303-1 Shift of indicator C060402 (hydraulic stress level)	Total water withdrawal by source (use and source of water).	159
		303-3	Water recycled and reused.	161
		306-1	Total water discharge by quality and destination.	163
	<p>6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p>	306-5	<p>Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff.</p>	163



Goal 8: Decent work and economic growth

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

	Target	GRI Indicator	Description	Pag.
<p>The policies defined for the management of human resources (<i>Human Resources Framework Policy, Recruitment and Selection Policy, Knowledge Management Policy, Equal Opportunity and Reconciliation Policy, Occupational Safety and Health Policy</i>) contain guidelines governing labour relations among the various companies of the group and serve as a reference to define the company's employment-related goals: maintaining employment guarantees and a stable relationship with workers; strengthening of occupational health and safety and training aspects; protection of diversity and equal opportunity in access to employment; promotion of professional development; and promotion of behaviour and attitudes among its entire workforce in line with principles of ethics and integrity.</p> <p>In relation to Iberdrola's commitment to defend human rights, the main goal is to incorporate the management thereof into the group's operations, thus forming an integral part of operating procedures. This focus is included in the Policy on Respect for Human Rights approved by the Board of Directors. The company's practices are in line with the Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework, the principles of the United Nations Global Compact, the OECD Guidelines for Multinational</p>	8.1.- Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.	201-1	Direct economic value generated and distributed.	334
	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.	Own indicator	Investments in Innovation.	194
		Own indicator	Research agreements with universities, technology centres, etc.	96
	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.	204-1	Spending on local suppliers.	244
	8.4.- Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.	301-1	Materials used for power generation.	142
		301-2	Percentage of materials used that are recycled.	146
		302-4	Reduction of energy consumption (efficiency).	143
		302-5	Energy savings of green products and services.	146
		303-3	Water recycled and reused.	161
		Own indicator	Corporate Environmental Footprint.	136
	8.5.- By 2030, achieve full and productive employment and decent work for all women and men , including for young people and persons with disabilities, and equal pay for work of equal value.	102-8	Information on employees by gender, employment type and contract type.	28
		202-1 Shift of indicator C080501 from SDG	Ratios of entry level wage to local minimum wage.	97
	8.6.- By 2020, substantially reduce the proportion of youth not in employment, education or training.	401-1	New employee hires and employee turnover (by age and region).	357
	8.7.- Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and	408-1	Operations and suppliers identified as having significant risk for incidents of child labour.	206
		409-1	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour.	206



<p>Enterprises, the International Labour Organization's Social Policy and the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy. Iberdrola has designed a Human Rights Management Model in order to promote a culture of respect for human rights and to raise awareness in this area for all professionals, especially those who perform their activities in countries with a potentially higher risk of violation of these rights due to lax laws.</p> <p>The company also has other tools approved by the Board, such as the <i>Code of Ethics</i>, which governs the behaviour of all directors, including individuals appointed by corporate directors to represent them in the position, professionals and suppliers of the companies of the group, establishing control measures as well as disciplinary measures in the event of noncompliance, which must be expressly accepted to by all suppliers and is included as an annex to the respective contracts.</p>	by 2025 end child labour in all its forms.			
	<p>8.8.- Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.</p>	102-41 Shift of indicator C080802 from SDG.	Employees covered by collective bargaining agreements.	101
		407-1	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk.	206
		403-1	Employees represented on formal health and safety committees (management/employees).	369
		403-2	Type of injury and rates of injury, occupational diseases, lost days, absenteeism and total number of work-related fatalities, by region and by gender.	369



Goal 9: Industry, innovation and infrastructure

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

	Target	GRI Indicator	Description	Pag.
<p>The electricity sector is a significant driver of the economy, to which it continuously contributes through significant investments and the creation of high-quality jobs, both direct and indirect. Its function is to provide safe, competitive and sustainable supply. Generation technologies using renewable sources are decisive in the fight against climate change, as they allow for increased electrification of the economy, thus reducing dependency on fossil fuels.</p> <p>Analysts describe a global scenario characterised by an increase in energy demand, tied to a need to reduce CO₂ emissions. Estimates call for high growth in demand in the medium and long term in emerging countries and moderate growth in the developed world. In any event, this energy transition will require extremely large investments in renewable generation facilities, in smart grids and in efficient storage; all accompanied by greater digitalization to support efficiency and the development of new products.</p> <p>Iberdrola's strategy, implemented more than a decade ago, has been based precisely on these growth vectors: investment in renewables, smart grids, efficient storage and digitalization. The strategic pillars defined by the company are profitable growth, operational excellence, customer-focused operations, the optimisation of capital, and innovation.</p> <p>Specifically, innovation is Iberdrola's primary tool for ensuring the company's sustainability, efficiency and competitiveness, based on:</p> <ul style="list-style-type: none"> – Disruptive technologies. – Digitalization and automation in all businesses and processes. – Innovation with start-ups, entrepreneurs and suppliers. – Culture of innovation and talent. 	9.1.- Develop quality, reliable, sustainable and resilient infrastructure , including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.	203-1	Development and impact of infrastructure investments and services supported.	81
		EU4	Transmission and distribution lines Annual evolution.	331
	9.4.- By 2030, upgrade infrastructure and retrofit industries to make them sustainable , with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.	Own indicator	Installed capacity from renewable sources (MW).	326
		Shift indicator C090401 from SDG	CO ₂ emissions by MWh.	152
	9.5.- Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries , in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.	Own indicator	Amount dedicated to R&D+i activities.	194
		Own indicator	Agreements with universities and with scientific and technical organisations to improve facilities.	96
	9.a.- Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.	Own indicator	Subsidies for the electrification of underdeveloped or developing countries ("Electricity for All" programme).	202



Goal 10: Reduced inequalities

Reduce inequality within and among countries

	Target	GRI Indicator	Description	Pag.
<p>The group's companies, in the various countries in which they operate, promote equal opportunity and respect diversity, effective equality between men and women in access to employment, training, promotion and working conditions, and provide support to workers with diverse abilities, facilitating their integration into the workplace.</p> <p>The main goals in this area currently focus on:</p> <ul style="list-style-type: none"> – The encouragement of reconciliation between employees' work and family life, which includes measures to ensure compatibility between a positive experience of parenthood and a successful professional career. – The development of labour relations based on equal opportunity, non-discrimination and respect for diversity. – The fostering of diversity and the social inclusion of vulnerable groups through the corporate volunteer programme, which affords our employees an opportunity to participate in various community support initiatives to raise awareness of this group and to improve the quality of their life. 	Target 10.2. By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.	Own indicator	Inclusion of people with disabilities in the workforce (no.).	128
		Own indicator	Volunteer activities to reduce inequality.	226
	10.3.- Ensure equal opportunity and reduce inequalities of outcome , including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.	102-8	Information on employees and other workers (changes in workforce by gender, and type of employment and contract).	28
		401-1	New employee hires and employee turnover (by age and region) Evolution of the workforce.	357
		404-3	Employees receiving regular performance and career development reviews.	375
		405-2	Ratio of basic salary and remuneration of women to men.	126
		406-1	Incidents of discrimination.	210
	10.b.- Encourage official development assistance and financial flows , including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.	203-2	Significant indirect economic impacts (Investments in developing countries).	79
		204-1	Spending on local suppliers.	244



Goal 11: Sustainable cities and communities

Make cities and human settlements inclusive, safe, resilient and sustainable.

	Target	GRI Indicator	Description	Pag.
<p>Iberdrola has developed a Sustainable Mobility Plan with the ultimate goal of contributing to a rational use of the means of transportation and which is framed within the commitment made by the company in its <i>Sustainable Management Policy</i>, approved by the Board of Directors.</p> <p>The inclusive nature of the programme involves employees, the business activity, customers and suppliers, covering approximately 23 specific actions in which the company seeks to strengthen its wager on sustainability.</p> <p>These initiatives include Iberdrola's launch of a new edition of the <i>Electric Vehicle for Employees</i> programme in Spain and the United Kingdom and the pilot project launch in the United States, which consists of special advances and financial assistance for the purchase of electric vehicles. Thanks to this initiative, the local emission of 244 t CO_{2e} in employee travel to the work place in Spain and the United Kingdom was avoided in 2017.</p> <p>Iberdrola's commitment to sustainable mobility was recognised in 2017 with the award received at the V Best Mobility Practices Award delivered by Renault.</p> <p>Iberdrola's efforts to protect cultural heritage focus on the areas of preservation and restoration thereof, including specific activities in order for these projects to drive local development and sustainable tourism.</p>	11.2.- By 2030, provide access to safe , affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.	Own indicator	Promotion of the electric vehicle.	156
	11.4.- Strengthen efforts to protect and safeguard the world's cultural and natural heritage.	Shift indicator C110401 from SDG	LBG contribution to SDG 11.	222
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.	305-1	Direct greenhouse gas emissions. Scope 1 (per GHG Protocol).	152
		305-2	Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol).	153
		305-6	Emissions of ozone-depleting substances.	158
		305-7	NOx, SOx and other significant air emissions.	157



Goal 12: Responsible consumption and production

Ensure sustainable consumption and production patterns

	Target	GRI Indicator	Description	Pag.
<p>The Iberdrola group ensures optimisation in the use of energy throughout its entire energy chain (production, transmission, distribution, supply and end use), contemplating energy efficiency from a three-fold perspective:</p> <ul style="list-style-type: none"> – As an electricity generator and distributor, it seeks to improve efficiency by introducing the most advanced technologies and equipment in the generation, transportation and distribution of energy. – As an energy consumer, Iberdrola promotes the on-going improvement of energy efficiency across all its activities (offices and building, vehicles, water, mobility, employee awareness, etc.). – As an electricity supplier, it wishes to contribute to a more efficient use of energy by consumers, through information, promotion and supply of solutions and technologies that help them improve their energy efficiency and reduce the environmental impact of their energy habits and consumption. <p>As to information and labelling of electricity sold, Iberdrola is governed by the regulatory requirements established in each of the countries in which it does business. In Spain, the company informs its customers about the source of the energy sold by the retail supplier and the associated environmental impact thereof by means of a label included in the electricity bills and in advertising to customers. In the United Kingdom, ScottishPower also reports the origin of its energy and the environmental impact thereof. New customers receive this information as part of their Welcome Cycle communications, and existing customers receive this information in each invoice or notice, in accordance with the guarantees of origin rules established by Ofgem. There is no obligation to label electricity in the United States or Brazil.</p> <p>Iberdrola provides additional information as may be of help for consumers to make a more rational, efficient and safe use of these products.</p>	12.2.- By 2030, achieve the sustainable management and efficient use of natural resources.	302-3	Energy intensity.	141
		302-4	Reduction of energy consumption.	143
		302-5	Reductions in energy requirements of products and services.	146
		303-3	Water recycled and reused.	161
		Shift indicator C120201 from SDG	Corporate environmental footprint.	136
	12.4.- By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.	306-1	Total water discharge by quality and destination.	163
		306-3	Significant spills.	178
	12.5.- By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	301-2	Level of reuse and recycling of materials.	140
		306-2	Total weight of waste by type and disposal method.	164
	12.6.- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.	Own indicator	Publication of Statement of Non-Financial Information. Sustainability Report.	8
	12.8.- By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.	Own indicator	Awareness-raising activities regarding climate change and renewable energy.	149



Goal 14: Life below water

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

The oceans cover three quarters of the surface area of the Earth and 40% of this large mass of salt water is seriously affected as a result of human activity. According to the UN, water is deteriorating due to pollution and the accumulation of organic waste: each year close to 12 million tons of plastic end up in the sea.


Beyond the serious environmental consequences of these practices, the economic and social development of our planet is also being seriously affected: more than 3,000 million people depend directly on marine and coastal biodiversity to survive (UN).

Given this situation, Iberdrola adopts the newest technologies in order to protect undersea life in the areas around its facilities. It has engaged in various initiatives to preserve marine life around the offshore wind farms, as well as the insulation of undersea cables and noise mitigation for mammals.

Among the more noteworthy activities, in 2018 ScottishPower developed the *Dolphin Watch* project, with disclosure and awareness-raising activities for the population, given them the opportunity to see bottlenose dolphins in their natural habitat, establishing a long-lasting connection with marine fauna.

Target	GRI Indicator	Description	Pag.
14.1.- By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	306-1	Total water discharge by quality and destination.	163
	306-3	Significant spills.	178
14.2.- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.	304-1	Operational sites owned, leased, managed in or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	172
	304-2	Significant impacts of activities, products and services on biodiversity.	169
	304-3	Habitats protected or restored.	174
14.3.- Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.	305-1	Direct greenhouse gas emissions. Scope 1 (per GHG Protocol).	152
	305-2	Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol).	153
	305-4	Intensity of GHG emissions.	151
	305-5	Reduction of GHG emissions.	155
	305-7	NOx, SOx and other significant air emissions.	157



	Goal 15: Life on land			
	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss			
<p>Natural capital, understood as natural resources affected in the performance of the company's activities, is one of the fundamental assets in the Iberdrola group's creation of value and a fundamental asset for all of its Stakeholders. During their respective life cycles, generation, transmission, distribution and sales activities cause interactions with various ecosystems, landscapes and species.</p> <p>Therefore, these ecosystems occupy a leading role in the business strategy through four priority lines of action:</p> <ul style="list-style-type: none"> – Mediation for the protection, preservation and sustainable use of natural capital. – Information through impact assessment and the development and application of guidelines on biodiversity for new projects. – Relations with Stakeholders, which seeks to consider the legitimate aspirations of the Stakeholders and develop action plans in accordance therewith. – Commitment to internal and external training, awareness-raising and communication. <p>Various instruments are used to carry out these lines of action, including:</p> <ul style="list-style-type: none"> – <i>Biodiversity Policy</i>: applicable in all of the geographic areas in which the Iberdrola group does business, the basic principles of which are reflected in the lines of action. – Biodiversity plans based on avoiding and/or mitigating impact, restoring natural capital, assessing impact, Stakeholder relations and awareness-raising. – Environmental management systems certified in accordance with ISO 14001 or EMAS standards, in order to prevent and control environmental risks. – Corporate environmental footprint. 	Target	GRI Indicator	Description	Pag.
	<p>15.1.- By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.</p> <p>15.5.- Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.</p>	304-1	Operational sites owned, leased, managed in or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	172
		304-2	Significant impacts of activities, products and services on biodiversity.	169
		304-3	Habitats protected or restored.	174
		304-4	Number of species broken down, based on danger of extinction, included in IUCN Red List species and national conservation list species with habitats in areas affected by operations.	173
		306-5	Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff.	163
	<p>15.a.- Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.</p>	Own indicator	LBG contribution to SDG 15.	222



Goal 16: Peace, justice and strong institutions

Promote peaceful and inclusive societies

	Target	GRI Indicator	Description	Pag.
<p>The group's firm commitment to fight corruption and to establish mechanisms to ensure the existence of a culture for preventing irregularities is reflected in such documents as the group's <i>Code of Ethics</i>, the <i>Crime Prevention Policy</i> and the <i>Anti-Corruption and Anti-Fraud Policy</i>, all of which have been approved by the Board of Directors.</p> <p>Within the framework of the Compliance System, various activities are carried out to encourage the organisation to act in accordance with the most stringent ethical standards and in accordance with applicable laws and regulations. In order to develop the <i>Crime Prevention Policy</i>, the company has implemented a specific and effective programme (the <i>Crime Prevention Programme</i>) as a set of measures focused on the prevention and detection of and reaction to possible crimes, which also extends to the prevention and control of other frauds, administrative infractions and serious irregularities.</p> <p>The company also has a <i>Protocol for Conduct in Professional Relations with Governments, Political Parties, Authorities and Public Officials</i> in order to strengthen the specific mechanisms already existing at the companies of the group to prevent any acts that might be considered corrupt or bribery in relations with said third parties.</p> <p>In addition, as part of the Compliance System, the Compliance Unit promotes the development and maintenance of other initiatives for compliance with the <i>Code of Ethics</i> and legal provisions on fraud and corruption, the main goal of which is to foster a culture of corporate ethics and transparency, disseminating the principle of "zero tolerance" with respect to fraud and promoting mechanisms and actions to prevent corruption and fraud.</p>	16.5 Substantially reduce corruption and bribery in all their forms.	205-1	Business units assessed for risks related to corruption	271
		205-2	Training and communication on anti-corruption policies and procedures	278
		205-3	Incidents of corruption.	281
		415-1	Contributions to political parties or to related institutions.	294
	16.6.- Develop effective, accountable and transparent institutions at all levels.	102-23	State whether the chair of the highest governance body is also an executive officer and the reasons for this arrangement.	33
		102-25	Processes for the highest governance body to avoid conflicts of interest.	314
	16.7.- Ensure responsive, inclusive, participatory and representative decision-making at all levels.	102-21	Consulting stakeholders on economic, environmental and social topics.	257
		102-24	Selection and nomination of the members of the highest governance body.	256
		102-29	Identifying and managing economic, environmental and social impacts.	258
		102-37	Stakeholders' involvement in remuneration.	261
	16.b.- Promote and enforce non-discriminatory laws and policies for sustainable development.	406-1 Shift indicator C200204 from SDG	Incidents of discrimination.	210



17 PARTNERSHIPS FOR THE GOALS



Goal 17: Partnerships for the goals

Revitalise the Global Alliance for Sustainable Development

	Target	GRI Indicator	Description	Pag.
<p>Iberdrola participated with the Global Compact on numerous initiatives to promote and develop the Sustainable Development Goals, including topic support for the preparation of the book “SDGs, Year 2: Analysis, trends and business leadership”.</p> <p>Especially noteworthy is the Chair for the Sustainable Development Goals: since its creation in 2014, the Iberdrola/UPM Chair has engaged in numerous activities to strengthen the university/company relationship model that can face the challenges of the international sustainability agenda. After the approval of the Sustainable Development Goals in 2015, the Universidad Politécnica de Madrid and Iberdrola have focused their activity on contributing to meeting these Goals. This department is configured as a space for shared learning and support for the implementation of the SDGs.</p> <p>Iberdrola and the Red Española del Pacto Mundial have developed the Moving for Climate NOW initiative, within the framework of the COP23 Climate Summit held in Bonn in November 2017. Similarly, Iberdrola has joined a number of initiatives, the most high profile of which are: Terrawatt, United Nations Climate, We mean business, CEO Climate Leaders (World Economic Forum), Un millón de Compromisos por el Clima (MAGRAMA), Comunidad por el Clima (Red Española Pacto Mundial), Carbon Pricing Leadership Coalition, World Business Council for Sustainable Development, Corporate Leaders Group, Grupo Español de Crecimiento Verde, Powering Past Coal Alliance, Plataforma Nacional de Acción Climática, Asociación Española para la Economía Energética, UN Global Compact (Action Platform).</p> <p>Iberdrola has joined the Partnering Against Corruption Initiative (PACI), a platform through which leaders belonging to the World Economic Forum undertake to promote business conduct and practices designed to fight corruption within their organisations and to make such commitments binding on the third parties with whom they engage.</p>	17.1.- Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.	Own indicator	Tax contribution.	284
	17.3.- Mobilize additional financial resources for developing countries from multiple sources.	203-2	Significant indirect economic impacts.	79
		204-1	Spending on local suppliers.	244
	17.16.- Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries.	Own indicator	Participation in seminars, events and workshops to share best practices on SDGs	53
		Own indicator	Performance of international cooperation projects together with other players.	52
		Own indicator	SDG training and awareness-raising activities for employees, suppliers and other Stakeholders.	41
	17.17.- Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.	Own indicator	Number of volunteer activities performed.	226
	17.19.- Build on existing initiatives to develop measurements of progress on sustainable development.	Own indicator	Annual publication of Statement of Non-Financial Information. Sustainability Report.	8



Annex 3: Report on Green Financing Returns



Iberdrola has issued a total of 11 *green* bonds. The issue dates, as well as the principal characteristics thereof, are as follows:

Green bonds							
ISIN	Issue date	Issuer	Public / Private	Senior / Subordinate	Face value (€ millions)	Maturity	Coupon
XS1057055060	24-Apr-14	Iberdrola International	Public	Senior	750	Oct-22	2.500%
XS1398476793	21 Apr-16	Iberdrola International	Public	Senior	1,000	Apr-26	1.125%
XS1490726590	15-Sep-16	Iberdrola International	Public	Senior	700	Sep-25	0.375%
XS1527758145	07-Dec-16	Iberdrola Finanzas	Public	Senior	750	Mar-24	1.000%
XS1564443759	20-Feb-2017 (extended on 22-Jun-2017)	Iberdrola Finanzas	Private	Senior	250	Feb-24	Euribor 3 M + 0.670%
XS1575444622	07-Mar-17	Iberdrola Finanzas	Public	Senior	1,000	Mar-25	1.000%
XS1682538183	13-Sept-17	Iberdrola Finanzas	Public	Senior	750	Sep-27	1.250%
XS1721244371	22-Nov-17	Iberdrola International	Public	Subordinate	1,000	Perpetual	1.875%
XS1797138960	26-Mar-18	Iberdrola International	Public	Subordinate	700	Perpetual	2.625%
XS1847692636	28-Jun-18	Iberdrola Finanzas	Public	Senior	750	Oct-26	1.250%
XS1924319301	21-Dec-18	Iberdrola Finanzas	Private	Senior	44 ¹⁴⁶	Dec-25	3.724%

In November 2017 Iberdrola also issued a *green* bond in the U.S. market through its subsidiary Avangrid in the amount of 600 million U.S. dollars, with a coupon of 3.15%. Information on the projects that received the proceeds of this bond, as well as the environmental benefits achieved therefrom, are described in Avangrid's [Sustainability Report 2018](#).

In April 2018 Iberdrola México, a 100%-owned subsidiary of Iberdrola, also obtained a *green* bank loan with a number of international financial institutions in the amount of 400 million U.S. dollars, which was used to refinance the company's renewable assets in Mexico.

The proceeds of all of these transactions have been used to fund the refinancing of investments in projects that met certain environmental and sustainable development criteria validated both by Iberdrola and subsequently by VigeoEiris (an independent entity). These projects are mainly within the area of renewable energy.

Iberdrola used VigeoEiris as an independent expert in validating the "green" nature of its financing instruments. VigeoEiris issues its rating of the issuer not only with respect to the management of the selected projects, but also regarding its general environmental commitments and the sustainable development that it implements in the ordinary course of its business.

The methodology followed for the assignment of the various projects to different transactions is described in the document [Iberdrola Framework for green financing](#) (the "**Framework**"), which has been verified by PriceWaterhouseCoopers Auditores, who also verify this *Sustainability Report*. The principal sections contemplated in the *Framework* are described below.

¹⁴⁶ USD 50 million nominal value.



1. Use of funds

The proceeds from the various *green* financing instruments are used to finance or refinance *Eligible Green Projects*.

Consistent with the *Green Bond Principles*, Iberdrola considers *Eligible Green Projects* to be those that meet the Eligibility Standards described in the Framework.

2. Evaluation and selection of the project

The Green Financing Committee selects and evaluates projects that are susceptible to (re)financing by *green* instruments. This selection and evaluation process is performed in 5 phases described in the Framework.

3. Management of funds

The proceeds from the *green* financing instruments will be managed based on the phase of development and expense incurred in the selected assets or projects. Therefore, Iberdrola distinguishes between two types: refinancing of projects in operation and (re)financing of projects under development.

4. Reporting

Iberdrola commits to report annually until the maturity date of each of the *green* bonds or *green* financing instruments.

5. External assurance

The *green* financing issued by Iberdrola is supported by three external reviews, depending on the type of instrument.

In the first bond, issued in 2014, the eligible projects were reviewed by VigeoEiris using an analysis of a sample that covered approximately 50% of the nominal value of the financing obtained. In subsequent financings, the complete inventory of assigned assets was provided for review. On all occasions, VigeoEiris also performed an analysis classifying Iberdrola's sustainability policies and practices, finding that the required standards were met with a level of security that was more than satisfactory.

The conclusions of VigeoEiris, including the controversies identified in the issues, together with the eligibility standards, are described in the *Second Party Opinion* corresponding to each *green* transaction. In the case of the bonds¹⁴⁷, this information is available in the [Green Bonds](#) section of the corporate website.

Report on returns

The structure of this report on returns is grouped by benefits and indicators for each issue, so that investors can know the impact of the projects financed by each of them.

¹⁴⁷ Excludes the loans, as they are private contracts between a limited number of parties.

➤ **April 2014 Bond (ISIN code XS1057055060)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW) ¹⁴⁸
Distribution	Networks	Renewable generation connection in Scotland	United Kingdom	2011-2016	N/A	N/A
Distribution	Networks	Strengthen international connection in Scotland	United Kingdom	2011-2016	N/A	N/A
Distribution	Networks	Castile-La Mancha photovoltaic connection plan	Spain	2011-2014	N/A	N/A
Distribution/Smart grids	Networks	STAR project	Spain	2011-2018	N/A	N/A
Renewables	Onshore wind	Pico Collalbas	Spain	2006	30	30
Renewables	Onshore wind	Carrascosa	Spain	2006	38	29
Renewables	Onshore wind	Sierra Menera	Spain	2006	40	40
Renewables	Onshore wind	Clares	Spain	2006	32	32
Renewables	Onshore wind	Escalón	Spain	2006	30	17
Renewables	Onshore wind	Tarayuela	Spain	2006	30	20
Renewables	Onshore wind	Morón de Almazán	Spain	2006	50	15
Renewables	Onshore wind	Los Campillos	Spain	2006	34	26
Renewables	Onshore wind	Dólar I	Spain	2006	49	22
Renewables	Onshore wind	Dólar III	Spain	2006	49	8
Renewables	Onshore wind	Doña Benita	Spain	2006	32	1
Renewables	Onshore wind	Ferreira II	Spain	2006	49	7
Renewables	Onshore wind	Hueneja	Spain	2006	49	8
Renewables	Onshore wind	Sil Expansion	Spain	2006	40	8
Renewables	Onshore wind	O Vieiro	Spain	2006	20	1
Renewables	Onshore wind	Luzón-Norte	Spain	2006	38	9
Renewables	Onshore wind	Bordecorex Norte	Spain	2006	44	7
Renewables	Onshore wind	Cerro Blanco	Spain	2006	42	3
Renewables	Onshore wind	Grijota	Spain	2006	5	4
Renewables	Onshore wind	Cabezuelo	Spain	2006	30	22
Renewables	Onshore wind	Mark Hill	United Kingdom	2011	56	12
Renewables	Onshore wind	Collados	Spain	2011	11	10
Renewables	Onshore wind	Fuentesalada	Spain	2011	46	44
Renewables	Onshore wind	Cruz de Carrutero	Spain	2011	40	30
Renewables	Onshore wind	Cabras	Spain	2012	22	22
Renewables	Onshore wind	Ventosa del Ducado	Spain	2012	44	0
Renewables	Onshore wind	Layna	Spain	2012	50	50

¹⁴⁸ Installed capacities attributable to each Green Bond take into account the proportion represented by the allocated amount of the total investment in each of them.



▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Distribution	94
Distribution/Smart grids	80
Renewables	576
TOTAL	750

▪ **Sustainability indicators in the area of distribution**

Name of project	Increase in capacity within the horizon of the investment plan (MW)
Renewable generation connection in Scotland	2,167
Strengthen international connection in Scotland	6,640
Castile-La Mancha photovoltaic connection plan	604

▪ **Sustainability indicators in the area of smart grids**

STAR Project	Status as of 2011 ¹⁴⁹	Status as of 2012
Smart meters (no.)	154,428	449,441
Smart meters installed (%)	1.44	4.16
Transformer centres adapted for remote management (no.)	583	2,692
Transformer centres adapted for remote management (%)	0.88	4.01

▪ **Sustainability indicators in the area of renewable energy¹⁵⁰**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm) ¹⁵¹
478	1,000	220,493

¹⁴⁹ Takes data from 2011 and 2012 in order to allow for identification of profits from investments made.

¹⁵⁰ Emissions avoided take into account the percentage of production of each facility that corresponds to the percentage of the amount invested and installed capacity allocated to each *green* bond issue.

¹⁵¹ Emissions avoided, reported throughout this Annex 2: *Report on green financing returns*, have been calculated as a product of 2018 production attributable to the bond and the emission factor for the country in which the assets are geographically located. Sources: REE, DEFRA, Eurostat 2016 (January 2019) Greenhouse gas emissions by source sector (source EEA): <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>.

➤ **April 2016 Bond (ISIN code XS1398476793)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Alvao	Portugal	2009	42	42
Renewables	Onshore wind	Puerto de Malaga	Spain	2008	12	12
Renewables	Onshore wind	Cortijo Linera	Spain	2008	28	28
Renewables	Onshore wind	Cabezas	Spain	2009	17	17
Renewables	Onshore wind	Centenar	Spain	2009	40	40
Renewables	Onshore wind	Majal Alto	Spain	2009	50	50
Renewables	Onshore wind	Retuerta	Spain	2009	38	38
Renewables	Onshore wind	Saucito	Spain	2009	30	30
Renewables	Onshore wind	Tallisca	Spain	2009	40	40
Renewables	Onshore wind	Valdefuentes	Spain	2009	28	28
Renewables	Onshore wind	Torrecilla	Spain	2009	16	16
Renewables	Onshore wind	Coterejon II	Spain	2009	6	6
Renewables	Onshore wind	Altamira	Spain	2009	49	49
Renewables	Onshore wind	Lirios	Spain	2010	48	48
Renewables	Onshore wind	Nogueira	Spain	2010	3	3
Renewables	Onshore wind	Alto de la Degollada	Spain	2010	50	50
Renewables	Onshore wind	Gomera	Spain	2010	12	12
Renewables	Onshore wind	Savalla	Spain	2010	18	18
Renewables	Onshore wind	Conesa II	Spain	2011	32	32
Renewables	Onshore wind	Espartal	Spain	2012	6	6
Renewables	Onshore wind	Torrecilla II	Spain	2012	22	22
Renewables	Onshore wind	Gomera II	Spain	2012	6	6
Renewables	Onshore wind	Las Cabras	Spain	2012	22	22
Renewables	Onshore wind	Ventosa del Ducado	Spain	2012	44	0
Renewables	Onshore wind	Arecleoch	United Kingdom	2011	120	120

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	1,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
736	1,384	324,862

➤ **September 2016 Bond (ISIN code XS1490726590)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Whitelee Ext	United Kingdom	2012	217	139
Renewables	Onshore wind	Middleton	United Kingdom	2013	12	12
Renewables	Onshore wind	Lynemouth	United Kingdom	2012	26	26
Renewables	Onshore wind	Beinn An Tuirc 2	United Kingdom	2013	44	44
Renewables	Onshore wind	Carland Cross Ext	United Kingdom	2013	20	20
Renewables	Onshore wind	Coal Clough Repowering	United Kingdom	2014	16	16
Renewables	Onshore wind	Blacklaw Ext	United Kingdom	2016	38	38
Renewables	Onshore wind	Blacklaw Ext Ph2	United Kingdom	2016	25	25
Renewables	Onshore wind	Dersalloch	United Kingdom	2016	69	69
Renewables	Onshore wind	Ewe Hill	United Kingdom	2016	14	14

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	700

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
403	805	227,687

➤ **December 2016 Bond (ISIN code XS1527758145)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Doña Benita	Spain	2008	32	31
Renewables	Onshore wind	Sabina	Spain	2008	48	48
Renewables	Onshore wind	Vieiro	Spain	2008	20	20
Renewables	Onshore wind	Argañoso	Spain	2009	22	21
Renewables	Onshore wind	Bullana	Spain	2009	38	36
Renewables	Onshore wind	Carril	Spain	2008	28	27
Renewables	Onshore wind	Cerro Blanco	Spain	2009	42	37
Renewables	Onshore wind	Cotera	Spain	2009	18	17
Renewables	Onshore wind	Paramo Vega	Spain	2009	18	17
Renewables	Onshore wind	Radona I	Spain	2009	24	23
Renewables	Onshore wind	Radona II	Spain	2009	32	30
Renewables	Onshore wind	Sombrio	Spain	2008	28	27
Renewables	Onshore wind	Valdecarrion	Spain	2010	34	32
Renewables	Onshore wind	Valdeperondo	Spain	2010	46	44
Renewables	Onshore wind	Viñas	Spain	2010	38	36
Renewables	Onshore wind	Bolaños	Spain	2008	24	24
Renewables	Onshore wind	Dos Pueblos	Spain	2008	20	20
Renewables	Onshore wind	Nacimiento	Spain	2008	24	24
Renewables	Onshore wind	Tacica de Plata	Spain	2008	26	26

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	750

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
540	1,128	247,033

➤ **February 2017 Bond (ISIN code XS1564443759)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Bureba	Spain	2010	12	11
Renewables	Onshore wind	Cueza	Spain	2010	8	8
Renewables	Onshore wind	Candal	Spain	2012	44	24
Renewables	Onshore wind	Cerro Higuera	Spain	2009	38	30
Renewables	Solar	Puertollano	Spain	2009	50	36
Renewables ¹⁵²	Onshore wind	Venta III	Mexico	2012	103	49
Renewables ¹²⁹	Onshore wind	Dos Arbolitos	Mexico	2015	70	42

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	250

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
165	237	63,533

¹⁵² As a result of the sale of the interest of Iberdrola Renovables Castilla-La Mancha, S.A. (Sociedad Unipersonal) in the capital of Iberdrola Energía Solar de Puertollano, S.A., this asset replaces the prior one effective 1 December 2018. The time that each asset has been assigned to the transaction during the year has been taken into account to calculate production and CO₂ avoided attributable to the bond.

➤ **March 2017 Bond (ISIN code XS1575444622)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Valdelanave	Spain	2012	10	6
Renewables	Onshore wind	Ventosa del Ducado	Spain	2012	44	42
Renewables	Onshore wind	Peñaflor III	Spain	2012	49	49
Renewables	Onshore wind	Peñaflor IV	Spain	2012	49	49
Renewables	Offshore wind	Wikinger	Germany	2017	350	195

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	1,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
340	794	313,010



➤ **September 2017 Bond (ISIN code XS1682538183)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Whitelee Ext	United Kingdom	2012	217	78
Renewables	Onshore wind	Clachan Flats	United Kingdom	2009	15	15
Renewables	Onshore wind	Mark Hill	United Kingdom	2011	56	44
Renewables	Onshore wind	Ewe Hill 16	United Kingdom	2017	22	8
Renewables	Onshore wind	Hare Hill Ext	United Kingdom	2017	33	30
Renewables	Offshore wind	Wikinger	Germany	2017	350	104

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	750

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
279	587	223,618

➤ **November 2017 Bond (ISIN code XS1721244371) (hybrid)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Whitelee	United Kingdom	2008	322	251
Renewables	Onshore wind	Harestanes	United Kingdom	2014	136	136
Renewables	Onshore wind	Kilgallioch	United Kingdom	2017	239	239
Renewables	Onshore wind	Glen App	United Kingdom	2017	22	22

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	1,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
648	1,309	370,542

➤ **March 2018 Bond (ISIN code XS1797138960) (hybrid)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Offshore wind	EAST ANGLIA	United Kingdom	2020	714	225

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	700,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
225	0	0

➤ **June 2018 Bond (ISIN code XS1847692636)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Offshore wind	EAST ANGLIA	United Kingdom	2020	714	241

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	750,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
241	0	0

➤ **December 2018 Bond (ISIN code XS1924319301)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Dos Arbolitos	Mexico	2015	70	25

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€M)
Renewables	44,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2018 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
25	81	46,874



➤ April 2018 loan (Iberdrola Mexico)

▪ Assets allocated

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the loan (MW)
Renewables	Onshore wind	VENTOSA	Mexico	2009	101.9	101.9
Renewables	Onshore wind	BII NEE STIPA	Mexico	2010	26.35	26.35
Renewables	Onshore wind	VENTA III	Mexico	2012	102.85	54

▪ Total amount invested by area

Area	Investment allocated to the bond (€M)
Renewables	325,000 ¹⁵³

▪ Sustainability indicators

Installed capacity attributable to the bond (MW)	2018 output attributable to the loan (GWh)	CO ₂ avoided due to the loan (Tm)
182	483	281,236

¹⁵³ Exchange rate used €1 = \$1.23 (April 2018).



External Independent Assurance Report on Green Financing



This version of our report is a free translation of the original, which was prepared in Spanish. All possible care has been taken to ensure that the translation is an accurate representation of the original. However, in all matters of interpretation of information, views or opinions, the original language version of our report takes precedence over this translation.

INDEPENDENT ASSURANCE REPORT

To the Management of Iberdrola S.A.:

We have carried out our work to provide a limited assurance on the information related to (re)financed project of the Green Bonds in 2014, 2016, 2017 and 2018 (ISIN XS1057055060, ISIN XS1398476793, ISIN XS1490726590, ISIN XS1527758145, ISIN XS1564443759, ISIN XS1575444622, ISIN XS1682538183, ISIN XS1721244371, ISIN XS1797138960, ISIN XS1847692636 and ISIN XS1924319301) issued by Iberdrola International B.V. and Iberdrola Finanzas, S.A.U. (hereinafter, "the Bonds"), as well as the subscription of a green bank loan by Iberdrola Mexico contained in the "Annex 3: Report on green financing returns" of the 2018 Statement of Non Financial Information – Sustainability Report of Iberdrola, S.A. and its subsidiaries (hereinafter, "Iberdrola") for the year ended 31 December 2018, and prepared in accordance with the "Iberdrola Framework for Green Financing" document (hereinafter, "the Framework"), available in the web page <https://www.iberdrola.com/shareholders-investors/investors/fixed-income/information-related-to-green-bonds>.

The aspects of the information subject of our review are the following:

- The application of the eligibility criteria in the projects financed by the Bonds described in the Framework, and the final list of assets or projects re(financed).
- The allocation of the funds obtained through the Bonds to the assets or projects financed by them and that the capital invested in the refinanced assets or projects is attributable to the Bonds.
- The verification that the sustainability indicators are prepared in accordance with their calculation methodology, defined in the mentioned Annex 3, including the description of material exceptions.
- Verification that the information related to the "controversies" referred to in Annex 3, is included in the "Second Party Opinion" of those public bond issued, as indicated in "the Framework", at the time of the issuance of the Bonds published on the website <https://www.iberdrola.com/shareholders-investors/investors/fixed-income/information-related-to-green-bonds>.

Responsibility of Management

Management of Iberdrola is responsible for the preparation, content and presentation of the "Annex 3: Report on green financing returns", in accordance with the requirements included in the Framework in which the eligibility criteria of the projects, the allocation of funds, the sustainability indicators and the information related to the "controversies" are described.

Management's responsibility includes establishing, implementing and maintaining the internal control required to ensure that the information included in the "Annex 3: Report on green financing returns" is free from any material misstatement due to fraud or error.

Management of Iberdrola is also responsible for defining, implementing, adapting and maintaining the management systems from which the information required to prepare the mentioned Annex 3, is obtained.

Our responsibility

Our responsibility is to issue a limited assurance report based on the procedures that we have carried out and the evidence obtained. Our limited assurance engagement was done in accordance with the International Standard on Assurance Engagements 3000 (Reviewed) "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC).

The scope of a limited assurance engagement is substantially less extensive than the scope of a reasonable assurance engagement and thus, less security is provided.

The procedures that we have carried out are based on our professional judgment and have included consultations, observation of processes, document inspection, analytical procedures and random sampling test. The general procedures employed are described below:

- Meetings with Iberdrola's personnel from various departments who have been involved in the preparation of the "Annex 3: Report on green financing returns" of the 2018 Statement of Non Financial Information – Sustainability Report in order to know the characteristics of the projects (re)financed by the Bonds, the internal management procedures and systems in place, the data collection process and the environment control.
- Verification of the application of the eligibility criteria, described in the Framework, for the selection of projects (re)financed by the Bonds.
- Analysis of the procedures used for gathering and validating the information and data presented in the sustainability indicators included in the "Annex 3: Report on green financing returns" of the 2018 Statement of Non Financial Information – Sustainability Report.
- Verification of the traceability of the funds obtained through the Bonds to finance projects and verification that the investments undertaken by Iberdrola in the projects refinanced have been made in accordance with the Framework criteria.
- Verification that the information related to the "controversies" referred to in Annex 3 is included in the "Second Party Opinion" for the public Green Bonds issued.
- Verification through random sampling tests revisions and substantive tests of the information related to sustainability indicators. We have also verified whether they have been appropriately compiled from the data provided by Iberdrola's sources of information.
- Obtainment of a management representation letter from the Directors.

Our Independence and Quality Control

We have fulfilled our work in accordance with the independence requirements and other ethical requirements of the Code of Ethics for Professional Accountants of the International Ethics Standard Board for Accountants (IESBA), which are based on basic principles of integrity, objectivity, professional competence and diligence, confidentiality and professional conduct.

Our firm applies the International Standard on Quality Control 1 (ISQC 1) and thus employs an exhaustive quality control system which includes documented policies and procedures on the compliance of ethical requirements, professional standards, statutory laws and applicable regulations.

Limited and moderate assurance conclusion

As a result of the procedures carried out and the evidence obtained, no matters have come to our attention which may lead us to believe that:

- The list of assets or projects financed by the Bonds included in Annex 3 does not comply, in all its significant aspects, with the eligibility criteria described in the Framework.
- The funds obtained through the Bonds have not been assigned to the assets or projects financed by them and that the capital invested in the refinanced assets or projects is not attributable to the Bonds.
- The sustainability indicators contain significant errors or have not been prepared, in all their significant aspects, in accordance with what is indicated in the Framework and as indicated in Annex 3 in relation to its calculation.
- The "controversies" referred to in the Annex 3, have not been included in the "Second Party Opinion" at the time of issuance of public Green Bonds.

Use and distribution

Our report is only issued to the Management of Iberdrola, in accordance with the terms and conditions of our engagement letter. We do not assume any liability to third parties other than Iberdrola's Management.

PricewaterhouseCoopers Auditores, S.L.

Original in Spanish signed by
Pablo Bascones

22 February 2019



Annex 4: External Independent Assurance Report on the Sustainability Report



This version of our report is a free translation of the original, which was prepared in Spanish. All possible care has been taken to ensure that the translation is an accurate representation of the original. However, in all matters of interpretation of information, views or opinions, the original language version of our report takes precedence over this translation.

INDEPENDENT VERIFICATION REPORT

To the shareholders Iberdrola, S.A.:

Pursuant to Article 49 of the Code of Commerce, we have verified, under a limited assurance scope, the accompanying Statement of Non-Financial Information –Sustainability Report attached (“SNFI”) for the year ended 31 December 2018 of Iberdrola, S.A. and subsidiaries (Iberdrola or the Group or the Company) which forms part of Iberdrola’s 2018 Consolidated Directors’ Report.

The content of the SNFI includes additional information to that required by current commercial legislation on non-financial reporting which has not been covered by our verification work. In this respect, our work has been restricted solely to verifying the information identified in the tables included in the section “III About this report: Statement of Non-Financial Information and GRI Content Index” in the accompanying SNFI.

Likewise, we have carried out a moderate assurance engagement of the application of the principles of inclusivity, materiality and responsiveness, related to the information included in the section “Stakeholder engagement” of the SNFI attached, in accordance with the provisions of the 2008 Accountability Principles Standard AA1000 (AA1000APS) issued by AccountAbility.

Responsibility of the Board of Directors

The preparation of the SNFI included in Iberdrola’s Consolidated Directors’ Report, and the content thereof are the responsibility of the Board of Directors of Iberdrola, S.A.. The SNFI has been drawn up in accordance with the provisions of current commercial legislation and with the Sustainability Reporting Standards of the Global Reporting Initiative (“GRI Standards”) in accordance with the Comprehensive Option, and Electric Utilities Sector Disclosures of the GRI Guidelines version G4 (hereinafter, Electric Utilities Sector Disclosures), in line with the details provided for each matter in the table included in the section “ III About this report: Statement of Non-Financial Information and GRI Content Index” included in SNFI’s Annex.

This responsibility also includes the design, implementation and maintenance of the internal control that is considered necessary to ensure SNFI is free from material misstatement, due to fraud or error.

The directors of Iberdrola, S.A. are also responsible for ensuring the definition, implementation, adaptation and maintenance of the management systems from which the information required to prepare the SNFI is obtained, and also for the application of AA1000APS (2008) principles.

Our independence and quality control

We have complied with the independence requirements and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants (“IESBA”) which is based on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

.....

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Our firm applies the International Standard on Quality Control 1 (ISQC 1) and therefore has in place a global quality control system which includes documented policies and procedures related to compliance with ethical requirements, professional standards and applicable legal and regulatory provisions.

The engagement team has been formed by professionals specialising in non-financial information reviews and specifically in information on economic, social and environmental performance.

Our responsibility

Our responsibility is to express our conclusions in an independent limited assurance verification report based on the work carried out in relation solely to fiscal year 2018. The data relating to previous years were not subject to the verification envisaged in current commercial legislation. Our work has been carried out in accordance with the requirements laid down in the current International Standard on Assurance Engagements 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 Revised) issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) and with the Guidelines for verification engagements on non-financial statements issued by the Spanish Institute of Auditors ("Instituto de Censores Jurados de Cuentas de España"). We have also carried out our moderate assurance engagement (type 2) in accordance with the 2008 AA1000 Assurance Standard (AA1000AS) issued by AccountAbility.

In a limited assurance engagement, the procedures performed vary in terms of their nature and timing of execution, and are more restricted than those carried out in a reasonable assurance engagement. Accordingly, the assurance obtained is substantially lower.

Our work has consisted of posing questions to Management and several Iberdrola's units that were involved in the preparation of the SNFI, in the review of the processes for compiling and validating the information presented in the SNFI and in the application of certain analytical procedures and review sampling tests, as described below:

- Meetings with Iberdrola personnel to ascertain the business model, policies and management approaches applied and the main risks related to these matters, and to obtain the information required for the external review.
- Analysis of the scope, relevance and integrity of the content included in the SNFI based on the materiality analysis carried out by Iberdrola and described in the "III About this report: Defining Report Content. Materiality Analysis" section, and considering the content required under current commercial legislation.
- Analysis of the procedures used to compile and validate the information presented in SNFI for 2018.
- Review of information concerning risks, policies and management approaches applied in relation to material issues presented in the SNFI for 2018.
- Analysis of the documentation and actions related to the application of the inclusivity, materiality and responsiveness principles of the AA1000APS (2008).
- Verification, through sample testing, of the information relating to the content of the SNFI for 2018 and its adequate compilation using data supplied by Iberdrola's information sources.
- Obtainment of a management representation letter from the Company.

Conclusions

Based on the procedures performed and the evidence we have obtained, no matters have come to our attention which may lead us to believe that:

- Iberdrola's SNFI for the year ended 31 December 2018 has not been prepared, in all of their significant matters, in accordance with the provisions of current commercial legislation and with the GRI Standards in accordance with the Comprehensive Option, and Electric Utilities Sector Disclosures, in line with the details provided for each matter in the table included in the section "III About this report: Statement of Non-Financial Information and GRI Content Index" in the accompanying SNFI.
- The information included in the section "Stakeholder engagement" of the Iberdrola's SNFI, regarding the application of the principles of inclusivity, materiality and responsiveness, has not been prepared, in all of their significant matters, in accordance with the provisions of the AA1000APS (2008).

Recommendations

Regarding the observations and recommendations for improvements that have come to our attention during our assurance engagement, set out below is a summary of the main recommendations regarding improvements to the application of the AA1000APS (2008) principles of inclusivity, materiality and responsiveness, which do not alter our limited or moderate assurance conclusions given in this report.

Inclusivity

Iberdrola, as a company committed to the promotion and improvement of the relationship with its stakeholders, approved in 2016 its Stakeholder Engagement Model as a procedure for Iberdrola Group to establish relations with the stakeholders in the same way, understanding the particularities and singularities of each country and business.

In 2018, following the global implementation of the Model in the 8 stakeholders and in the 3 businesses of the five reference countries, progress was made in identifying Substakeholders within the 8 stakeholders and the existing engagement channels with these subgroups. Likewise, the Substakeholders have been prioritised according to their impact/influence on the Company, their alignment with the Company and their social influence.

In this respect, it is recommended to advance in the alignment between the priority of the Substakeholders and the engagement channels used with them, exploring differential and innovative engagement channels with the most priority Substakeholders. In addition, as a good practice, it is recommended to include in the Statement of Non-financial Information - Sustainability Report more information on how the participation of Stakeholders in the Company's decisions is promoted and favoured throughout the year.

Materiality

Compared to the previous year, this time the relevant issues have been prioritised taking into account their risk and opportunity and the main trends have been detected, both for Stakeholders and for businesses.



In addition, in 2018 a first alignment exercise was carried out between the relevant issues identified at subgroup, country and business level through the Iberdrola Model and global materiality analysis, to ensure the capture of the same relevant issues and identify possible differences. In the future, it is recommended to deepen this alignment exercise, especially in relation to the priority of the relevant issues, ensuring the capture of the real expectations of stakeholders and contrasting with them the priority of each of them.

Responsiveness

Iberdrola, in its Statement of Non-financial Information - Sustainability Report 2018, reflects the way in which the Model is able, through its ten phases, to respond in a systematic and unified manner for the entire organization to the expectations of its Stakeholders in time and form according to its priority. In this sense, it is recommended that the responses to stakeholder expectations are monitored through objective and measurable indicators that allow their adaptation to the needs of the Stakeholders to be evaluated and that these are increasingly integrated into the definition of these responses.

Use and distribution

This report has been drawn up in response to the requirement laid down in current Spanish commercial legislation and therefore might not be suitable for other purposes or jurisdictions.

PricewaterhouseCoopers Auditores, S.L.

Original in Spanish signed by
Pablo Bascones

22 February, 2019



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Contact point for questions regarding the report

102-53

General questions regarding this report may be addressed to Iberdrola's Social Responsibility Division at C/ Tomás Redondo, 1 - 28033 Madrid – Spain, or via responsabilidad_social@iberdrola.es.

Specific questions relating to the environment may be addressed to Iberdrola's Innovation, Sustainability and Quality Division at C/ Tomás Redondo, 1 - 28033 Madrid – Spain, or via medioambiente@iberdrola.es.

The addresses and telephone numbers of the various Iberdrola centres worldwide, available channels of contact, customer service and the query mailboxes can be found in the [Contact](#) section of the website.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-15 Iberdrola SA Accounts 2017



Annual Financial Report

Iberdrola, S.A. and subsidiaries / Financial Year 2017



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Iberdrola, S.A. and Subsidiaries

Consolidated Annual Accounts

23 February 2018

Consolidated Directors' Report

2017

(With Independent Auditor's Report Thereon)

(Free translation from the originals in Spanish. In the event of discrepancy, the Spanish-language versions prevail.)



KPMG Auditores, S.L.
Torre Iberdrola
Plaza Euskadi, 5
Planta 17
48009 Bilbao

Independent Auditor's Report on the Consolidated Annual Accounts

(Translation from the original in Spanish. In the event of discrepancy, the Spanish-language version prevails.)

To the Shareholders of Iberdrola, S.A. commissioned by the shareholders at their annual general meeting

REPORT ON THE CONSOLIDATED ANNUAL ACCOUNTS

Opinion

We have audited the consolidated annual accounts of Iberdrola, S.A. (the "Parent") and subsidiaries (together the "Group"), which comprise the consolidated statement of financial position at 31 December 2017, and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and consolidated notes.

In our opinion, the accompanying consolidated annual accounts give a true and fair view, in all material respects, of the consolidated equity and consolidated financial position of the Group at 31 December 2017 and of its consolidated financial performance and consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS-EU) and other provisions of the financial reporting framework applicable in Spain.

Basis for Opinion

We conducted our audit in accordance with prevailing legislation regulating the audit of accounts in Spain. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Annual Accounts* section of our report.

We are independent of the Group in accordance with the ethical requirements, including those regarding independence, that are relevant to our audit of the consolidated annual accounts in Spain pursuant to the legislation regulating the audit of accounts. We have not provided any non-audit services, nor have any situations or circumstances arisen which, under the aforementioned regulations, have affected the required independence such that this has been compromised.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the consolidated annual accounts of the current period. These matters were addressed in the context of our audit of the consolidated annual accounts as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Recoverability of non-current assets

See note 13 to the consolidated annual accounts

<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>The principal activities of the different businesses included in the consolidated annual accounts of the Group are related to the generation, transmission, distribution and supply of electricity, and therefore the balances recognised under intangible assets and property, plant and equipment are highly significant.</p> <p>Furthermore, as a result of the acquisitions carried out in recent years, including the recent acquisition of Neoenergía, to which we refer below, the consolidated annual accounts include goodwill amounting to Euros 7,932 million and other non-current assets, assigned to the Cash Generating Units (CGUs) in accordance with IFRS-EU, of equally significant amounts.</p> <p>IFRS-EU determine the need to carry out an analysis of the recoverable amounts of the assets referred to in the previous paragraph in those cases in which indications of impairment were identified. Goodwill and intangible assets with indefinite useful lives are not amortised, but are instead tested for impairment at least on an annual basis.</p> <p>The calculation of the recoverable amount of non-current assets indicated in the preceding paragraphs is determined through the use of methodologies based on discounted cash flows, the estimation of which is subject to uncertainty and which therefore requires the use of a high degree of judgement.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Identification of the reasonableness of the grouping levels used to place assets in CGUs for the purpose of analysing impairment. ▪ Evaluation of the existence of indications of impairment that would have required an analysis of the recoverability of the assets. ▪ Analysis and understanding of the models used by the Company in the calculation of the recoverable amounts of CGUs for which impairment analysis was required. ▪ Evaluation of the reasonableness of the main assumptions used in determining the recoverable amounts of these CGUs through the involvement of our specialists. ▪ Analysis of the reasonableness of the use of projection periods used by the Company in order to comply with the requirements of IFRS-EU. ▪ Analysis of compliance with the disclosure requirements established in IFRS-EU.

Acquisition of Neoenergía, S.A.

See note 7 to the consolidated annual accounts

<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>On 24 August 2017 the Company acquired control of Neoenergía, S.A. (Neoenergía) through the contribution of 47.55% of the Group's stake in Elektro Holdings, S.A., the value of which was estimated at a total of Euros 456 million. This led to the recognition of goodwill amounting to Euros 244 million.</p> <p>In accordance with IFRS 3 "Business Combinations", the acquirer must measure the identifiable assets acquired and liabilities assumed at their fair value at the date of acquisition, with the exceptions permitted under this standard. As the acquisition was carried out without any cash disbursement, it was also necessary to determine the fair value of the businesses contributed.</p> <p>The measurements referred to in the previous paragraph require the use of complex valuation techniques, assumptions and estimates.</p>	<p>The measurement of the identifiable assets and liabilities acquired and the determination of the cost of acquisition was made with the collaboration of external experts employed by the Group. The audit procedures performed included the following:</p> <ul style="list-style-type: none"> ▪ Understanding and analysis of the valuation techniques used by the experts and comparison with generally accepted practices. ▪ Evaluation of the reasonableness of the main assumptions used, including discount rates. ▪ Evaluation of the reasonableness of the measurements made, including those applied for the purposes of determining acquisition cost. ▪ Verification of the calculations used in the different models. ▪ Evaluation of the independence and professional competence of the external experts employed by the Group. ▪ Analysis of compliance with the disclosure requirements established in IFRS-EU. <p>The aforementioned procedures were performed with the participation of our valuation experts.</p>

Pension commitments

See note 24 to the consolidated annual accounts

<i>Key Audit Matter</i>	<i>How the Matter was Addressed in Our Audit</i>
<p>The Group has important commitments with personnel in relation to retirement and other long-term liabilities. These commitments are mainly in Spain, the United States, the United Kingdom and Brazil.</p> <p>Obligations relating to pension and similar commitments amount to Euros 2,574 million.</p> <p>Non-material variations in the actuarial assumptions used could have a significant impact on the amounts recognised in the consolidated annual accounts and we have therefore considered this a key audit matter.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Reading and understanding of collective agreements and other commitments assumed with personnel. ▪ Evaluation of the integrity and accuracy of the databases used for the beneficiaries of the different commitments. ▪ Analysis of the reasonableness of the main actuarial assumptions applied by the Group in the different jurisdictions in which it operates through the involvement of our specialists. ▪ Performance of substantive procedures on a sample of the assets subject to the different plans in order to verify the reasonableness of their valuation. Our procedures included obtaining external confirmations. ▪ Evaluation of the independence and professional competence of external actuaries employed by the Group. ▪ Evaluation of the reasonableness of the sensitivity analyses performed. ▪ Analysis of compliance with the disclosure requirements established in IFRS-EU.

Provisions for litigation and claims	
See notes 25 and 45 to consolidated the annual accounts	
Key Audit Matter	How the Matter was Addressed in Our Audit
<p>As a result of the operations carried out by the entities that comprise the Group, the consolidated statement of financial position includes significant provisions on litigation and claims of a fiscal and legal nature that are shown in the "provisions for litigation, indemnities and other items" column of note 25 to the consolidated annual accounts.</p> <p>The provisions made in respect of these items amount to Euros 958 million.</p> <p>The criteria for the recognition and disclosure of contingencies and provisions require the application of a high degree of judgement.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Procurement of details of litigation from the Group's legal department, assessment of associated risks and verification against accounting records. ▪ Interviews with the heads of the Tax and Legal Department in order to corroborate the integrity of the details obtained and identify new evidence or significant litigation. ▪ Sending of confirmations to external lawyers. ▪ Reading of the minutes of board of directors' meetings. ▪ Selection of a sample of the main litigation procedures and analysis with supporting documentation. ▪ Involvement of our specialists in assessing the main litigation procedures. ▪ Analysis of compliance with the disclosure requirements established in IFRS-EU.

Revenue recognition	
See note 6 a) to the consolidated annual accounts	
Key Audit Matter	How the Matter was Addressed in Our Audit
<p>The Group's businesses that carry out electricity supply activities must make estimates of unbilled supplies to end customers in the period between the last meter reading and the end of the fiscal year.</p> <p>Unbilled electricity supplied is estimated based on internal and external information that is compared with the measurements contained in the management systems used by the businesses. Revenue is calculated by multiplying the volume of estimated unbilled use by the tariff agreed for each customer, a process that is subject to a high degree of uncertainty.</p> <p>Estimated electricity supplied and not invoiced amounts to Euros 2,006 million.</p>	<p>Our audit procedures included the following:</p> <ul style="list-style-type: none"> ▪ Analysis of the design, implementation and operational effectiveness of the key controls related to the calculation of revenue estimates. ▪ Evaluation of the reasonableness of the model through retrospective analysis of the estimates made at the close of the previous period and actual invoicing data. ▪ Verification of the reasonableness of the volume of unbilled electricity through an analysis of historical information and other available internal and external data. ▪ Verification of the tariffs applied by comparing them with the data contained in the contract databases.

Other Information: Consolidated Directors' Report

Other information solely comprises the 2017 Consolidated Directors' Report, the preparation of which is the responsibility of the Parent's Directors and which does not form an integral part of the consolidated annual accounts.



Our audit opinion on the consolidated annual accounts does not encompass the consolidated directors' report. Our responsibility regarding the information contained in the consolidated directors' report is defined in the legislation regulating the audit of accounts, which establishes two different levels for this information:

- a) A specific level applicable to non-financial consolidated information, as well as certain information included in the Annual Corporate Governance Report, as defined in article 35.2. b) of Audit Law 22/2015, which consists of merely verifying that this information has been provided in the directors' report or, where applicable, in a separate report corresponding to the same year and to which reference is made in the directors' report, and if not, report on this matter.
- b) A general level applicable to the rest of the information included in the consolidated directors' report, which consists of assessing and reporting on the consistency of this information with the consolidated annual accounts, based on knowledge of the Group obtained during the audit of the aforementioned accounts and without including any information other than that obtained as evidence during the audit. Also, assessing and reporting on whether the content and presentation of this part of the consolidated directors' report are in accordance with applicable legislation. If, based on the work we have performed, we conclude that there are material misstatements, we are required to report them.

Based on the work carried out, as described above, we have verified that the information mentioned in paragraph a) above has been provided in the consolidated directors' report and the rest of the information contained in the consolidated directors' report is consistent with that disclosed in the consolidated annual accounts for 2017, and that the content and presentation of the report are in accordance with applicable legislation.

Directors' and Audit Committee's Responsibility for the Consolidated Annual Accounts

The Parent's Directors are responsible for the preparation of the accompanying consolidated annual accounts in such a way that they give a true and fair view of the consolidated equity, consolidated financial position and consolidated financial performance of the Group in accordance with IFRS-EU and other provisions of the financial reporting framework applicable to the Group in Spain, and for such internal control as they determine is necessary to enable the preparation of consolidated annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated annual accounts, the Parent's Directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

The Parent's audit committee is responsible for overseeing the preparation and presentation of the consolidated annual accounts.



Auditor's Responsibilities for the Audit of the Consolidated Annual Accounts

Our objectives are to obtain reasonable assurance about whether the consolidated annual accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with prevailing legislation regulating the audit of accounts in Spain will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence economic decisions of users taken on the basis of these consolidated annual accounts.

As part of an audit in accordance with prevailing legislation regulating the audit of accounts in Spain, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated annual accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Parent's Directors.
- Conclude on the appropriateness of the Parent's Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated annual accounts or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated annual accounts, including the disclosures, and whether the consolidated annual accounts represent the underlying transactions and events in a manner that achieves a true and fair view.



- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated annual accounts. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the audit committee of the Parent regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Parent's audit committee with a statement that we have complied with the applicable ethical requirements, including those regarding independence, and to communicate with them all matters that may reasonably be thought to bear on our independence and, where applicable, related safeguards.

From the matters communicated to the audit committee of the Parent, we determine those that were of most significance in the audit of the consolidated annual accounts of the current period and which are therefore the key audit matters.

We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

REPORT ON OTHER LEGAL AND REGULATORY REQUIREMENTS

Additional Report to the Audit Committee of the Parent _____

The opinion expressed in this report is consistent with our additional report to the Parent's audit committee dated 23 February 2018.

Contract Period _____

We were appointed as auditor of the Group by the shareholders at the ordinary general meeting on 31 March 2017 for a period of three years, from the year ended 31 December 2017.



Services Provided

The services other than the audit of accounts in addition to those indicated in the notes to the consolidated annual accounts provided to the Group consisted of the issuance of our limited review reports on the individual and consolidated interim financial statements of Iberdrola, S.A. and subsidiaries, the issuance of comfort letters and a report on agreed procedures.

KPMG Auditores, S.L.

On the Spanish Official Register of Auditors ("ROAC") with No. S0702

(Signed on original in Spanish)

Enrique Asla García

On the Spanish Official Register of Auditors ("ROAC") with No. 1797

23 February 2018



Annual Financial Report

Iberdrola, S.A. and subsidiaries / Financial Year 2017



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**CONSOLIDATED FINANCIAL STATEMENTS AND CONSOLIDATED MANAGEMENT REPORT
FOR THE YEAR ENDED 31 DECEMBER 2017**

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IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION AT 31 DECEMBER 2017

Thousand euros			
ACTIVE	Note	31.12.2017	31.12.2016(*)
Intangible assets.	9	21,148,027	19,934,163
Goodwill		7,932,404	8,711,053
Other intangible assets		13,215,623	11,223,110
Real estate investments	10	424,029	462,342
Property, plant and equipment	11	64,082,379	63,834,384
Property, plant and equipment in operation		57,301,296	57,343,025
Property, plant and equipment in use		6,781,083	6,491,359
Non-current Financial investments		5,013,504	3,903,994
Companies accounted for using the equity method	14.a	1,790,896	2,239,655
Non-current equity instruments		65,342	59,489
Other non-current financial investments	14.c	2,612,565	695,668
Derivative Financial instruments	27	544,701	909,182
Commercial debtors and other accounts receivable	15	838,690	887,083
Deferred tax assets	30	5,382,373	6,958,154
NON-CURRENT ASSETS		96,889,002	95,980,120
Assets held for sale	34	355,731	–
Nuclear fuel	17	331,883	322,630
Inventories	18	1,870,121	1,633,502
Commercial debtors and other accounts receivable		6,721,258	5,862,492
Current tax assets	31	546,304	503,403
Other tax receivables	31	318,582	143,379
Commercial debtors and other accounts receivable	19	5,856,372	5,215,710
Current Financial investments		1,323,224	1,474,790
Current equity instruments		1,744	4,584
Other current financial investments	14.c	598,883	776,341
Derivative Financial instruments	27	722,597	693,865
Cash and cash equivalents	20	3,197,340	1,432,686
CURRENT ASSETS		13,799,557	10,726,100
TOTAL ASSETS		110,688,559	106,706,220

(*)The Consolidated statements of financial position at 31 December 2016 are presented for comparative purposes only.

The accompanying Notes 1 to 56 and the Appendix are an integral part of the Consolidated statements of financial position at 31 December 2017.

Translation of Financial statements originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 56). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION AT 31 DECEMBER 2017

Thousand euros			
EQUITY AND LIABILITIES	Note	31.12.2017	31.12.2016(*)
Of the parent company	21	35,509,260	36,690,965
Share capital		4,738,136	4,771,559
Unrealised assets and liabilities revaluation reserve		(42,254)	(149,394)
Other reserves		31,435,651	31,506,301
Treasury shares		(597,797)	(1,083,367)
Translation differences		(2,828,470)	(1,059,117)
Net profit for the year		2,803,994	2,704,983
Of Minority shareholders		5,671,380	3,445,898
Of subordinated perpetual obligations		1,552,546	550,526
EQUITY		42,733,186	40,687,389
NON-CURRENT EQUITY INSTRUMENTS HAVING THE SUBSTANCE OF A FINANCIAL LIABILITY	22	14,762	43,664
Deferred income	23	6,379,102	6,590,302
Provisions		5,486,820	4,904,875
Provision for pensions and similar commitments and similar obligations	24	2,533,465	2,380,590
Other provisions	25	2,953,355	2,524,285
Financial Debt		29,784,705	26,926,882
Bank borrowings and other financial liabilities - Loans and others	26	29,465,739	26,509,052
Derivative Financial instruments	27	318,966	417,830
Other non-current payables	29	1,005,795	737,269
Deferred tax liabilities	30	8,558,419	12,740,661
NON-CURRENT LIABILITIES		51,214,841	51,899,989
NON-CURRENT EQUITY INSTRUMENTS HAVING THE SUBSTANCE OF A FINANCIAL LIABILITY	22	32,519	93,390
Liabilities linked to assets held for sale	34	134,544	-
Provisions		626,841	143,643
Provision for pensions and similar commitments and similar obligations	24	40,604	9,771
Other provisions	25	586,237	133,872
Financial Debt		7,509,809	5,404,119
Bank borrowings and other financial liabilities - Loans and others	26	7,224,759	4,711,630
Derivative Financial instruments	27	285,050	692,489
Trade and other payables		8,422,057	8,434,026
Trade payables	32	5,307,551	5,490,634
Corporate income tax	31	259,633	237,123
Other tax receivables	31	988,926	914,493
Other current liabilities	29	1,865,947	1,791,776
CURRENT LIABILITIES		16,693,251	13,981,788
TOTAL EQUITY AND LIABILITIES		110,688,559	106,706,220

(*)The Consolidated statements of financial position at 31 December 2016 are presented for comparative purposes only.

The accompanying Notes 1 to 56 and the Appendix are an integral part of the Consolidated statements of financial position at 31 December 2017.

Translation of Financial statements originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 56). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED INCOME STATEMENT FOR THE YEAR ENDED AT 31 DECEMBER 2017

Thousand euros

	Note	31.12.2017	31.12.2016 (*) Revised (Note 2.c)
PROFIT FOR THE PERIOD FROM CONTINUING OPERATIONS			
Net revenue	35	31,263,262	28,759,148
Procurements	37	(17,899,454)	(15,823,727)
GROSS MARGIN		13,363,808	12,935,421
Staff costs	38	(2,775,994)	(2,367,053)
Capitalised Staff costs	38	604,398	557,187
Net Staff costs		(2,171,596)	(1,809,866)
External services		(2,578,653)	(2,263,895)
Other operating income		579,644	607,776
Net External services		(1,999,009)	(1,656,119)
Net Operating Expenses		(4,170,605)	(3,465,985)
Taxes other than income	40	(1,874,503)	(1,535,756)
GROSS OPERATING PROFIT (EBITDA)		7,318,700	7,933,680
Depreciation and amortisation charges and provisions	41	(4,606,069)	(3,247,827)
OPERATING PROFIT (EBITDA)		2,712,631	4,685,853
Result of companies accounted for using the equity method - net of taxes	14.a	(28,733)	47,259
Financial revenue	43	921,790	1,041,005
Financial Expense	44	(1,858,892)	(1,944,163)
Financial result		(937,102)	(903,158)
Gains on disposal of non-current assets	42	299,093	52,919
Losses on disposal of non-current assets	42	(20,039)	(4,211)
Non-current asset profit/(loss)		279,054	48,708
PROFIT BEFORE TAX		2,025,850	3,878,662
Corporate income tax	30	1,397,127	(935,157)
PROFIT FOR THE PERIOD FROM CONTINUING OPERATIONS		3,422,977	2,943,505
PROFIT FOR THE PERIOD FROM DISCONTINUED OPERATIONS (NET)	34	(253,011)	(100,663)
Non-controlling interests	21	(365,972)	(137,859)
NET PROFIT FOR THE YEAR ATTRIBUTABLE TO THE PARENT		2,803,994	2,704,983
BASIC AND DILUTED EARNINGS PER SHARE IN EUROS FOR CONTINUING OPERATIONS	54	0.478	0.423
BASIC AND DILUTED EARNINGS PER SHARE IN EUROS FOR DISCONTINUED OPERATIONS	54	(0.040)	(0.015)

(*)The Consolidated statements of financial position at 31 December 2016 are presented for comparative purposes only.
The accompanying Notes 1 to 56 and the Appendix are an integral part of the Consolidated income statement for the year ended at 31 December 2017

Translation of Financial statements originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 56).
In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED AT 31 DECEMBER 2017

Thousand euros	31.12.2017				31.12.2016(*)			
	Of the parent company	Of non-controlling interests	Of subordinated perpetual obligations	Total	Of the parent company	Of non-controlling interests	Of subordinated perpetual obligations	Total
Net profit for the year	2,803,994	333,730	32,242	3,169,966	2,704,983	114,911	22,948	2,842,842
OTHER COMPREHENSIVE INCOME/(LOSS) TO BE RECLASIFIED TO PROFIT OR LOSS IN SUBSEQUENT PERIODS								
Unrealised assets and liabilities revaluation reserve	114,278	4,836	–	119,114	15,706	(10,690)	–	5,016
Change in the value of available-for-sale investments	577	–	–	577	(13)	–	–	(13)
Change in the value of cash flow hedges	158,462	7,993	–	166,455	15,118	(17,701)	–	(2,583)
Tax effect	(44,761)	(3,157)	–	(47,918)	601	7,011	–	7,612
Translation differences	(1,769,353)	(555,977)	–	(2,325,330)	(843,875)	171,949	–	(671,926)
Gains or losses due to assessment	(2,065,566)	(555,977)	–	(2,621,543)	(843,875)	171,949	–	(671,926)
Amounts transferred to consolidated income statement (Note 7)	296,213	–	–	296,213	–	–	–	–
TOTAL	(1,655,075)	(551,141)	–	(2,206,216)	(828,169)	161,259	–	(666,910)
OTHER COMPREHENSIVE INCOME/(LOSS) FROM COMPANIES ACCOUNTED FOR USING THE EQUITY METHOD (AFTER TAX)								
In Other reserves	(151,887)	1,110	–	(150,777)	(231,493)	13,891	–	(217,602)
Actuarial gains and losses on pension schemes	(57,818)	28,490	–	(29,328)	(256,000)	22,978	–	(233,022)
Tax effect	(20,090)	(10,587)	–	(30,677)	24,507	(9,087)	–	15,420
Impact US Tax reform (Note 30)	(73,979)	(16,793)	–	(90,772)	–	–	–	–
Unrealised assets and liabilities revaluation reserve	(17,596)	–	–	(17,596)	73,496	–	–	73,496
Change in the value of cash flow hedges	(21,992)	–	–	(21,992)	96,192	–	–	96,192
Tax effect	4,396	–	–	4,396	(22,696)	–	–	(22,696)
TOTAL	(169,483)	1,110	–	(168,373)	(157,997)	13,891	–	(144,106)
Unrealised assets and liabilities revaluation reserve of companies accounted for using the equity method (net of tax)								
In Other reserves	(11,952)	–	–	(11,952)	(16,453)	–	–	(16,453)
Unrealised assets and liabilities revaluation reserve	10,458	–	–	10,458	(16,545)	–	–	(16,545)
TOTAL (Nota 14.a)	(1,494)	–	–	(1,494)	(32,998)	–	–	(32,998)
TOTAL COMPREHENSIVE INCOME/(LOSS) FOR THE YEAR	(1,826,052)	(550,031)	–	(2,376,083)	(1,019,164)	175,150	–	(844,014)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	977,942	(216,301)	32,242	793,883	1,685,819	290,061	22,948	1,998,828

(*) The Consolidated statement of comprehensive income for 2016 is presented for comparison purposes only.

The accompanying Notes 1 to 56 and the Appendix are an integral part of the Consolidated statement of comprehensive income for the year ended at 31 December 2017.

Translation of Financial statements originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 56).
In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED AT 31 DECEMBER 2017

Thousand euros	Other reserves							Unrealised assets and liabilities revaluation	Translation differences	Net profit for the year	Non-controlling interests	Subordinated perpetual obligations	Total
	Share capital	Treasury shares	Legal reserve	Revaluation reserves	Share premium	Other restricted reserves	Retained earnings						
Balance at 01.01.2017	4,771,559	(1,083,367)	958,271	368,436	14,667,676	528,691	14,983,227	(149,394)	(1,059,117)	2,704,983	3,445,898	550,526	40,687,389
Net profit for the year (excluding impact of Modification of the consolidation perimeter) (Note 7)	–	–	–	–	–	–	(163,839)	107,806	(2,407,780)	2,759,982	(216,301)	32,242	112,110
Transactions with shareholders or owners													
Share capital increase (Note 21)	131,570	–	–	(131,570)	–	–	(834)	–	–	–	–	–	(834)
Share capital reduction (Note 21)	(164,993)	1,280,176	–	–	–	164,993	(1,280,214)	–	–	–	–	–	(38)
Restructuring Distribution of year 2016	–	–	10,727	–	–	–	2,507,184	–	–	(2,704,983)	(101,332)	–	(288,404)
Acquisition of free-of-charge allocation rights (Note 21)	–	–	–	–	–	–	(645,800)	–	–	–	–	–	(645,800)
Transactions with treasury shares (Note 21)	–	(794,606)	–	–	–	–	2,950	–	–	–	–	–	(791,656)
Other changes in equity													
Equity instruments-based payments (Note 21)	–	–	–	–	–	–	7,166	–	–	–	845	–	8,011
Modification of the consolidation perimeter (Note 7)	–	–	–	–	–	–	(500,926)	(666)	638,427	44,012	2,320,651	–	2,501,498
Issuance of subordinated perpetual obligations (Note 21)	–	–	–	–	–	–	(5,150)	–	–	–	–	1,000,000	994,850
Other changes	–	–	–	–	–	–	(35,337)	–	–	–	221,619	(30,222)	156,060
Balance at 31.12.2017	4,738,136	(597,797)	968,998	236,866	14,667,676	693,684	14,868,427	(42,254)	(2,828,470)	2,803,994	5,671,380	1,552,546	42,733,186

Thousand euros	Other reserves							Unrealised assets and liabilities revaluation reserve	Translation differences	Net profit for the year	Non-controlling interests	Subordinated perpetual obligations	Total
	Share capital	Treasury shares	Legal reserve	Revaluation reserves	Share premium	Other restricted reserves	Retained earnings						
Balance at 01.01.2016 (*)	4,752,652	(639,239)	958,271	505,241	14,667,676	410,793	14,762,776	(222,051)	(459,039)	2,421,578	3,246,287	551,108	40,956,053
Net profit for the year	–	–	–	–	–	–	(247,946)	72,657	(843,875)	2,704,983	290,061	22,948	1,998,828
Transactions with shareholders or owners													
Paid-up share capital increase (Note 21)	136,805	–	–	(136,805)	–	–	(916)	–	–	–	–	–	(916)
Share capital reduction (Note 21)	(117,898)	946,566	–	–	–	117,898	(946,603)	–	–	–	–	–	(37)
Restructuring Distribution of year 2015	–	–	–	–	–	–	2,234,861	–	–	(2,421,578)	(101,082)	–	(287,799)
Acquisition of free-of-charge allocation rights (Note 21)	–	–	–	–	–	–	(514,265)	–	–	–	–	–	(514,265)
Transactions with treasury shares (Note 21)	–	(1,390,694)	–	–	–	–	2,707	–	–	–	–	–	(1,387,987)
Other changes in equity													
Equity instruments-based payments (Note 21)	–	–	–	–	–	–	(35,160)	–	–	–	–	–	(35,160)
Other changes	–	–	–	–	–	–	(272,227)	–	243,797	–	10,632	(23,530)	(41,328)
Balance at 31.12.2016 (*)	4,771,559	(1,083,367)	958,271	368,436	14,667,676	528,691	14,983,227	(149,394)	(1,059,117)	2,704,983	3,445,898	550,526	40,687,389

(*) The Consolidated statement of changes in equity for 2016 is presented for comparison purposes only.

The accompanying Notes 1 to 55 and the Appendix are an integral part of the Consolidated statements of changes in equity for the year ended at 31 December 2017.

Translation of Financial statements originally issued in Spanish and prepared in accordance with IFRS as adopted by the European Union (see Note 56). In the event of a discrepancy, the Spanish-language version prevails.

IBERDROLA, S.A. AND SUBSIDIARIES

CONSOLIDATED STATEMENT OF CASH FLOW FOR THE YEAR ENDED AT 31 DECEMBER 2017

Thousand euros	Note	31.12.2017	31.12.2016(*)
Profit for the year from continuing activities before tax		2,025,850	3,878,662
Profit before tax discontinued operations before tax	34	(321,490)	(131,201)
Adjustments for			
Amortisation charge, provisions and staff costs for pensions	38.41	4,969,021	3,362,519
Results of companies accounted for using the equity method net of taxes	14	28,405	(48,723)
Grants credited to income	23	(276,795)	(277,241)
Income and expenses Financial	43.44	946,812	903,444
Profit from the disposals on non-current assets	42	(278,962)	(48,146)
Changes in working capital			
Change in trade and other payables		36,145	312,847
Change in inventories		(169,087)	190,950
Change in trade and other payables		(310,640)	(294,873)
Change in non-current receivables and other payables		(1,397)	(15,448)
Provisions paid		(470,723)	(464,802)
Income taxes paid		(542,169)	(743,362)
Dividends received		50,483	95,258
Cash flows from operating activities		5,685,453	6,719,884
Change in cash due to variations in the method and / or perimeter of consolidation	7	76,366	–
Investments in intangible assets	9	(530,992)	(269,162)
Investments in associates	14	(77,331)	(47,460)
Equity instruments		(1,641)	(16,689)
Other investments	14	1,016	(1,525)
Investments in investment property	10	(4,169)	(7,321)
Investments in property, plant and equipment	11	(5,594,372)	(4,639,161)
Interest paid capitalised interest	43	(134,042)	(109,270)
Capital grants	22	42,761	15,380
Net Inflow/outflow due to current financial assets		584,087	(9,171)
Interest collected		130,830	157,943
Income taxes		–	(11,437)
Proceeds from disposals of non-financial assets		2,800	2,015
Proceeds from disposals of financial assets		312,017	110,090
Net cash flows from investing activities		(5,192,670)	(4,825,768)
Free-of-charge allocation rights acquisition	21	(645,800)	(514,265)
Dividends paid		(187,072)	(186,717)
Dividends paid to non-controlling interest		(104,029)	(77,656)
Subordinated perpetual obligations	21	964,663	(30,188)
Issues and disposal from borrowings	28	13,637,173	9,277,651
Repayment of borrowings	28 22	(10,419,647)	(7,646,334)
Interest paid excluded capitalised interest	43 28	(840,985)	(1,037,353)
Movement of working capital by revenue shortfall		–	(90,444)
Cash outflows due to capital reduction		(38)	(37)
Cash outflows due to capital increase		(834)	(916)
Treasury shares acquisition	21	(1,004,890)	(1,453,188)
Proceeds from disposals of treasury shares	21	90,589	83,513
Transactions with major shareholders	21	(67,503)	–
Net cash flows from financing activities		1,421,627	(1,675,934)
Effect of exchange rate changes on cash and cash equivalents		(149,756)	61,231
Net increase / (decrease) in cash and cash equivalents		1,764,654	279,413
Cash and cash equivalents at the beginning of the year		1,432,686	1,153,273
Cash and cash equivalents at the end of the year		3,197,340	1,432,686

(*) The Consolidated cash flow statement for 2016 is presented for comparison purposes only.

The accompanying Notes 1 to 56 and the Appendix are an integral part of the Consolidated cash flow statement for the year ended at 31 December 2017.

IBERDROLA, S.A. AND SUBSIDIARIES

Consolidated income statements for the years ended at 31 December 2017

1. GROUP ACTIVITIES

Iberdrola S.A. (Hereinafter, IBERDROLA), incorporated in Spain and with corporate address at Plaza Euskadi 5, in Bilbao, is the parent of another group of companies whose main activities are:

- Production of electricity from renewable and conventional sources.
- Sale and purchase of electricity and gas in wholesale markets.
- Transmission and distribution of electricity.
- Retailing of electric power, gas and associated electricity.
- Other activities, mainly linked to the energy sector.

The aforementioned activities are performed in Spain and abroad, and totally or partially either directly by IBERDROLA or through the ownership of shares or other equity investments in other companies, subject in all cases to the legislation applicable at any given time and, in particular, to the applicable legislation to the electricity industry. The IBERDROLA Group carries its activities mainly in five countries in the Atlantic region: Spain, UK, US, Mexico and Brazil.

2. BASIS OF PRESENTATION OF THE CONSOLIDATED FINANCIAL STATEMENTS

2.a) Applicable accounting legislation

The IBERDROLA Group's 2017 Consolidated financial statements were prepared by the directors on 20 February 2018, in accordance with International financial reporting standards (hereinafter, IFRS), as adopted by the European Union, in conformity with Regulation (EC) number 1606/2002 of the European Parliament and of the European Council. The directors of IBERDROLA expect these Consolidated financial statements to be approved at the General Shareholders' Meeting without modification.

The IBERDROLA Group's 2016 Consolidated financial statements were approved at the General Shareholders' Meeting on 31 March 2017.

On 31 December 2017, the IBERDROLA Group presents a negative working capital of EUR 2,926 million. However, as shown in Note 5, the IBERDROLA Group has a liquidity of EUR 10,061 million; consequently, these Consolidated financial statements were prepared following the going concern principle.

These Consolidated financial statements have been prepared on a historical cost basis, except for available-for-sale financial assets and derivative financial instruments, which have been measured at fair value. The carrying amounts of assets and liabilities hedged by fair value hedges are adjusted to reflect variations in their fair value as a result of the risk hedged.

The accounting policies used in the formulation of these Consolidated financial statements correspond with those used for the year ended on 31 December 2016, except for: the application on 1 January 2017, of the amendments to IAS 7: "Statement of cash flows: Disclosure initiative" issued by the IASB (International Accounting Standards Board), adopted by the EU for its application in Europe. Said amendment implied the breakdown of transactions in 2017 classified under financing activities on the Statement of cash flows (Note 28). It is not required to present comparative information.

On the other hand, at the date these Consolidated financial statements were authorised for issuance, the following standards, amendments and interpretations had been issued, all of which are effective subsequent to 1 January 2017:

		Mandatory application	
Regulation		IASB	European Union
IFRS 15	Revenues from contracts with customers	01.01.2018	01.01.2018
Modifications to IFRS 15	Clarifications to the standard	01.01.2018	01.01.2018
IFRS 9	Financial instruments	01.01.2018	01.01.2018
Modifications to IFRS 4	Application of IFRS 9 Financial instruments with IFRS 4 Insurance contracts	01.01.2018	01.01.2018
Modifications to IFRS 2	Classification and measurement of share-based payment transactions	01.01.2018	(*)
IFRIC 22	Foreign Currency Transactions and Advance Consideration	01.01.2018	(*)
Modifications to IAS 40	Transfer of Investment Property	01.01.2018	(*)
Cycle 2014-2016	Annual improvements several standards	01.01.2017/ 01.01.2018	(*)
IFRS 16	Leases	01.01.2019	01.01.2019
IFRS 17	Insurance policies	01.01.2021	(*)
IFRIC 23	Uncertainties over income tax treatments	01.01.2019	(*)
Modifications to IFRS 9	Prepayment Features with Negative Compensation	01.01.2019	(*)
Modifications to IAS 28	Long-term interests in subsidiaries and joint business	01.01.2019	(*)
Cycle 2015-2017	Annual improvements several standards	01.01.2019	(*)

(*) Pending approval from the European Union

The IBERDROLA Group has not applied in advance of the formulation of these Consolidated financial statements any published standard, interpretation or amendment that has not yet come into force.

The IBERDROLA Group will apply on the financial statements starting from 1 January 2018 the IFRS 9: "*Financial instruments*" and IFRS 15: "*Revenue from Contracts with Customers*", whereas IFRS 16: "*Leases*" will be applied on the financial statements from 1 January 2019. All the quantitative effects are shown below in gross figures.

IFRS 15: "Revenues from contracts with customers"

The IBERDROLA Group estimates that the application of IFRS 15 would have not implied any significant changes to these Consolidated financial statements but the effect of the activation of customer acquisition costs.

The IBERDROLA Group will adopt IFRS 15 retroactively recording the cumulative effect resulting from the application of this standard on the first day of its application. The effect of the activation of customer acquisition costs will entail a return payment of approximately EUR 175 thousand in equity as of 1 January 2018 with a charge to assets in the Consolidated financial statement of financial position.

IFRS 9: "Financial instruments"

With regard to application of IFRS 9, the IBERDROLA Group believes that:

- The new classification and measurement criteria do not imply a significant change in the IBERDROLA Group's equity as of 1 January 2018 since most financial assets will continue being valued at amortised cost with the sole exception of equity instruments and derivative financial instruments, valued at fair value.
- It will apply the general model for calculation of expected loss on financial assets other than trade and lease receivables, where the simplified model will be applied. Under the general model, credit losses expected in the next twelve months are recorded unless the credit risk of financial instruments has significantly increased from the initial recording. In such case, they will qualify as expected credit losses over the life of the asset. Under the simplified model, they qualify as expected credit losses over the life of the asset.

In view of the considerable creditworthiness of the financial assets, it is felt that the defaults applicable will be non-material.

- IFRS 9 will enable hedge accounting to be applied to economic hedges that do not meet hedging requirements under the current version of IAS 39: mainly the hedging of risk components in non-financial contracts and consideration as a hedged item of a combination of a derivative and an item which could meet the characteristics of a hedged item. As of the first application, on 1 January 2018, this has not had a significant impact on the IBERDROLA Group's equity.

Moreover, the IBERDROLA Group will record in a separate equity item the temporary value of option contracts, term of term contracts and the differences in exchange rates of financial instruments should they be excluded from hedges.

The transition to IFRS 9 in relation to the recording of hedges will be made prospectively, with the exception of the new accounting treatment of the temporary value of those option contracts for which changes in its intrinsic value was designated as hedging instrument. In such case, it will be applied retrospectively. The effect of the first application of the IFRS 9 in relation to temporary value as indicated above will result in the payment/return of EUR 2 million in equity as of 1 January 2018.

Also, in October 2017, the IASB clarified that in the changes of financial liabilities to amortised cost not resulting from the derecognition of a financial liability (for considering this to be a non-material change), it will be necessary to record in the Consolidated financial statements the result on the date of the change, the difference between amortised cost of financial liabilities and the amount of cash flows still in financial liabilities deducted from the original effective tax rate.

In the financial statements for 2017 and previous years, the IBERDROLA Group has applied the criteria set in Note 4.I for those cases where there are no material changes to financial liabilities.

This clarification by the IASB will be adopted retrospectively by the IBERDROLA Group in the financial statements from 1 January 2018. This will entail a credit of approximately EUR 162 million in equity as of 1 January 2018 with charge to "Financial debt" in the Consolidated financial statement as of that date.

IFRS 16: "Leases"

In relation to IFRS 16, applicable in financial statements from 1 January 2018, the analysis of its application will go on in 2018. The IBERDROLA Group expects an increase in the amount in assets due to right of use and in liabilities due to the present value of the obligation to make lease payments in relation to lease agreements for certain assets where the IBERDROLA Group acts as the lessor.

The IBERDROLA Group's main leases concern land used for wind farms and transformer plants (mainly wind farms), buildings and vehicles, among others. Under the current version of IAS 17, most of these leases are considered operating leases.

The IBERDROLA Group has temporarily adopted the following alternatives based on the possibilities offered by IFRS 16:

- Short-term leases (less than 12 months) will be excluded from the scope of the standard.
- In the case of leases of intangible assets and assets which, considered individually, are of little value, the IBERDROLA Group will decide upon their inclusion within the scope of the standard by type of asset.

The IBERDROLA Group is quantifying the impact of the first application of the standard based on the different transition alternatives as of the date of its first application. Moreover, The IBERDROLA Group is currently modifying IT systems to adapt its accounting to the new regulatory requirements.

As to the rest of standards, the IBERDROLA Group believes that their application would not have had a material impact on these Consolidated financial statements, and, furthermore, would not have a material impact when they are applied.

The IBERDROLA Group will not opt for early application of any of the above standards.

2.b) Basis of consolidation

The appendix to these Consolidated financial statements lists all IBERDROLA subsidiaries, jointly controlled entities and associates, together with the consolidation or measurement basis used and other related disclosures.

Subsidiaries

The subsidiaries over which the IBERDROLA Group exercises control are fully consolidated, except when they are scantily material with respect to presenting fairly the financial statements of the IBERDROLA Group.

The IBERDROLA Group considers that it maintains control of a company when it is exposed, or has the right to variable yields from its involvement in the company, and has the capability to influence in these yields through its power thereon. For the purpose of drawing up these consolidated annual accounts, control is deemed to be exercised in companies in which the Group holds over 50% of the share capital and can prove the existence of this control. The Annexe to the present consolidated annual accounts contains information regarding companies in which the Group holds less than 50% consolidated through global integration, and the companies in which the Group holds over 50% that have not been consolidated through global integration.

Results of subsidiaries acquired or sold in the year are included in the consolidated income statement as from the effective date of acquisition or up to the effective date of sale. All accounts and transactions between fully consolidated companies have been eliminated in consolidation.

On the acquisition date, assets, liabilities and contingent liabilities of a subsidiary are recognised at fair value. Any excess of the subsidiary's acquisition cost over the market value of its assets and liabilities is recognised as goodwill, as it corresponds to assets that cannot be identified and measured separately. If the difference is negative, it is recognised as a credit to income in the Consolidated income statement.

Holdings of minority shareholders are recognised at the initial moment at an amount equivalent to their proportional interest in the net assets of the acquired company on the takeover date. The interest of minority shareholders in equity and the results of the fully consolidated subsidiaries is presented under the "Equity – Of non-controlling interests" heading on the liability side of the Consolidated statement of financial position and under the "Non-controlling interests" heading in the Consolidated income statement, respectively.

When there is a loss of control of a company of the Group, its assets, liabilities and any minority shareholder are written off. The resulting gains or losses are recognised in the profit and loss account. Holdings maintained in the subsidiaries whose control has been lost will be measured by their fair value on the date when this loss of control occurred. The income obtained in stock purchase transactions with minority shareholders in controlled companies and the sale of stock without loss of control will be recognised as charged or credited to reserves.

Investments accounted for using the equity method

Equity accounted investments include investments in associates and joint businesses. Associates are companies in which the IBERDROLA Group has significant influence, i.e., the power to intervene in decisions regarding financial and operating policies yet without having control or joint control. A joint business is a joint agreement in which the Group has the right to net assets of the agreement.

For the purpose of drawing up these consolidated annual accounts, control is deemed to be exercised in companies in which the Group holds over 20% of the share capital and can prove the existence of this control.

The Annex I to the present consolidated annual accounts contains information regarding companies in which the Group holds less than 20% consolidated through global integration, as well as companies in which the group holds between 20% and 50% that have not been consolidated through global integration.

In the transactions carried out with associates and joint businesses, the gains or losses of the operation are eliminated in the percentage of holding interest in each company. The result of measuring investments in associates using the equity method is recognised under "Other reserves" and "Result of companies accounted for using the equity method - net of taxes" of the consolidated balance sheet and income statement, respectively.

Closing date of the financial statements

The closing date of the financial statements of the subsidiaries, jointly controlled entities and associates is 31 December, with the exception of SIEMENS GAMESA, whose closing date was changed to 30 September. However, for the purposes of these consolidated financial statements harmonisation has been applied so that the equity method includes the equity of the associate as of 31 December.

The accounting policies applied by these companies are the same or have been harmonised with the ones used by the IBERDROLA Group.

Conversion of the financial statements of foreign companies

The financial statements of each foreign company were drawn up in their respective functional currencies, defined as the currency of the economy in which each company operates and in which it generates and uses cash.

The translation of the financial statements of foreign companies has been carried out by applying the year-end exchange rate method. This method consists of converting to euros all the assets, rights and obligations at the exchange rates prevailing at the date of the Consolidated financial statements; for at the average exchange rates (provided that there are non-material transactions that do not deem appropriate to use the average exchange rate) for the year the Consolidated income statement items, keeping equity at the historical exchange rate at the time of the acquisition (or at the average exchange rate of the year in which they were generated in the case of accumulated results). The resulting translation differences are taken directly to reserves.

2.c) Comparativa information

When comparing the figures for 2017 included in these Consolidated financial statements with those corresponding to the year 2016, it is necessary to take into account:

- Such as is indicated in Note 7, on 8 June 2017 the shareholders of Neoenergia, S.A. (NEOENERGIA), this is, BB Banco de Investimento S.A. (Banco do Brasil), Caixa de Previdência dos Funcionários do Banco do Brasil (Previ) and Iberdrola Energía, S.A.U. (IBERDROLA ENERGÍA), reached an agreement for NEOENERGIA to incorporate Elektro Holding S.A. (ELEKTRO)'s activity and business.

After the effectiveness of the operation, on 24 August 2017, Banco do Brasil and Previ own approximately 9.35% and 38.21% respectively of the capital of NEOENERGIA, and IBERDROLA ENERGÍA now holds 52.45%, including the businesses of ELEKTRO as consideration.

The acquisition of NEOENERGÍA should be considered when comparing the figures for 2017 included in these consolidated financial statements with the 2016 figures.

- Subsequently, IBERDROLA Group has changed the way it reports its activities in Brazil and does so based on the different businesses to which they belong (before, they were included under Networks and renewables was included under ROW). As provided in IFRS 8: "Operation segments" revises comparative information from the previous year (Note 8).
- On the other hand, on 22 December 2017 the *Tax Cuts and Jobs Act of 2017* (Tax Act), referred to as "US Tax reform", was signed and passed. The standard includes relevant changes in the US Tax Structure. With the most significant aspect being the reduction in federal tax for legal persons from 35% to 21%. Other measures also reference the establishment of a territorial system, the limitation to the deductibility of interests and the use of the credits by negative tax bases, the immediate deduction of specific investments, and the setting of certain measures aimed at preventing the erosion of tax bases in the multinational environment. Independent of the impact on the current tax that is determined during the years in which the new legislation is in effect (2018 and thereafter), the calculation of the balance of taxes different from the tax rate at which they will be reversed in the future, already considering the new federal rate of 21% for this, implied a credit of 2,025,508 under the sub-heading 'Corporate income tax' of the 2017 Consolidated income statement (Note 30).
- Additionally, in 2017, the activities related to the provision of engineering and construction services were abandoned, meeting the requirements to be considered a discontinued activity. The profit or loss after tax of this discontinued operation is included under the sub-heading 'Year's result from discontinued activities' on the 2017 and 2016 Consolidated income statement from applying the main accounting principles. In this regard, the financial result and the cash flows for the years 2017 and 2016 related to said activities are broken down in Note 34 of these Financial Statements. Subsequently, comparative information from the previous year has been revised.

3. INDUSTRY REGULATION AND FUNCTIONING OF THE ELECTRICITY AND GAS SYSTEM

In 2017 a set of rules affecting the energy sector were approved. This section lists the most significant changes:

3.1. European Union

Network codes:

The European Union published Regulations (EU) 2017/459 and 2017/460 in March 2017. The former established a network code on capacity allocation mechanisms in gas transmission systems (defining the capacity allocation mechanisms in transmission networks for existing and incremental capacities) and set out how adjacent system operators can cooperate to facilitate capacity sales.

The latter, 2017/460, sets out rules on harmonised transmission tariff structures for gas, including rules on the application of a reference price methodology, the associated consultation and publication requirements as well as the calculation of reserve prices for standard capacity products.

The Grid Code on emergencies and service restoration was published on 28 November, establishing a) the management by the transmission network state of emergency, power outage and restoration managers; b) the coordination of the operation of the system throughout the entire Union in a state of emergency, power outage and restoration; c) the simulations and tests to guarantee a reliable, effective and fast restoration of the interconnected transmission networks to their normal state after a state of emergency or power outage.

Allegations about strategic reserves:

Open term for submitting comments regarding the investigation of the Directorate-General for Competition (European Commission) on the strategic reserves in Germany. On 23 January 2017, Germany reported draft legislation on the reserve capacity, along with an assessment of the need for the measure. After examining the measures, the Commission reached a provisional conclusion on what constitutes state aid. Interested parties may submit their comments one month following the publication date (19 May 2017).

BREXIT

Council Decision (EU) 2017/900 created the ad hoc working party on Article 50 of the Treaty on European Union (TEU) chaired by the General Secretariat of the Council, who will assist the Committee of Permanent Representatives of the Governments of the Member States (Coreper) and the Council in all matters pertaining to the withdrawal of the United Kingdom from the Union. The working party will cease to exist when its mandate has been fulfilled.

Publication of the new emissions limits for large combustion plants (LCP)

On 17 August 2017, the Official Journal of the European Union (OJEU) published Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions for large combustion plants (> 50 MW).

- Member States must adapt to these new limits on acid gas emissions [nitrogen oxides (NOx), sulphur dioxide (SO2), small particulates and, for the first time, mercury] by 2021.
- The technical references were approved by the committees (Board and EC) on 28/04, having previously been strongly opposed within the Board (Germany Poland, Czech Republic, Finland, Hungary, Slovakia, Bulgaria and Romania).

Entry into force of the Directive on the management of the electricity transmission network

On 14 September 2017 Regulation (UE) 2017/1485 came into force, establishing a directive regarding the management of the electricity transmission network (published in the DOUE of the 28/08). The Directive requires the development of specific procedures for the different network operators. *European Network of Transmission System Operators for Electricity* (ENTSOE) must draft a proposal in the next six months, as well as adapt to each State and be ratified by the Regulators, before September 2018. These procedures will determine the roles of the Transmission and Distribution networks, their responsibilities and the data exchange methodology. Following the publication of this Directive, only the Emergency and Replacement Network Code and the Balancing Directive are pending.

Security supply of gas:

The new Regulation 2017/1938 on the Security Supply of Gas was published on 30 October 2017, repealing Regulation 994/2010.

After the 2006 and 2009 gas crisis, the first Regulation (994/2010) was adopted on the security supply of gas of the European Union (requiring the Member States to have national gas crisis and prevention plans, obligating the companies to ensure the supply to protected customers and predict the installation capacity of bidirectional gas). In February 2016, as part of the Energy Security Package, the EC presented a new regulation since the European Union continued to be highly dependent on gas importations and many Member States continued to be vulnerable to interruptions in supply. The best principles of the new regulation are:

- Principle of solidarity: In the event of a serious gas crisis, the Member States will help their neighbouring states to ensure the supply of gas to homes and necessary social services.
- Reinforcement of regional cooperation: The Regional Groups will jointly assess the common security risks to the supply and shall agree upon preventive measures and common emergencies.
- Improve transparency: The gas companies must notify the long term contracts that are relevant to the security of the supply (those that represent 28% of the annual gas consumption in the Member States).

Electricity balance sheet:

EC Regulation 2195/2017 was published on 28 November 2017, establishing a directive on the electricity balance sheet and the common principles for the contracting and settlement of reserves for the containment and recovery of the frequency and replacement reserves, as well as a common method for the activation of these reserves. This applies to all transmission networks and interconnections of the European Union, except for island transmission networks that are not connected to other transmission networks through interconnections.

Aid to renewable energy:

EC Decision SA.40348 (2015/NN) was published in December 2017, authorising the Spanish system of aid to renewable energy. The EC came to the conclusion that the Spanish system of aid to electricity production from renewable energy sources, cogeneration of high efficiency heat, electricity and wastes is in accordance with the state aid standards of the European Union.

3.2. Spain

Spanish electricity sector

Regulated revenues and costs in the electricity sector

An order was published at the end of December 2016 establishing electricity access tolls for 2017. The order maintained the currently valid tolls, capacity payments and compensation of non-peninsular systems, and the contribution of 50% of this cost by the General State Budget. The distribution remuneration is provisionally settled with 2016 values until a ministerial order with the values for 2017 is published.

Renewable energy remuneration revision

The order to revise the remuneration for renewable energies, cogeneration and waste for 2017-2019 was published in February 2017. The order revises the regulated remuneration additional to the market income received by the aforementioned facilities for both investment as well as operation:

- The actual prices obtained in the previous half-period (2014-2016) are updated, using the OMIP futures for the next three years (2017-2019) as a reference (approximately EUR 42 - 43 per MWh), maintaining a price of EUR 52 per MWh as of 2020.
- In turn, operation remuneration of the first half of 2017 is revised to include the updated fuel costs.

The total regulated remuneration increase in the sector is approximately EUR 600 million versus 2016.

Renewable Energies, Cogeneration and Waste (RECORE):

The order was published that reviews the operation remuneration (OR) for the second half of 2017, in accordance with the evolution of the cost of the raw materials and the price of the euro/US dollar. The level of remuneration stays at a level similar to that of the previous half.

In this order, five new types of facilities are created, establishing the remuneration of some current facilities that showed inconsistencies in their enrolment on the record.

The judgements of the Supreme Court were also published, cancelling the amendments to the useful life that affected the mini hydro power plants before 2014 and the slurry plants, obligating them to maintain the regulatory useful life at 25 years. For slurries it is also mandatory to review the equivalent hours for the calculation of the plant production.

Social tariff

On 24 December, the Royal Decree-law 7/2016 was published, which regulates the mechanism for financing the cost of Social tariff and other measures to protect vulnerable electricity consumers. In response to the rulings of the Supreme Court on appeals against social bonus financing, this Royal Decree-Law establishes a new mechanism for financing them against retail activities and entered into force on 25 December 2016. In the meantime and until the regulating provisions, IBERDROLA will finance 35.5% compared to the previous 38%. The royal decree-law calls on the Government to develop a new social protection mechanism that includes income criteria in its definition and also creates a second group of "severely vulnerable consumers" entailing a prohibition on supply discontinuance and bill co-financing by the competent administrations and social tariff funders.

The royal decree-law was co-validated on 31 January 2017, from which date the implementing provisions thereof has a term of three months.

Royal Decree 897/2017, concerning vulnerable consumers, social bonus and other protective measures for domestic electricity consumers and the ministerial order implementing this decree, applicable as of 9 October 2017 (with a transitional period of six months for social bonus recipients) were published at the beginning of October 2017. The social bonus is defined as a discount on the electricity bill, 25% or 40% on the PVPC up to a consumption limit, based on the income and characteristics of the family unit. The social bonus eligibility criteria and access procedure were revised based on criteria entailing income, number of minors in the household and other conditions up to a consumption limit. The social bonus will apply for two years and only extend until expiration of the pertinent contract for large families. The supply suspension process for natural persons in their primary residence was also revised.

There is an additional obligation to rescind additional services under contract with the consumer when the electricity supply is terminated. Lastly, a method was established for calculating the percentages for distribution amongst retailers based on their quota of customers and procedure for settling the quantities to finance.

The consumer must request the social tariff to a benchmark retailer. Who in turn must check the details of the request on a remote platform managed by the Ministry of Energy, Tourism and Digital Agenda, except for the Basque Country and Navarra, where the consumer must present the income received.

All retailers have the obligation to finance the social bonus according to distribution percentages that are calculated based on the number of customers (in the free or regulated market), and also to inform all the consumers of the right to contract at PVPC or social tariff.

The supply suspension process for natural persons in their primary residence was also revised.

- The deadlines for suspension of supply due to non-payment (2 months after notification or 4 months for vulnerable customers) in the free and regulated market are matched, and the number of authenticated notifications due to lack of payment increases (between 2 and 4 notifications), which must follow the established models.
- The supply to consumers at risk of social exclusion (severely vulnerable or who are being assisted by social services and pay less than 50% of their bill to PVPC) are considered a necessary supply and as such, uninterruptable. The rest of the bill will be paid by the same companies financing the social tariff.

There is an additional obligation to rescind additional services under contract with the consumer when the electricity supply is terminated.

Return of amounts financed by the social bonus between 2014 and 2016:

A return order was published in October 2017, paid from the accumulated surplus of the settlements, for amounts of the 2015 and 2016 social bonus, along with its corresponding interests.

The return came into effect in November, with IBERDROLA receiving EUR 120 million (EUR 114 million from principle and EUR 6 million from interests).

Subsequently, the return order of the 2014 amounts, recognised in the November judgement, was published in December 2017.

As in the previous case, it includes the corresponding interest and it will also be paid from the accumulated surplus. IBERDROLA shall receive EUR 77 million (EUR 70 million from principle and EUR 7 million from interests).

Territorial Supplements

A ministerial order was published in January 2017 that established the Territorial Supplements of the Autonomous Communities of Catalonia, La Rioja, Castilla La Mancha and Valencia, and their rebilling procedure to the consumers of the corresponding autonomous communities.

This order is a result of the Supreme Court rulings that supplements must be established in the tolls applied to consumers in every autonomous community to recover the local taxes on the different electricity activities in 2013.

The approved order entails rebilling consumers in the four autonomous communities where the government has completed the process, and the rest of the autonomous communities remain pending.

National efficiency fund

In March 2017, the order establishing the contributions to the National Energy Efficiency Fund for 2017 was published. Electricity and gas retailers and oil product operators must finance this fund in proportion to their 2015 turnover figures (year n-2). The approximate weight of these sectors is 25% electricity, 25% gas and 50% oil.

Similar to previous years, the annual allocation is set at EUR 205.2 million. The total turnover in these sectors amounted to 777 TWh equivalent, which is equal to 0.26 euros per MWh of electricity, gas or oil product. Calculations are based on the final energy sales declared by each company and corrections from previous years are added. As the values are final energy, gas consumption in generation and cogeneration is excluded.

The quota calculated for IBERDROLA is 7.2%, for a turnover of 56.3 TWh and the payment obligation is approximately EUR14.9 million versus EUR15.1 million last year.

Renewable capacity auctions

The royal decree providing legal support to the first renewables auction in 2017 was approved on 31 March 2017, followed by publication of the ministerial order and decisions regulating the auction procedure and parameters of remuneration.

The auction expected a maximum 3,000 MW of renewable power capacity on the Iberian peninsula, excluding cogeneration. It addresses new facilities but does not admit repowering existing wind farms or projects that already have authorisation or prior entry. All technologies will compete against each other without quotas. A surety of EUR 60 per kW is established, linked to attaining intermediate milestones. Failure to attain the first milestone will entail the loss of the entire surety (100%).

The auction took place on 17 May with an assignment of 2,980 MW in wind power, 1 MW photovoltaic power and 19 MW in the other technologies. The maximum discount was applicable, and therefore successful bidders would receive no premiums, save the pertinent revisions in subsequent regulatory periods when the market price decreases to a certain level.

The royal decree providing legal support to the first renewables auction in 2017 was approved on 17 June 2017. A quota of 3,000 MW in wind or photovoltaic power was established for the Iberian peninsula. Additionally, the projects presenting the same maximum discount as the winning bid in the auction were awarded contracts so long as a confidential value was not surpassed.

On 1 July 2017, the decision on the call for the third new photovoltaic and wind power capacity auction on the peninsula was published after the royal decree for calling the auction and the ministerial order establishing the corresponding remuneration parameters were published in June.

The auction was held on 26 July, resulting in the assignment of 3,909 MW of photovoltaic and 1,128 MW of wind power. The procedure and rules of application were the same as the ones in the May auction, differing in the increased maximum reduction percentages compared with the previous auction. The maximum discount was applicable, and therefore successful bidders would receive no additional remuneration besides the market remuneration, save the pertinent revisions in subsequent regulatory periods when the market price decreases to a certain level.

Constitutional Court ruling quashing several sections in Law 13/2015 regarding Galicia

The quashed sections regulated some matters regarding the billing of customers for electricity that conflicted with the powers of the State.

Aspects related to billing with new remotely managed meters are relevant, since it overrides the prohibition not only to collect rent when they are not integrated yet but also to bill on estimated readings for these meters when real consumption data cannot be secured remotely. It also invalidates the payment exemptions on extension rights to purchasers of urbanised land for the power capacity already borne by the industrial complex promoter, regardless of the time elapsed since then. State legislation establishes an expiration in three years (low voltage) or five years (high voltage) for this exemption.

Supreme Court ruling regarding the deficit in 2013

In April 2017, the Official State Gazette published the Supreme Court's ruling on the appeal lodged by UNESA against the Ministerial Order on tolls in 2015. In relation to the deficit of 2013, the ruling establishes acknowledgement of interests to UNESA companies from the moment of contribution (instead of from 1 January 2014), which results in EUR 5 million to IBERDROLA.

Detraction of CO2 emission rights practised in 2006

Through an enforceability declaration of the decision handed down on 4 May, the Supreme Court acknowledged IBERDROLA's rights to the interests on the detraction of emission rights practised in 2006 amounting to EUR 31 million after resolving the presented decision execution incident. The interests correspond to amounts unduly taken from facilities not assigned under the first national CO rights assignment plan.

In another ruling, the Supreme Court also found in favour of a payment to IBERDROLA of EUR 1 million for interests in the detraction of emission rights in 2007.

The acknowledgement of late interests related to the detraction of rights was recorded in the 2017 consolidated profit and loss account.

Supreme Court ruling regarding Royal Decree 900/2015 on self-consumption

In July 2017, the Official State Gazette published the judgement of the Constitutional Court invalidating several precepts of Royal Decree 900/2015 on self-consumption in the complaint lodged by the Catalan regional government (Generalitat de Catalunya) and upholding the ruling of the Supreme Court published in June. In particular, the judgement invalidated section 4.3, permitting a generator (producer) to connect to an internal grid of several consumers, in which regard the Constitutional Court construes the term "internal grid of several consumers" to mean "connection/coupling facilities" (common area of the building before the meters). It also invalidates several sections referring to the obligation to register with a state registry.

Nuclear power plant renewal deadline requests

Two ministerial orders were published in June to extend the deadline for requesting operation renewal for the Almaraz and Vandellós nuclear power plants. Renewal will be requested within the term of two months from the government's approval of the comprehensive energy and climate plan or, in the absence thereof, two months before completion of the current authorisation. This plan is part of the developments required by the Clean Energy Package.

Hydroelectric power fee

A royal decree-law was published in June 2017, containing measures to alleviate the drought in certain watersheds that included an increased hydroelectric power fee. The charged rate hiked from 22% to 25.5%, applicable on the income obtained from hydroelectric power production. The measure entered into force upon publication of the royal decree-law with no time limit.

Garoña closure

In August, the Official State Gazette published the order establishing the final closure of Garoña. The government deems that, at the current juncture entailing the revision of the energy planning, the lack of electricity production at this power plant had no significant repercussion on the electricity supply due to its small power capacity (466 MW) in comparison with other nuclear power plants, and the effective return online could be delayed for more than a year as a result of the investments and measures being taken at the plant concerning nuclear safety and radiological protection.

Coal subsidies

In August, the Official State Gazette published the order with the Ministry of Energy, Tourism and the Digital Agenda's comprehensive annual aid plan, which includes subventions to the coal sector for 2017. The published amounts are not binding but contingent upon the effective implementation of the different subvention lines. These programmes include aid to offset the closure of coal-burning power plants (EUR 25 million).

Availability and interruptible incentive:

In November 2017, the order in which the incentive for availability was published will only be extended for half a year, until June 2018 (it is usually extended for one year) and excludes the hydropower plants.

The interruptible mechanism is also modified and will be awarded through an auction for 5 months (previously 1 year). The modifications are also implemented to be able to make their application flexible.

The interruptible auction was held the week of 18 to 22 December 2017 for the delivery period understood to be between 1 January and 31 May 2018. Unlike the previous years, additional auctions were not held since the set conditions to hold them are not provided in the confidential annexe. A power of 2,600 MW (-12.6% vs. 2,975 MW in 2017) at a total annual cost of EUR 372,8 million (-29% vs. EUR 524.8 million in 2017) was auctioned.

2018 tolls:

The order that establishes the electricity tolls for 2018 was published.

- It freezes all the tolls and current capacity payments.
- It provisionally maintains the transmission remuneration and distribution, until the orders with definitive values for 2018 are published.
- It establishes the possibility of allocating part of the historical surplus so that there are no maladjustments in 2017 and 2018 (up to EUR 200 million in 2017 and EUR 500 million in total).
- The 2017 receivable income is considered to be the balances of the accounts allocated to quality improvement, service and clearing vegetation plans, for the amount of EUR 54 million.
- It modifies the aspects related to social bonus eligibility criteria and access procedure, for pensioners and large families.
- It makes the gas meter replacement plan more flexible in granting exceptions: The distributors can remain at up to 2% of non-replaced gas meters starting January 2019.
- It establishes the provision remuneration of the OS and OM, recognising EUR 9 and 5 million additional, respectively, for the adaptation of systems to the European market, which increases the prices to be paid by generators and retailers.

Distribution compensation:

Several judgements have been published that affect the remuneration of past years, as well as the calculation of the remuneration for the coming years:

- Judgement of the Supreme Court that mandates the revision of the coefficient (λ base) representing the percentage of facilities that make up part of the assets of each company and that were financed by it, discounting that loaned by third parties and the volume of public aid received.
- Favourable ruling for IBERDROLA in the appeal filed against the incentive for losses in 2012 and 2013.
- Unfavourable ruling for IBERDROLA in the appeal filed against the incentive for losses in 2010 and 2011.
- Judgements of the Supreme Court that accept that the accounting information is used for the calculation of the average remaining life.

Electric vehicle aid:

Aid programmes of up to EUR 20 million have been published for the acquisition of electric vehicles and other types of alternative energy, and EUR 15 million for the development of the recharging infrastructure, managed by IDAE.

Spanish gas sector

Gas tolls for 2017

On 31 December, Order ETU/1977/2016 was published whereby the tolls and fees associated with third party access to gas facilities and the remuneration of regulated activities for 2017 are established. This order maintains the current tolls in force, except for the reduction of refills except in the case of the coefficients applicable to short-term contracts.

Last resort of natural gas tariff for the first quarter of 2017

Resolution of 29 December of the General Directorate of Energy Policy and Mines, publishes the last resort of natural gas tariff effective from 1 January 2017. Prices decrease by an average of 3% versus the previous quarters. The increase is due to the boost in the cost of the raw material, both in its component referenced to Brent and the one referenced to the NBP. Still, prices continue being 8% lower than those in January 2015, when the historical maximum record was attained.

Last resort of natural gas tariff for the third quarter of 2017

Resolution of 28 December of the General Directorate of Energy Policy and Mines, publishes the last resort of natural gas tariff effective from 1 January 2017. Prices decrease by an average of 1%, in relation to the previous quarter. The decrease is a result of the reduced raw material cost, improved exchange rate and Brent price similar to the previous quarter. Thus, prices continue being 7% lower than those in January 2015, when the historical maximum record was attained.

Winter activation plan:

The resolution was published obligating the gas retailers to maintain a 'winter reserve' (from November to March) by means of its own existing LNGs or those of third parties, equivalent to 3.5 days of its input capacity to the transmission network (it was 2 days up until now), which may only be mobilised in the event of a cold spell or significant increase in the electricity demand, prior declaration of the Technical System Manager. Exceptionally, during the 2017-2018 winter period, the part of the reserve that did not exceed the current debenture up until now shall also remain in the underground storage facilities.

Market makers:

The decision was published establishing the conditions for the provision of the mandatory market maker service by the controlling operators of the natural gas market (Endesa and GNF).

They are obligated to maintain a minimum volume of purchase and sale offers up to a maximum annual volume of 5.68% of its volume from supplying gas to Spain. The separation of prices between the purchase and sales offers must be equal to or less than 0.50 euros per MWh.

2018 gas tolls:

The order was published that establishes the gas tolls and fees for 2018, in which all the tolls and current fees are frozen.

It also recognises the corresponding yearly cost of storage facilities in Castor at 80.7 million years (recently cancelled by the Constitutional Court) and recognises an imbalance of EUR 90 million between the 2016 income and expenses, to be recovered with the payment of the 2018-2022 tolls (which allows for its securitisation).

Last resort natural gas tariff for the first quarter of 2018

The Last Resort Rate of natural gas was published, valid starting 1 January 2018. Prices increase by an average of 6%, in relation to the previous quarter. The increase is due to the increase in the cost of raw material, Brent (+12%) and NPB (+25%).

3.3. United Kingdom

BREXIT

The UK informed of the activation of Article 50 of the EUT on 29 March 2017. After a standstill due to the general elections, negotiations started on 19 June 2017.

On 8 December 2017, the negotiators of the United Kingdom and European Union agreed upon a joint report on the payment issues from the separation, the rights of the citizens and Northern Ireland. This allowed the European Council to conclude that sufficient process has been made to continue onto the next phase of the negotiations, in which a transition phase of about 2 years is expected, during which most of the agreements of the European Union shall continue to be applied without change and the United Kingdom continues to make budgetary contributions. Likewise, work will start on the future relationship between the United Kingdom and the European Union, even though this would not be over in March 2019.

Capacity Market

Office of Gas and Electricity Markets announced its final decision on industry proposals CMP264 and CMP265, which favour an option construed as that substantially eliminates the benefits (regarding transmission tolls) for generation connected to distribution progressively for a period of three years beginning in April 2018. Moreover, on 22 March 2017 the BEIS (Department for Business, Energy and Industrial Strategy) announced its decision to recover the costs of the capacity payments on the gross demand beginning in 2018, thus preventing the actual covered subsidy for generation connected to distribution.

On 15 June 2017, the published its plan regarding the 2017/2018 capacity market, which establishes that the T-1 auction (for energy delivery in 2018/19) begins on 30 January 2018 and the T-4 auction (delivery in 2021/22) begins on 6 February 2018.

The Government has continued working on proposals for improving the Capacity Market and on 4 December 2017 announced more realistic appraisal factors for short-duration battery. On 1 November the legislation necessary for improving the distribution of capacity market costs and avoiding the excessive remuneration of small diesel systems connected to distribution was approved. DEFRA (Department for Environment, Food & Rural Affairs) continued to work on the restrictions of diesel generated emissions to require environmental updates from whoever participates in the CM. The planning of the 2017/2018 capacity market continues. The T-1 auction started on 30 January 2018 and the T-4 auction on 6 February 2018.

Renewables auction

The auction on contracts for differences (CfD) on renewable energies for offshore wind power and other technologies began on 3 April 2017 with a budget of GBP 290 million. Sealed envelopes with the bids were opened in August 2017. On 11 September 2017, the results of the second round of CfD auctions for offshore wind farms and other immature technologies were announced. Over 3 GW in offshore wind power were awarded with approximately 2.3 GW in delivery year 2022/23 at a price of GBP 57.50 per MW (at 2012 levels).

After the results of this last auction, the Government confirmed a budget of GBP 557 million for the next contracts for difference (CfD) for offshore wind and other immature technologies. This amount is sufficient for a broad offshore programme in 2020.

Retail prices

Over the speech at the Conservative Party Convention on 4 October, Prime Minister Theresa May announced an inquiry on the draft law that required OFGEM to apply a price cap on the standard variable tariffs (SVT) and other tariffs by default. The draft of the draft law was submitted to pre-legislative scrutiny by a 'Selection Committee' and it is expected to reach Parliament at the beginning of 2018. In autumn of 2017, OFGEM confirmed its decision to increase the exiting price cap for customers with pre-payment accountants so that they be applied to customers who are in the Warm Homes Discount programme (this new price cap enters into effect 2 February 2018). OFGEM has indicated an intention to extend this latter cap to further vulnerable customers, which it wants to implement in autumn 2018. Ofgem has indicated an intention to extend this latter cap to further vulnerable customers in later 2018.

RIIO2

On 12 July 2017, OFGEM published an open letter regarding the development of the RIIO framework, indicating that new controls would be more restrictive and inquiring on a series of specific details. OFGEM announced that it would open a consultation regarding its proposals for the RIIO-2 structure at the beginning of 2018. Consultations were also made on proposals to simulate competition in mandatorily tendered major grid projects, providing the transmission owner with an option to tender the project or accept lesser profitability. No ScottishPower project is currently included in this case.

Cost Review Study.

On 25 October 2017, Professor Dieter Helm published a report on his independent energy cost review. In this, he specifically studied how the energy industry, government and regulators are able to keep the cost of electricity as low as possible by ensuring, in turn, the national and international climate targets.

The review concluded with a long list of ambitious proposals, on which the Government published a call for evidence.

Carbon Closure.

The Government has reconfirmed its intention to eliminate the carbon generation system in 2025 and, in the 2017 autumn proposals, it confirmed that it will maintain the minimum price of CO₂ so that the sum of this price and the ETS price remain at the current levels, until at least all of the carbon generation is out of the system.

3.4. United States

Paris Agreement

On 4 August 2017 Trump's Administration sent a formal notice to the UN describing its intention to withdraw from the Paris Agreement. The Agreement allows for any party to send a notice in writing to the UN expressing the intention to withdraw from the Agreement three years after it becomes effective. The withdrawn will become effective a year after the notice, expected for 2020. On 20 September, the United States Climate Alliance, a coalition of 14 US States and Puerto Rico formed in response to President Trump's statement that he would withdraw from the Paris climate deal, announced its commitment to honour the United States' commitment under the Paris agreement to reduce emissions related to global warming. The co-chairmen of the alliance stated that the group was taking steps to secure a reduction of 24 to 29% (compared to 2005 emissions) by 2025, the target set in the Paris agreement.

Tax Reform

On 22 December 2017, President Trump signed the tax reform, Tax Cuts and Jobs Act, which implied a cut of 1.5 trillion US dollars.

The new law establishes the following:

- The permanent reduction of corporate income tax from 35 to 21%, effective as of 1 January 2018.
- The elimination of the corporate Alternative Minimum Tax (AMT).

- The maintenance of corporate deductions for local and state taxes.
- The limitation on the deduction of interests.
- The exclusion of the utilities (regulated public services) from the total expense and their exemption from the limitation on the deduction of interests.
- The inclusion of normalisation and the excess provisions of deferred taxes.
- The maintenance of tax on dividends and capital gains.
- The maintenance of the elimination and gradual reduction of the PTC (Production Tax Credits) and the ITC (Investment Tax Credits), without modifications.
- The enforcement of a Base Erosion Anti-Abuse Tax on the deductions for the costs paid or accrued to a foreign subsidiary.

The Ministry of Finance will publish the guides and regulations necessary to implement the law.

Environmental Protection Agency

The EPA (Environmental Protection Agency) is carrying out a procedure to put an end to the Clean Power Plan.

The EPA is also reviewing the options on replacing the programme, which will establish a smoother regulatory impact.

In November 2017, the Congress approved and the President signed the 2018 annual defence authorisation legislation. This includes a text that addresses the location of wind farms near military bases. The legislation made minor changes to the current process.

Resilience of the System.

FERC is also reviewing the resilience of the system. In September 2017, the Minister of Energy proposed that certain generators with resilience properties can obtain income through this service. FERC refused to go forward with the proposal of the Minister. Instead, the FERC is now continuing to review the resilience properties at the regional level.

Renewables

The legislators of California approved it, and Governor Brown signed Assembly Bill 398, increasing the state regulations of greenhouse gases and authorising the use of the cap-and-trade programme until 2030.

The legislators of Texas approved it and Governor Abbott signed a draft law to deny property tax incentives to the new wind projects near military facilities.

The North Carolina Senate added a provision of 18 months to the moratorium in the solar draft law for the location of wind farms. Governor Cooper signed the draft law that specifically exempts Desert wind II from the moratorium.

Tariffs on solar panels

On 22 September 2017, the International Trade Commission (ITC) of the United States concluded that the imported solar panels were causing 'serious damages' to American manufacturers.

Suniva and SolarWorld Americas requested that the ITC recall that the mass influx of cheap solar panels from Asian countries is damaging the American industry and putting companies out of business.

On 22 January 2018, President Trump approved the recommendations to establish tariffs on the panels and solar cells. These tariffs will be 30% the first year and will be lowered over the following 3 years, excluding the first 2.5 GW in imports on each one. This is less than the levels requested by the companies who processed the claim, accusing the Chinese companies of undermining the market.

Transmission

The review continues on the return on equity (ROE) of the FERC (Federal Energy Regulatory Committee) for the transmission facilities in New England. The Court of Appeals issued a ruling ordering the FERC to reconsider its order on the 2011 claim (first claim), in which the initial ROE decreased from 11.14% to 10.57%. The final determination of the ROE is still unresolved.

3.5. Brazil

New Tariff Flag values for 2017

On 20 February 2017, ANEEL published a decision with the variable unit costs for triggering the different tariff flags in 2017, also establishing the additional cost for each flag:

- Yellow category: It is activated when the VCU of the last coal-fired plant dispatched is greater than BRL 211.28/MWh and less than BRL 422.56/MWh. It implies a surcharge of BRL 20 /MWh for the customer (in 2016, it was BRL 15/MWh).
- Red 1 category: It is activated when the VCU of the last coal-fired plant dispatched is greater than BRL 422.57/MWh and less than BRL 610/MWh. It implies a surcharge of BRL 30 /MWh for the customer (the same as in 2016).
- Red 2 category: It is activated when the VCU of the last coal-fired plant dispatched is greater than BRL 610/MWh. It implies a surcharge of BRL 35/MWh for the customer (in 2016, BRL 45/MWh)

On 24 October 2017 ANEEL open a public enquiry to revise the tariff flags methodology and the values added each time each flag is activated. The deadline for sending comments ended on 11 December.

Over-contracting of distributors:

During the first half in 2017, the centralised negotiation mechanism held rounds with excessively contracted distributors and generators seeking to lower the volume of contracted energy (new energy surplus and deficit compensation mechanism), and also held a special round for reducing January 2018 contracts to December 2021.

On 23 August 2017, the Brazilian Ministry of Mines and Energy published Decree 9,143/2017 with amendments affecting the contracting of energy through distributors. The main developments are:

- Recognition of overcontracting arising from the migration of special customers (between 0.5 and 3 MW) to the deregulated market as involuntary, so long as there is participation in all rounds of the centralised energy surplus and deficit compensation mechanism between distributors and producers. In doing so, it guarantees the transfer to tariff of these overcontracting amounts.
- Defined rules so that the distributor can return any contract arising from the existing energy auction when there is a migration of special customers (previously only capable of returning contracts entered into before 2017).
- Clearer rules for auctions, anticipating the contracting periods and guaranteeing predictability. Obligation to publish an annual auction agenda at the start of each year.
- Enabling distributors to sell their energy surpluses to producers, retailers and free customers (> 3 MW) in specific auctions.
- Reduced physical guarantee to 90% for producers who sell their energy in the quota system (positive measure for distributors by reducing the risk of overcontracting).

Additionally, on 24 July 2017, the Brazilian Chamber of Electricity Trading published the results of a new round of the centralised energy surplus and deficit compensation mechanism between distributors and producers for the July-December 2017 contracting period.

Elektro's annual tariff readjustment: Tariff readjustment for inflation and the competitiveness and efficiency factors, and the tariff at real costs of purchasing energy, transmission and system loading

Approved by ANEEL on 22 August. It entails an average increase of 10.40% for consumers (increase of 10.27% for HV and 10.47% for LV). The new tariffs are valid beginning on 27 August. In this case, despite entailing an increased final tariff, the distributor's remuneration decreases by 2.1% as a result of the lower inflation rate and application of the productivity, efficiency and quality factors.

Public inquiry on the regulatory improvements in the Electricity Sector CP 33/2017

Between 5 July and 17 August, the Ministry of Mines and Energy opened a public industry with a view to gleaning contributions of agents to improve the regulatory framework of the electricity sector. The technical note contains proposals on various matters discussed in the sector such as the expansion of retail deregulation, separation in auctions on ballast (supply security) and energy (to date both are quoted together in long-term distributor contracts), binomial tariff, end of the quota system, preview of the calendar for standardising regulated charges (CDE account) throughout the different zones. It also proposes solutions to eliminate the elevated judicialisation of the sector.

Result of transmission line auction No. 2/2017

On 15 December, an auction was held on transmission lines, in which the 11 lots offered were matched with an average discount of 40.46% on the expected market price.

This auction implies an investment of 8,700 million Brazilian reales in 10 states (Bahia, Ceará, Minas Gerais, Pará, Paraíba, Pernambuco, Piauí, Rio Grande do Norte and Tocantins). The lots contain transmission lines and substations, specifically 4,919 km of transmission lines and 10,416 MVA were awarded to the substations. They are expected to enter into commercial operation after 36 to 60 months after the date on which the concession contracts are signed. The duration of these contracts shall be for 30 years.

NEOENERGIA was the main winner of this auction, being awarded 1,074 km and a 500 kV substation on 2 lots, which were amongst the most disputed projects.

- The first project includes 729 km in the states of Piauí, Tocantins and Bahia. With an annual income of 126 million Brazilian reales, which implies a discount of 46.62%.
- The second is a 345 km line in the states of Paraíba, Rio Grande do Norte and Ceará. With an annual income of 57.3 million Brazilian reales and a discount of 44.56% (with 14 business groups competing for this line), it is important to mention that the Santa Luzia substation will be the future connection point with the Basic Grid for the two wind farms that were auctioned off at the A-6 auction held on 20 December.

Distributors released from obligation to refund revenues from energy sales in the market between 2002 and 2008

On 5 July, a ruling of the Finance and Taxation Commission of the Federal Chamber invalidated the Legislative Decree Project PDC 10, which aimed to required distributors to refund amounts collected in the tariffs between 2002 and 2008 back to consumers. The excess collected amounts arose because parcel A of the tariff (costs not managed by the distributor such as the energy purchase cost and transmission grid payment) was not neutral and allowed distributors to obtain profits whenever the real demand was higher than the initial estimations. Until then, there had been a latent risk for distributors with an impact of BRL 13,000 million for the sector as a whole. The CFT's decision is final and there is no political pressure to reopen the matter in Congress.

Regulatory Resolution No. 787/2017 on the quality of applying the corporate governance systems to the electricity distribution companies (published on 8 November 2017)

The corporate governance is measured using five variables: transparency, structure of the senior management, relationship between ownership and control, internal control and regulatory compliance. These variables make it possible to classify the distributors at different levels of compliance: high, average, insufficient and unfeasible. If the distributor has a low level of compliance, it must be included in monitoring programmes to promote improvements and assess the financial economic situation and quality of the governance system.

This resolution entered into effect on 1 January 2018 but has a trial period of 2 years, during which the distributors shall not have advantages if their governance is good, or penalties if it is not.

Exclusion from the responsibility of the Baixo Iguaçu hydraulic power plant for a delay in its works.

The Baixo Iguaçu power plant requested that it recognise an exclusion from responsibility for 104 days, during which the construction works were stopped due to the invasion promoted by the Movement of People Affected by the Dams throughout 2016. On 13 November 2017, Order No 3770/2017 was published recognising an exclusion from responsibility for 46 days due to delays and maintaining the validity period of the contract at 35 years. Resolution No. 6712/2017 was also published, which altered and postponed the implementation schedule of this hydraulic power plant.

Regulatory Resolution No. 791/2017 that regulates the acceptance of requests asking for reviews on extraordinary tariffs (RET) by the electrical energy distribution concessionaries.

The electricity distribution concession contracts state the ANEEL shall be able to review the tariffs to maintain the economic-financial balance of the contract in the event there are significant alterations to the costs of the concessionary.

In May 2017, public inquiry No. 22/2017 was opened to improve the standard that establishes the criteria to allow for a request process of the review of extraordinary tariffs and the applicable procedures. ANEEL recommended to make it explicit in a regulation that the concessionary has the right appeal, if their RET request is not accepted, enduring the requirement verification phase.

For a review of extraordinary tariff request to be admitted 1) the concessionary must present the causative information on the economic-financial balance and the actions carried out by the concessionary to deal with the imbalance at Plot B; 2) it may not have the objective compensate for imbalances caused by inefficiency of the concessionary; and 3) it must notify the associations of the consumers.

The responsible authorities must declare a maximum of 45 days if the RET request is allowed or not. The need to make a RET will be determined after a Public Hearing.

2018 A-4 new energy auction:

The Ministry of Mines and Energy published in the Official Journal "Portaria" 465, on 1 December, the guidelines for the holding of the 2018 A-4 energy auction, with the contracts starting in June 2022. The auction will be held on 4 April 2018. The distributors must present their energy purchase requirement declarations for this auction on 6 February 2018.

The term to submit the documentation and the technical authorisation ended 5 January 2018. The projects that participated in the 2017 December auctions (2017 A-4 and A-6) are exempt from presenting new documentation, provided that their technical characteristics and other project information remain the same.

At the auction, the CCEAR (regulated contracts) will be negotiated in a supply term of 30 years for the hydraulic projects and 20 years for the biomass, wind and photovoltaic solar projects.

Results of the 2017 A-4 auction:

Held on 18 December 2017, this auction contracted 674.5 MW of power installed from 25 projects, in which 85% corresponded to solar energy (574 MW); 9.5% corresponded to wind projects (64 MW); 3.7% to biomass (25 MW); and 1.7% to the small hydraulic power plants (11.5 MW).

On the buyer side, 7 distributors participated and were awarded energy contracts for supply to their customers. These distributors are: CEA, CEAL, Cepisa, Coelba, Copel D, EDP Espírito Santo (of EDP Energias do Brasil) and Elektro. Specifically, Coelba acquired an average of 23.3 MW and Elektro an average of 9.3 MW to supply energy from January 2022 with PPA for 20 to 30 years. Neoenergia did not participate in this auction with generation projects, its objective in the A-6 auction.

Regulatory Regulation No. 796/2017 on the expected hydrological risk in the processes tariffed by the distributors.

It was published on 19 December 2017 to approve modifications to the submodules dealing with the rest of the financial components in the Tariff Regulation Procedures (PRORET). The adjustments made to these submodules establish that it must include the expected hydrological risk to be considered in the processes tariffed by the distributors as a financial component, specifically in the energy purchase account of Plot A. They also establish that a change to this provision will modify the parameters and therefore the balance to be compensated in the energy purchase account.

Regulatory Resolution No. 797/2017 that establishes the procedure to share infrastructures (published on 19 December 2017)

It establishes the procedures to share electrical energy concession infrastructures with agents from the same sector or with agents from the telecommunications, petroleum and gas sectors (this decision was published after the holding of Public Hearing No. 96/2016 and a long debate between ANEEL and the regulatory agencies of the telecommunication sectors).

One of the improvements introduced the treatment of irregular occupation, the establishment of two occupation concepts by absence (when there is no previously approved technical project) and clandestine occupation (without a valid or identified technical project previously approved or contracted for sharing). In the case of occupation by absence, the disconnection requires the prior authorisation from the Conflict Resolution Committee amongst the regulatory bodies. In the case of clandestine occupation, the distributor may remove the equipment without prior authorisation.

Despite this decision, ANEEL and the National Telecommunications Agency Board consider that more effective actions are required to regulate it. For this, they decided to bring forward the decision of Joint Resolution No. 4 of 16 December 2014 to 2018, establishing the reference price to share the posts amongst electrical energy distributors and the telecommunications companies, using the conflict resolution processes and the establishment of rules for the use and occupation of fixing points.

Result of the 2017 A-6 auction

On 20 December 2017, the 2017 A-6 auction was held, in which 3,841.6 MW of installed power from 63 projects were contracted, of which 49 projects were on wind (1,386.62 MW), 6 projects on small hydraulic power plants (139.02 MW), 6 on biomass plants (177.05 MW) and 2 on thermal gas (2,138.91 MW). No carbon power plant was matched.

All the distributors that participated in the auction received double the amount of energy requested due to the large size of the last awarded power plant. Coelba acquired an average of 250 MW, Elektro an average of 220 Mw, Celpe an average of 24 MW and Cosern an average of 54 MW with contracts whose start of supply shall come into effect January 2023.

The wind power reached an average price of 98.62 Brazilian reales per MWh with a discount of 64.47% against the initial cap price of 276 Brazilian reales per MWh. The biomass ended with a discount of 34.10% and an average price of 216.82 Brazilian reales per MWh. The average price of the power plants with natural gas was 213.46 Brazilian reales per MWh (a discount of 33.08%) and lastly, the average price for the hydraulics was 219.20 Brazilian reales per MWh (which implies a discount of 22%).

NEOENERGIA was awarded 281 MW of wind power coming from 9 farms in the Santa Luzia area in the state of Paraíba at an average price of 100.01 Brazilian reales per MWh. The wind farms are: EOL Canoas 2; EOL Canoas 4; EOL Chafariz 1; EOL Chafariz 2; EOL Chafariz 3; EOL Chafariz 6; EOL Chafariz 7; EOL Lagoa 3 and EOL Lagoa 4.

Result of the 2017 A-1 and A-2 auctions.

The A-1 auction was held on 22 December 2017. At this auction, an average of 288 MW was awarded at an average price of 177.46 Brazilian reales per MWh (with a discount of 18.2% on the cap price). The resulting supply contracts shall be effective from 01/01/2018 to 31/12/2019. Of the NEOENERGIA Group distributors, only Coelba participated, acquiring an average of 34 MW.

The A-2 auction was held on 22 December. At this auction, an average of 423 MW was awarded at an average price of 174.52 Brazilian reales per MWh (with a discount of 9.6% on the cap price). The supply contracts shall be effective from 1 January 2019 to 31 December 2020. Of the NEOENERGIA Group distributors, only Coelba participated, acquiring an average of 127 MW.

Provisional Measure 814/2017 (Privatisation of Eletrobras)

Published on 29 December in the Official Journal, Provisional Measure 814/2017 repeals the device of Act 10.848/2004 by means of which Eletrobras and its controlled companies remained exempt from the National Privatisation Programme. With this measure, the Government unblocks sales from Eletrobras distributors. It also modifies the legislation of the isolated systems (Northern regions not connected to the National Interconnected System, establishing the conditions for Eletrobras to ensure the collection of credits from sectorial funds for the distributors, which minimises the indebtedness to be assumed by the holding company.

In January 2018, this measure was suspended by the Federal Justice of the state of Pernambuco. In light of this judicial blocking, the President of the Government presented a draft law that allowed for increases of share capital to give access to private capital, thus diluting the holding of the State (the funds raised do not go to the company but to the state coffers). The draft law proposes altering the corporate bylaws of Eletrobras, preventing any shareholder from holding over 10% of the shares with a right to vote. This limit prevents market concentration and the hostile taking of control by another company. Additionally, after privatisation, the Government shall have a Gold Share that will grant it exclusive powers in the administration of the company, such as the indication of an additional Board Member. The text also proposes a corporate restructuring to maintain control over nuclear power and Itaipú Binacional (hydraulic power plant administered jointly between Brazil and Paraguay).

3.6. Mexico

Long-term auctions

On 14 August 2017, the National Energy Control Centre (CENACE) published the accumulated volume of accepted purchase bids, resulting in three purchasers amounting to the following purchase volumes: 1,414 MW in power capacity, 6.1 TWh in energy and 6.1 million Clean Energy Certificates (CEC). Of these volumes, Iberdrola Clientes participates with 8.6% of the total products. On 15 August, CENACE also published the threshold percentage of the maximum economic value (23.47%) under which an iteration would need to be made in the auction. On 22 November, the ruling of the auction was published as a result of the 392 Sale Offers presented by 46 tenderers. 16 winning offers were selected which came to a total of 2,562 MW (52% photovoltaic solar, 27% wind power and 21% turbogas). 5.95 millions of CEL were assigned (97.8% on the total offered), 5.49 TWh of energy (90.2% on the total offered) and 592.61 MW of power (41.9% on the total offered). Iberdrola Clientes acquired, through the auction, 8.64% of this volume granted at extremely competitive prices: weighted average of the energy package + CEL at 20.5 US dollars per MWh; and a weighted average of the power at 35.4 US dollars per kW.

Medium-term auctions

On 12 June 2017, the Official Mexican State Gazette (DOF) published its manual on medium-term auctions (Manual de Subastas de Mediano Plazo). These auctions will be held annually to let Market Participants enter into Electricity Coverage Contracts of up to 3 years; in turn enabling Basic Service Suppliers to meet with the requirements established by the Energy Regulatory Commission (ERC) and satisfy its needs for power and energy in terms of 3 years and reduce their exposure to short-term prices. On 16 August, CENACE held the First Medium-Term Auction and published a preliminary version of the bidding rules. This auction will grant contracts of between 1 and 3 years (2018 -8 months from May to December- 2019 and 2020) for Energy and Power, in which any Responsible Loading Entity may participate. CENACE also presented a schedule, highlighting the following dates:

- 10 January: Publication of the amount, price and parameters of the Accepted Purchase Offers.
- 21 February: Publication of the final prices of the Purchase Offers.
- 22 February: Reception of the economic offer of the sales offer.
- 5 March: Ruling of the auction and assignment of contracts.

Natural gas open season

On 8 May 2017, the first open season for the National Integrated Natural Gas System (SISTRANGAS) assigned 2.3 million GJ/d in the different sections of the system. In this regard, the National Natural Gas Control Centre (CENACE) is preparing to offer the transmission service on a solid base of 6.3 million GJ/d in the system starting on 1 July, representing 97% of the published total capacity available. The premiums that will be paid by customers who received the capacity assignments will be zero in all cases.

Long-term auction clearinghouse

The Energy Secretary (SENER) published the draft project of the Clearinghouse Operational Guide for Contracts assigned through Long-term Auctions in COFEMER. Final publication of the Operational Guide in the Official Gazette is expected to occur in June and will let Responsible Loading Entities participate in long-term auction purchase bids in addition to Basic Service Providers. The main objective is to let Responsible Loading Entities cover their needs for Clean Energy Certificates (CEC) through this process. The Clearinghouse will be a counterparty for buyers and sellers simultaneously. To do so, the long-term auction bidding rules currently being drafted include both contracts in the annexes thereto. The draft opens the possibility of the clearinghouse to absorb contracts derived from the first two long-term auctions in 2015 and 2016, where the only purchaser counterparty was the Electricity Commission as a basic service provider.

Energy transition

On 4 May 2017, the Official Mexican State Gazette (DOF) published the Regulations of the Energy Transition Act, drawn up to establish the mechanisms and procedures so that the different actors responsible for observance and compliance with the Energy Transition Act could create and update the transition strategy for promoting the use of cleaner technologies and fuels; the National Programme for Sustainable Energy Use (PRONASE); the assessment of Planning Tools; framing and/or updating of the methods for quantifying gas emissions and procedure that stakeholders must follow to receive recognition for energy efficiency and environmental excellence.

Definition of Clean Energy Certificate (CEC) goals for 2020, 2021 and 2022

On 31 March 2017, the Official Mexican State Gazette (DOF) published the SENER notice stating the requirements for acquiring Clean Energy Certificates in 2020, 2021 and 2022, informing that the corresponding CEC requirement will be 7.4% for the 2020 Obligation Period; 10.9% for the 2021 Obligation Period and 13.9% for the 2022 Obligation Period. The 2021 and 2022 targets may still be revised (only upwards in the upcoming target publications occurring every year on the same date (end of the first quarter).

Regulation on distributed generation

On 7 March 2017, the Official State Gazette (DOF) published the ERC's decision issuing the general administrative provisions, contract models, method for calculating consideration and general technical specifications applicable to distributed generation and clean distributed generation power plants. This decision, together with the indications of the Interconnection Manual for plants with a power capacity of less than 0.5 MW published in 2016, describes the operating and remuneration criteria applicable to small and medium-scale distributed generation. Additionally, on 22 March, SENER published the Initial Analysis on the Benefits of Clean Distributed Generation and Energy Efficiency in Mexico in compliance with the eighteenth transitional section of the Mexican Energy Transition Act.

Updated Total Short-Term Cost (TSTC)

On 2 March 2017, the Official State Gazette (DOF) published the ERC's decision updating the method to determine the Total Short-Term Cost (TSTC) (RES/143/2017). This decision affirms that the TSTC values (reference on revenue in the system before the reform) will match the local marginal prices resulting from executing wholesale electricity market models. Likewise referring to revenue, it is also worth noting that on 3 March, the ERC scrapped the draft project agreement establishing the maximum limit that the intermediation producer may pay the holders of legacy interconnection contracts for the concept of economic energy". Doing so eliminated the risk that limited payment for self-supply surpluses to 20%.

Transmission lines

On 29 January 2018, the Energy Secretariat (SENER) officially held the first electrical energy auction for the development of new transmission networks with private investments. There is a total of 58 interested national and international companies. In July 2018, the proposals of the participants will be presented and 14 September will be the ruling date of the auction.

Basic supply

On 25 August, the Official State Gazette (DOF) published SENER's terms and conditions, deadlines, criteria, rules and methods for Legacy Basic Supply Contracts, the mechanisms to assess them and the mentioned annexes. The plants generating the most value for the system were selected, in addition to the mechanisms obligating Legacy Thermal Power Plants to deliver energy when the plant is cheaper than the wholesale electricity market price, honouring costs and associated contracts. The document observes the following legacy contracts:

- Legacy Basic Supply Contract Model for Legacy Power Plants
- Legacy Basic Supply Contract Model for Legacy Renewable Power Plants (Energy and CEC Sales)
- Legacy Basic Supply Contract Model for Legacy Power Plants with Related Services (Energy, Power Capacity and Related Service Sales associated with an External Legacy Thermal Power Plant).

Energy transition

On 21 August, SENER published the Smart Power Grid Programme, which defines a roadmap for the short, medium and long terms, and describes projects linked to developing smart grids that could be developed by the CENACE, Transmission and Distribution companies.

Electricity tariffs for the Basic Supply:

On 23 November 2017, the Governing Body of the CRE approved and published the Agreement that issued the method for determining the calculation and adjustment of the final rates, as well as the operation rates, which shall be applied to the CFE Basic Service Supplier Subsidiary Productive Company (CFE SSB) during the period between 1 December 2017 and 31 December 2018. The agreement details the components that make up the final rates of the Basic Supply, which include charges for transmission, distribution, CFE SBB operation, CENACE operation, non MEM related services and the cost of the energy and associated products. For this, it establishes twelve new rates categories and sixteen tariff divisions. There will be a transition period for the application of the tariff, so the new method will not be applied in full until April 2018 for medium and high voltage. The old method (all-inclusive rate) is still valid for domestic consumers without a defined date of when the new criteria will be applied to these customers.

4. ACCOUNTING POLICIES

4.a) Goodwill

Goodwill represents future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized.

Goodwill arising from acquisitions of companies with a functional currency other than the euro is converted to euros at the exchange rate prevailing at the reporting date of the Consolidated statement of financial position.

Goodwill acquired on or after 1 January 2004 is measured at acquisition cost and the ones that are acquired earlier are measured at the carrying amount at 31 December 2003 in accordance with Spanish GAAP in effect on that date and as provided in IFRS 1: "First-time adoption of IFRS".

Goodwill is not amortised. However, at the end of each reporting period goodwill is reviewed for its recoverability and any impairment is written down (Note 4.i).

4.b) Other intangible assets

Concessions, Patents, licenses, trademarks and others

The amounts recognised as concessions, patents, licenses, trademarks and others relate to the cost incurred in their acquisition.

The electricity distribution and transmission concessions held in UK by SCOTTISH POWER and those linked to the activities of AVANGRID, are not subject to any limits of a legal or other nature. Accordingly, intangible assets with an indefinite useful life are not amortised by the IBERDROLA Group, although they are assessed for indications of impairment each year, as described in 4.i.

On the other hand, IFRIC 12: "Service concession arrangements" concerning public-private service concession arrangements that meet two prerequisites:

- the grantor controls or regulates which services the operator must provide with the infrastructure, to whom it must provide them to and at what price; and

- the grantor controls any significant residual interest in the infrastructure at the end of the term of the arrangement.

Infrastructures within the scope of a service concession arrangement are not recognised as property, plant and equipment of the operator, because the operator does not have the right to control the use of the infrastructure.

If the operator performs more than one service (i.e. operation services and construction or upgrade services), the consideration received under the agreement for provision of services is recognised separately in the Consolidated income statement, pursuant to the standards applicable in each case, IAS 18: "Revenue" and IAS 11: "Construction contracts".

IFRIC 12 only affects the electricity distribution activities carried out by the IBERDROLA Group in Brazil. Remuneration for network construction and upgrade work carried out by the IBERDROLA Group in this country consisted, on the one hand, of an unconditional right to receive cash and, on the other hand, of the right to charge certain amounts to consumers. As a result, by applying IFRIC 12, two different assets were recognised for the two types of consideration received:

- A financial asset, which is recognised under "Other non-current financial assets" in the Consolidated statement of financial position (Note 14.c).
- An intangible asset, amortisable in the concession period, which is recognised under "Other intangible assets" in the Consolidated statement of financial position (Note 9).

The costs incurred in relation to the other items included under this heading in the Consolidated statement of financial position are amortised on a straight-line basis over their useful lives, between five and ten years.

IT Applications

The acquisition and development costs incurred in relation to the computer software are recorded with a charge to "Other intangible assets" in the Consolidated statement of financial position. Maintenance costs of computer software are recorded with a charge to the Consolidated income statement for the year in which they are incurred.

Computer software is amortised on a straight-line basis over a period of between three and five years from the entry into service of each software asset.

Research and development expenditure

The IBERDROLA Group's policy is to record research expenses in the Consolidated income statement for the period when they are incurred.

Development costs are recognised as an intangible asset in the Consolidated statement of financial position if the Group can identify them separately and show the technical viability of the asset, its intention and capacity to use or sell it, and how it will generate probable future economic benefits.

4.c) Investment property

Real estate investments will be recognised at its acquisition cost net of accumulated depreciation. Investment properties are depreciated on a straight-line basis, minus material residual value, over each asset's estimated useful life which ranges between 37.5 y 75 years based on the features of each asset concerned.

4.d) Property, plant and equipment

Items of property, plant and equipment are measured at acquisition or production cost deducted the amortisations and accumulated assessment allowances. The acquisition cost includes, where applicable, are as follows:

1. Prior to the transition to IFRS (1 January 2004), the IBERDROLA Group revalued certain Spanish assets under the "Property, plant and equipment" heading in the Consolidated statement of financial position as permitted by the applicable legislation, including the Royal Decree-law 7/1996, and considered the amount of these revaluations as part of the cost of the assets, in accordance with IFRS 1.
2. Finance costs relating to external funding accrued exclusively during the construction period, are determined as follows:
 - The interests accrued by specific-purpose sources of financing used to build certain assets are fully capitalised.
 - The interests accrued by general-purpose borrowings is capitalised by applying the average effective interest rate on this financing to the average cumulative investment qualifying for capitalisation, after deducting the investment financed with specific-purpose borrowings, provided that it does not exceed the total finance costs incurred in the year.
3. Staff costs relating directly or indirectly to construction in progress (Note 38).
4. If the IBERDROLA Group is required to dismantle their facilities or renovate the place where they meet, the current value of said costs are included in the carrying value of assets for their present value, with a credit to the sub-heading "Provisions - Other provisions" of the consolidated statement of financial position (Note 4.r).

The IBERDROLA Group periodically checks their estimation of said current value increasing or decreasing the asset value depending on the results of said estimation.

The IBERDROLA Group transfers property, plant and equipment in progress to property, plant and equipment in use at the end of the related trial period.

The costs of expansion or improvements leading to increased productivity, capacity or to a lengthening of the useful lives of the assets are capitalised. Replacements or renewals of complete items are recorded as additions to property, plant and equipment, and the items replaced are derecognised.

Gains or losses arising on the disposal of items of property, plant and equipment are calculated as the difference between the amount received on the sale and the carrying amount of the asset disposed of.

4.e) Depreciation of property, plant and equipment in use

Every year, the IBERDROLA Group reviews the useful life of its assets based on internal and external information sources.

In 2017, following this review, the Iberdrola Group consolidated that the best useful life estimation is 40 years for combined cycle plants (compared to the 35 years considered previously) and 50 years for the electromechanical equipment at hydroelectric power plants (compared to the 35 years considered previously). As a result, "Amortisation and provisions" in the 2017 Consolidated income statement includes the impact of this change in the estimate, which as per accounting regulations had been applied prospectively since 01 January 2017, and produced a lower depreciation charge of approximately EUR 65 million. This amount will gradually decrease as the useful life of the hydroelectric power plants in use terminates at 1 January 2017 terminate.

On the other hand, in 2016 the IBERDROLA Group concluded the analysis it had been performing of the useful life of its wind farms, using internal and external sources of information. They concluded that result was that, in the light of present circumstances, the best estimate of the useful life of civil works and the generator towers at onshore wind farms was 40 years, compared to the previous estimate of 25 years. As a result, "Amortisation and provisions" in the 2016 Consolidated income statement includes the impact of this change in the estimate, which as per accounting regulations had been applied prospectively since 1 January 2016, and produced a lower depreciation charge of approximately EUR 148.1 million. Moreover, in 2017, this adjustment to the useful life gave rise to an annual reduction in the depreciation charge similar to that booked in 2016, and this amount at 1 January 2016 will gradually decrease as the useful life of the wind farms in use terminates at 1 January 2016 terminate.

The cost of property, plant and equipment in use is depreciated on a straight-line basis, less any material residual value, at annual rates based on the following years of estimated useful life:

	Average years of estimated useful life
Conventional thermal power plants	25 -50
Combined cycle power plant	40
Nuclear power plants	40
Wind farms	
Structural components	40
Non structural components (rotative)	25
Transmission facilities	40
Distribution facilities	40
Conventional meters and measuring devices	10-40
Electronic or smart meters	10
Buildings	50-75
Dispatching centres and other facilities	4 - 50

As hydroelectric plants are operated under concessions (Note 12), the depreciation of civil engineering assets is performed over the life of the concession, while its electromechanical equipment is depreciated over the lower of the concession period or 50 years.

The important components of the plant and equipment that maintain different useful lives are considered separately.

4.f) Lease agreements

The IBERDROLA Group classifies as finance leases all arrangements under which the lessor transfers to the lessee substantially all the risks and rewards incidental to ownership of the asset. All other leases are classified as operating leases.

Assets acquired under finance leases are recognized as non-current assets in accordance with their nature and function. Assets are measured at the lower of the fair value of the leased asset and the present value of the future lease payments, and it is amortised by the useful life of each asset.

The expenses arising from operating leases are allocated to the Consolidated income statement on an accrual basis over the life of the lease agreement.

4.g) Nuclear fuel

The IBERDROLA Group measures its nuclear fuel stocks on the basis of the costs actually incurred in acquiring and subsequently processing the fuel.

Nuclear fuel costs include the finance costs accrued during construction, calculated as indicated in Note 4.d (Note 43).

The nuclear fuel consumed is recognised under "Procurements" in the Consolidated income statement from when the fuel loaded into the reactor starts to be used, based on the cost of the fuel and the degree of burning in each reporting period.

4.h) Inventories

Energy resources

Energy resources are measured at acquisition cost, calculated using the average weighted price method, or net realisable value, if the latter is lower. No adjustments to the value of energy sources that are part of the production process are made if it is expected that the finished products into which they will be incorporated will be sold at above cost.

Real estate inventories

The real estate inventories were measured at acquisition cost, which includes both the acquisition cost of the land and plot and the costs of urban infrastructures and construction of real estate developments incurred until the year end. These costs include those incurred by the architecture and construction departments.

The acquisition cost also includes financial expenses to the extent that such expenses relate to the period of town planning permits, urbanisation or construction up until the time at which the land or plot is ready for operation, calculated using the method set out in Note 4.d (Note 43).

Commercial costs are charged to the Consolidated income statement on an accrual basis.

The IBERDROLA Group periodically compares the cost of acquisition of real estate inventories with their net realisable value, recognising the necessary impairment losses with a charge to the Consolidated income statement when the latter is lower. If the circumstance leading to the valuation adjustment no longer exists, it is reversed recognising the corresponding income.

For land, construction in progress and unsold units, net realisable value is used taking into account the appraisals by independent experts. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs to finish the production and the necessary costs to carry on with the sale of the element.

This value is determined using the residual method, where the estimated total cost of the work, is deducted from the gross value of the completed project, and the allowance for developer's risk and profit is added. The key variables of the residual method are:

- The total cost of the development, comprising the potential value of development at the valuation date based on the best estimates of independent valuers.
- The cost of the development, including all disbursements to be made by the developer of the work depending on the type (e.g. government-sponsored or private single-family dwellings) and quality of the construction. In addition to the cost of the work, it includes the cost of projects and licenses (10%-12% of the physical construction project), legal fees (1%-1.5% of the material implementation project), marketing and promotional expenses (2%-4% of income) and unforeseen contingencies (3% of income).
- The developer profit considered for each asset, depending on the zone state of the land, size and complexity of the development, ranging from 15% to 35% of total costs.

For land with licences, construction in progress and unsold units, the main difference with regard to unlicensed land is the developer profit, which in this case is lower given the stage of completion of the work and the decrease in risk as the completion of construction nears.

Emission allowances and renewable certificates

Energy resources are measured at acquisition cost, calculated using the average weighted price method, or net realisable value, if the latter is lower. No adjustments to the value of energy sources that are part of the production process are made if it is expected that the finished products into which they will be incorporated will be sold at above cost.

Emission allowances acquired for the purpose of benefiting through fluctuations in their market price are measured at fair value with a credit or debit to the Consolidated income statement.

Emission allowances are derecognised from the Consolidated statements of financial position when they are sold to third parties, have been delivered or expire. When the allowances are delivered, they are derecognised with a charge to the provision made when the CO2 emissions were produced.

4.i) Non-Financial assets impairment

Each closing date at every accounting year, the IBERDROLA Group reviews the carrying amounts of its non-current assets to determine whether there is any indication that those assets have suffered an impairment loss. If such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss, if it is necessary. For this purpose, in the case of assets that do not generate cash flows independent from other assets, the IBERDROLA Group estimates the recoverable amount of the cash-generating unit to which belongs.

In the case of goodwill and other intangible assets which have not come into use or which have an indefinite useful life, the IBERDROLA Group performs the recoverability analysis systematically every year, except when there are indications of impairment in another moment, in which case recoverability analysis is performed at the same time.

For purposes of this recoverability analysis, goodwill is allocated to the cash generating units in which it is controlled for internal management purposes (Note 9).

Recoverable amount is the higher of fair value less selling cost and value in use, which is taken to be the present value of the estimated future cash flows. The assumptions used in assessing value in use, in making the estimates include discount rates, growth rates and expected changes in selling prices and direct costs. The discount rates reflect the time value of money and the risks specific to each cash-generating unit. The growth rates and the changes in prices and direct costs are based on contractual commitments that have already been signed, information in the public domain, sector forecasts and the experience of the IBERDROLA Group (Note 13).

If the recoverable amount of an asset is less than its carrying amount, the difference is registered as a charge to the "Amortisation and provisions" heading in the Consolidated income statement.

The IBERDROLA Group distinguishes between impairment allowances and write-offs depending on whether the impairment is reversible or not reversible. A write-off involves a decrease of the carrying amount of assets, either because the impairments are considered definitive and non-reversible, or because the accounting standards establish that, such as the case of goodwill, or when considering that the value of the asset is not going to be recovered for its use or disposal. Impairment losses are due to the fact that future expected earnings to be obtained are less than the carrying amount.

Impairment losses recognised for an asset are reversed with a credit to the "Amortisation and provisions" heading when there is a change in the estimates concerning the recoverable amount of the asset, increasing the carrying amount of the asset, but so the increased carrying amount does not exceed the carrying amount that would have been determined if no impairment loss had been recognised.

4.j) Associates and joint ventures

Investments in associates and joint ventures are accounted for using the equity method. Under this method, investments are measured initially at acquisition cost, subsequently adjusted for changes to each company's equity, taking into consideration the percentage of ownership and, if applicable, any valuation adjustments.

Some investments in associates and joint ventures which in the context of these Consolidated financial statements are immaterial are recorded at acquisition cost within "Non-current financial assets – Non-current equity investments" heading of the Consolidated statements of financial position (Note 14.b).

The IBERDROLA Group regularly analyses the existence of impairment at its associates and joint ventures by comparing the total carrying amount of the associate or joint venture, including goodwill, to its recoverable amount. If the carrying amount exceeds the recoverable amount, the IBERDROLA Group recognises the related impairment with a debit to the Consolidated income statement within the “Results of companies accounted for using the equity method - net of taxes” heading.

4.k) Joint transactions

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. These Consolidated financial statements include the proportional part of the assets, liabilities, income and expenses of the joint operation in which the IBERDROLA Group takes part in (Note 46).

4.l) Financial instruments

Financial investments

The IBERDROLA Group measures its current and non-current financial assets in accordance with the criteria described below:

1. Assets held for trading

Assets and liabilities held for trade are recognised at fair value. The transaction costs directly attributable to purchase or issuing is recognised as an expense in the consolidated income statement as it is incurred. The changes that occur in their fair value are allocated to the consolidated income statement for the period in the headings “Financial expenses” and “Financial income” of the consolidated financial statements, as may be applicable.

The IBERDROLA Group includes in this category the derivative financial instruments which do not satisfy the conditions necessary for hedge accounting based on the requirements established for this purpose in IAS 39: “Financial instruments (Note 27).

2. Loans and receivables

Includes the financial assets that originate from the sale of goods and lending of services related with the trafficking activities as well as other credits for non-commercial activities that, not being equity or hedging instruments, are of a fixed and determinable amount and are not traded in an active market.

These assets are initially recognised at fair value and are subsequently measured at amortised cost. Interests accrued on these liabilities are recognised in the Income statement using the effective interest rate method.

However, trade loans maturing in less than a year that do not have a contractual interest rate, as well as advances and loans granted to employees, receivable dividends and the unpaid portion of equity instruments expected to be received in the short term, are measured both initially and subsequently at nominal value when the impact of not discounting cash flows is not significant.

The IBERDROLA Group records the related provisions for the difference between the amount of the receivables considered recoverable and the carrying amount of the receivables.

3. Held-to-maturity investments

They are investments that the IBERDROLA Group has the intention and ability to hold to the date of maturity, which are also measured at amortised cost.

4. Available-for-sale financial assets

These are other financial assets that do not fall into any of the aforementioned three categories. These investments are recognised in the Consolidated statement of financial position at fair value at year end which, in the case of companies that are not listed, is obtained using a range of methods such as comparable company transactions or, if there is sufficient information, by discounting the expected cash flows. Changes in fair value are recognised with a charge or credit, as appropriate, to the "Adjustments for changes in value" heading in the Consolidated statement of financial position (Note 21), until the disposal or impairment of these assets at which time the cumulative balance of this heading is recognised in the Consolidated income statement.

For those equity instruments of companies that are not publicly listed, the market value of which cannot be determined reliably are carried at cost of acquisition.

The IBERDROLA Group determines the most appropriate classification for each asset on acquisition and reviews the classification at each year end date.

The IBERDROLA Group recognises conventional financial asset purchases and sales on the date of operation.

Cash and cash equivalents

This heading in the Consolidated statement of financial position includes cash, current accounts and other highly liquid short-term investments that are readily convertible into cash and subject to insignificant risk of changes in value.

Impairment of financial assets at amortised cost

The IBERDROLA Group assesses, at least at each reporting date, whether there is any objective evidence that a financial asset or a group of financial assets is impaired. If it is determined that an impairment has occurred, the carrying amount of the financial asset is reduced by a debit to an impairment account in the Income statement for the period.

Impairment losses are reversed when the amount of the losses declines because of a subsequent event. Such reversals are recognised in the Consolidated income statement. An impairment loss may be reversed up to the carrying amount of the asset recognised at the date of reversal had no impairment loss been recognised previously.

The amount of impairment of debt instruments stated at amortised cost is calculated individually for material financial assets and collectively for financial assets which are not individually significant.

Impairment losses determined individually

The amount of the impairment loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future expected credit losses that have not yet been incurred).

Impairment losses determined collectively

Financial assets are grouped on the basis of similarity of features relating to credit risk, which are indicative of the debtor's ability to pay all amounts due. The credit risk features considered for the purpose of grouping such assets are, among others: debtor's business sector, geographical area of activity, type of security or collateral, age of past-due amounts, and any other factor that may be relevant to estimate future cash flows.

To calculate an impairment loss on a group of financial assets, future cash flows are estimated on the basis of historical experience of losses for assets having credit risk features similar to those of the group in question.

Impairment of available-for-sale equity instruments

If there is objective evidence that the impairment losses on such assets are permanent, such losses are recognised in the Consolidated income statement.

A recovery of an impairment loss is not recognised in the Consolidated income statement. Instead, it is recorded within "Unrealised assets and liabilities revaluation reserve" heading in the Consolidated statement of financial position.

Financial liabilities and equity instruments

Financial liabilities and equity instruments issued by the IBERDROLA Group are classified on the basis of the nature of their issuance.

The IBERDROLA Group classifies as an equity instrument any contract that evidences a residual interest in the net assets of the Group.

Equity instruments having the substance of a financial liability

In the United States, the IBERDROLA Group has undertaken several transactions that bring minority shareholders as external partners of certain of its wind farms in exchange for cash and other financial assets primarily.

The main characteristics of these transactions are as follows:

- Regardless of the equity stake taken by the minority shareholders, the IBERDROLA Group retains ownership and management control of the wind farms; accordingly they are fully consolidated in these Consolidated financial statements.
- The minority shareholders have the right to a substantial portion of the profits and tax credits generated by these wind farms up to the return level established at the beginning of the contract.
- The minority shareholders remain in the equity of the wind farms until they achieve the stipulated returns.
- Once these returns have been obtained, the minority shareholders lose their entitlement to hold capital in the wind farms, simultaneously renouncing their claim on the profits and tax credits generated.

- Whether or not the minority shareholders of the IBERDROLA Group obtain the agreed upon returns depends on the economic performance of the wind farms. Although the IBERDROLA Group is bound to operate and maintain these facilities in an efficient manner and to take out the appropriate insurance policies, it is not obliged to deliver cash to the minority shareholders over and above the aforementioned profits and tax credits.

Following an analysis of the economic substance of these agreements, the IBERDROLA Group classifies the consideration received at the outset of the transaction under "Equity instruments having the substance of a financial liability" heading in the Consolidated statement of financial position. Subsequently, this consideration is measured at amortised cost (Note 22).

Debentures, bonds and bank borrowings

Loans, debentures and similar items are recorded initially at the amount received, net of transaction costs. In subsequent periods, all these financial liabilities are measured at amortised cost, using the effective interest rate method, except for hedged transactions, which are measured using the method described below in this same note.

Also, obligations under finance leases (Note 4.f) are recognised at the present value of the lease payments under "Bank borrowings and other financial liabilities – loans and others" in the Consolidated statement of financial position.

Trade and other payables

Accounts payables are caused by ordinary operations initially recognised at fair value and are subsequently measured at amortised cost.

Contracts to buy or sell non-financial items

The IBERDROLA Group performs a detailed analysis of all its contracts to buy or sell non-financial items to ensure they are classified correctly for accounting purposes.

As a general rule, those contracts that are settled net in cash or in another financial asset are classified as derivatives and are recognised and measured as described in this note, except for contracts entered into and held for the purpose of the receipt or delivery of a non-financial item in accordance with the IBERDROLA Group's purchase, sale, or usage requirements.

Contracts to buy or sell non-financial items to which the treatment described in IAS 39 is not applicable, are designated as own-use contracts and are recognised as the IBERDROLA Group receives or delivers the rights or obligations originating thereunder.

In the specific case of short-term contracts to buy or sell electricity and gas concluded on certain highly-liquid markets, the IBERDROLA Group adopts the following accounting treatment:

- Until the month preceding the supply date, the IBERDROLA Group classifies as own-use contracts only those contracts to buy or sell electricity and gas that reflect its best estimate of the actual purchase requirements of the IBERDROLA Group.
- In the month preceding the date of supply, and given that demand estimates become more and more accurate each day, the IBERDROLA Group assumes that all contracts written solely in response to changes in demand estimates, whether for purchase or sale, are own-use contracts, and not therefore derivatives.

- All contracts entered into with the intention of realising short-term gains on fluctuations in the market price of electricity and gas, as well as those that do not correspond to the situations described in the preceding two points are considered derivatives, and are therefore recognised on the Consolidated statement of financial position at their fair value.

Derivative financial instruments and hedge accounting

Financial derivatives are initially recognised at acquisition cost in the Consolidated statement of financial position and the required value adjustments are subsequently made to reflect their fair value at all times. Gains and losses arising from these changes are recognised in the Consolidated income statement, unless the derivative has been designated as a cash flow hedge or a hedge of a net investment in foreign countries.

Each time a hedge transaction is entered, the IBERDROLA Group formally documents the transaction to be treated under hedge accounting. This documentation includes its identification as a hedge instrument, the item hedged, the nature of the risk the hedge is designed to cover and the way the effectiveness of the hedge is to be measured. In addition, hedges are reviewed periodically to ensure they are highly effective (between 80% and 125%).

The accounting treatment for hedging transactions is as follows:

1. Fair value hedges: in the case that the hedge risk is the change in the fair value of an asset or liability or of a firm commitment.

Both the changes in the fair value of the derivative financial instruments designated as hedging, or the component of exchange rate of a monetary item in the case of non-derivative hedge instruments, such as the changes in the fair value of the hedged element produced by the hedged risk are recognised with a charge or credit to the same sub-heading of the consolidated income statement.

The IBERDROLA Group prospectively discontinues the fair value hedge accounting in the cases in which the hedging instrument matures, is sold, let go of or exercised, the hedge does not fulfil the hedge accounting conditions or the designation is revoked.

2. Fair value hedges and net investment abroad:

They are classified as cash flow hedges in the case that the hedge risk is the change in cash flows attributable to a certain risk associated to an asset or liability or a probable transaction, or in some cases, the change in exchange rate risk of a firm commitment.

The IBERDROLA Group recognises in sub-headings "Adjustments for changes in value", in the case of cash flow hedges and "Conversion differences", in the case of net investment hedges, the profit or loss proceeding from the assessment at fair value of the hedge instrument that corresponds to the part identified as effective hedge. The part of the hedge considered ineffective, as well as the specific component of the profit or loss or cash flows related with the hedge instrument, excluding the assessment of the effectiveness of the hedge, are recognised in the consolidated income statement.

If a hedge of a forecasted transaction results in the recognition of a non-financial asset or liability, its balance is taken into account in the initial measurement of the asset or liability arising from the hedged transaction.

If a hedge of a future transaction results in the recognition of a financial asset or liability, this balance is recognised in the “Unrealised assets and liabilities revaluation reserve” until the risk hedge in the future transaction impacts the Consolidated income statement. If a future transaction does not result in the recognition of an asset or a liability, the amounts credited or charged, to “Unrealised assets and liabilities revaluation reserve” in the Consolidated statement of financial position will be recognised in the Consolidated income statement in the same period in which the hedge transaction is realised.

The IBERDROLA Group prospectively discontinues the accounting of the hedges when the indicated circumstances occur in the fair value hedges. When hedge accounting is discontinued, the cumulative amount at that date recognised under “Adjustments for changes in value” is retained under that heading until the hedged transaction occurs, at which time the gain or loss on the transaction will be adjusted. If a hedged transaction is no longer expected to occur, the gain or loss recognised under the aforementioned heading is transferred to the Consolidated income statement.

Derivatives embedded in other financial instruments are recognised separately when the IBERDROLA Group considers that their characteristics are not closely related to the financial instruments in which they are embedded and so long as the entire contract is not carried at fair value, registering changes in fair value with the gain or loss recognised in the Consolidated income statement.

The fair value of the derivative financial instruments is calculated as follows (Note 16):

- For derivatives quoted on an organised market corresponds to its market price at year end.
- To measure derivatives not traded on an organised market, the IBERDROLA Group uses assumptions based on market conditions at year end. Specifically, the fair value of interest rate swaps is calculated as the value discounted at market interest rates of the interest rate swap contract spread. Currency futures are measured by discounting the future cash flows calculated using the forward exchange rates at year end. Finally, the fair value of contracts to trade non-financial items falling under the scope of IAS 39 is calculated on the basis of the best estimate of future price curves for the underlying non-financial items at the year end of the Consolidated financial statements, using, wherever possible, prices established on futures markets.

These measurement models take into account the risks of the asset or liability, among these, the credit risk of both the counterparty (Credit Value Adjustment) and the entity itself (Debit Value Adjustment). The credit risk is calculated according to the following parameters:

- Exposure at default: the amount of the risk arising at the time of non-payment by a counterparty, taking into account any collateral or compensation arrangements connected to the transaction.
- Probability of default: the probability that a counterparty will breach its obligations to pay the principal and/or interests, depending mainly on the features of the counterparty and its credit rating.
- Loss given default: the estimated loss in the event of default.

Derecognition of financial assets and liabilities

A financial liabilities are derecognised when they are extinguished, this means, when the obligation under the liability is discharged or cancelled or expires. Moreover, when a debt instrument between IBERDROLA and the counterparty is replaced by another on substantial different terms, the original financial liability is derecognised and the new liability is recognised. Similarly, substantial modifications in the terms of an existing financial liability are treated in the same way.

The difference between the carrying value of the financial liability or of the part of it that has given below and the paid consideration, including the attributable transaction costs, and in which any transferred asset different from the assumed cash or liability is also included, recognised in the consolidated income statement of the period in which it takes place.

IBERDROLA considers that the conditions are substantially different if the current value of the discounted cash flows under the new conditions, including any net paid fee of any received fee, and using the original effective interest rate for the discount, differs at least 10 per cent from the current discounted value of the cash flows that still remain from the original financial liability.

When a debt instrument exchange is made that does not have substantially different conditions, the original financial liability is not under the consolidated statement of financial position, recording the amount of the paid fees as an adjustment of its book value. The amortised cost of the financial liability is determined using the effective interest rate method. The effective interest rate is the rate that matches the carrying amount of the financial liability at the date of modification with the cash flows payable under the new terms.

Offsetting of financial instruments

The financial assets and liabilities can be offset: the corresponding net amount must be shown in the Statement of financial position if the company currently has a legally enforceable right to offset the recognised amounts and the intention of settling them for the net amount or realising the assets and settling the liabilities simultaneously.

4.m) Treasury shares

At year end, the IBERDROLA Group's treasury shares are included under the heading "Treasury shares" in the Consolidated statement of financial position and are measured at acquisition cost.

The gains and losses obtained on disposal of treasury shares are recognised in "Other reserves" in the Consolidated statement of financial position.

4.n) Deferred income

Capital Grants

This heading includes any non-reimbursable grants provided by the Administration whose purpose is to finance property, plant and equipment, including the cash received from the US Administration in the form of Investment Tax Credits as a result of setting up wind power facilities. All the capital grants are taken to the profit and loss statement under the "Other operating income" heading of the Consolidated income statement as the financed wind farms are depreciated.

Facilities transferred or financed by third parties

According to the regulation applicable to electricity distribution in the countries in which it is active, the IBERDROLA Group occasionally receives cash payments from third parties for the construction of electricity grid connection facilities or direct assignment of such facilities. Both the cash received and the fair value of the facilities received are credited to "Deferred income" heading in the Consolidated statement of financial position.

These amounts are subsequently recognised under "Other operating income" in the Consolidated income statement as the facilities are depreciated.

Other deferred income

"Deferred income" heading also includes amounts received from third parties in relation to the assignment of the right to use certain facilities, which connect to the electricity grid the IBERDROLA Group's optic fibre network and other owned assets. These amounts are taken to profit or loss on a straight-line basis over the term of each contract under "Other operating income" heading in the Consolidated income statement.

4.o) Post-employment and other employee benefits

The contributions to be made to the defined contribution post-employment benefit plans are expensed under the "Staff costs" heading in the Consolidated income statement on an accrual basis.

In the case of the defined benefit plans, the IBERDROLA Group recognises the expenditure relating to these obligations on an accrual basis over the working life of the employees by commissioning the appropriate independent actuarial studies using the projected unit credit method to measure the obligation accrued at the year end. The provision recognised under this concept represents the present value of the defined benefit obligation reduced by the fair value of the related plans.

New measurement of net liabilities corresponding to defined provision commitments including positive or negative actuarial differences, the performance of the plan assets, excluding amounts included in the net interest on assets or liabilities and any changed impacting the limit of assets, are recognised under "Other reserves" heading when they arise.

If the fair value of the assets exceeds the present value of the obligation, the net asset is not recognised in the Consolidated statement of financial position, with the limit of the updated value of future of economic profits to be received in the form of reimbursements from the plan or reductions in the future contributions.

The IBERDROLA Group determines the net financial expense (income) related with their commitments for pensions by applying the discount rate used in its measurement on their value at the beginning of the period once considering the changes in the net commitments for pensions made during the period in terms of contributions and repayments made. The net interest and the amount corresponding to other expenses related with the commitments undertaken are recorded in the consolidated income statement.

The IBERDROLA Group determines the discount rate with reference to the market yields at the end of the reporting period, corresponding to the bonds or business obligations of high credit quality (Iberdrola Group considers rating equivalent to AA/Aa). In the countries in which there is not a deep market to such bonds and obligations, the discount rate is determined with reference to Government bonds.

For the Eurozone, United Kingdom and the United States of America, there is a deep bond market with a sufficient period of maturity to cover all payments expected. In reference to the countries related to the Eurozone, the depth of the bond or obligation market is evaluated at the level of the monetary union and not for the particular country. In the case of Brazil, the discount rate has been determined taking into account the Brazilian sovereign credit, because a deep corporate market does not exist as they don't satisfy the indicated credit qualifications.

The IBERDROLA Group applies a weighted average discount rate that reflects the estimate timing and amount of benefit payment, as well as the currency in which the benefits are to be paid.

The calculation methodology is mainly based on the following principles:

- The universe and spectrum of the outstanding bonds that meet the criteria of an AA/Aa rating is generated. The source of information corresponds with Bloomberg. The IBERDROLA Group has adopted the notional issuances that are higher than EUR 50 million or its equivalent in local currency as the selection criteria.
- Once the bonds' database is obtained, the result is screened and the bonds that show any deficiencies are eliminated.
- The sample is grouped based on the bonds' duration and the return on each duration and outstanding nominal amount of the issuance is shown. As far as possible, the price return is based on the midpoint of the bid/ask spread.
- The benefit payment is calculated using a mathematical formula, i.e., the discrete minimum approximation of the quadratic function, resulting in a market return curve based on the duration. The market curve result will provide the discount factors for each future maturity date of the bonds.
- For markets in which government bonds or corporate bonds with maturity dates beyond 25/30 years are not available, it is assumed that they will remain at the same level from the latest maturity date for which there is information available.

The discount rate reflects the time value of money and estimated schedule for the benefit payments. However, it does not reflect the actuarial risk, investment, credit or deviation in compliance with the actuarial assumptions risk.

4.p) Collective redundancy procedure and other early retirement plans for employees

IBERDROLA recognises termination benefits when the Group can no longer remove the offer or when the expenses of restructuring are recognised from which the payment of severance payments arises, in the case that said recognition is made previously.

The payments related with restructuring processes are recognised when the IBERDROLA Group has an implicit debenture, i.e., at the time that there is a detailed formal plan to perform the restructuring (in which are identified, at least, the company activities, or part of them, implied, the main locations affected, the location, function and approximate number of employees that will be paid for the termination of their contracts, the repayments that will be carried out, and the dates on which the plan will be implemented) and has generated a valid expectation amongst the affected personnel which the restructuring will be carried out, either for having started to execute the plan or for having announced its main characteristics.

The IBERDROLA Group recognises the full amount of the expenditure relating to these plans when the obligation arises by performing the appropriate actuarial studies to calculate the present value of the actuarial obligation at year end. The actuarial gains and losses are recognised in the Consolidated income statement.

4.q) Provision for emission allowances Renewables

The IBERDROLA Group records a provision for contingencies and expenses in order to recognise the obligation to deliver CO2 emission allowances and ROCs (*Renewables Obligation Certificates*) in Scotland (Note 25), in accordance with the heading "Provisions" in the consolidated financial statements.

4.r) Production facility closure costs

The IBERDROLA Group will incur in several decommissioning costs of its production plants, among which include those arising from necessary tasks to fit the land where they are located. Additionally, in accordance with the current legislation, the Group must perform certain tasks prior to the decommissioning of its nuclear plants, of which Empresa Nacional de Residuos Radioactivos, S.A. (hereinafter, ENRESA) is responsible for.

The estimated present value of these costs is capitalised with a credit to "Provisions – Other provisions" at the beginning of the useful life of the related asset (Note 25).

This estimate is subject to annual revision so that the provision reflects the present value of the full amount of the estimated future costs. The value of the asset is only adjusted for variances with respect to the initial one.

The IBERDROLA Group applies a risk-free rate to financially update the provision because the estimated future cash flows to satisfy the obligation reflect the specific risks of the corresponding liability. The risk-free rate used corresponds to the yield at year end on which reports, government bonds with enough depth and solvency in the same currency and similar due date to the obligation.

Any change in the provision as a result of its discounting is recognised in "Finance cost" in the Consolidated income statement.

4.s) Other provisions

The IBERDROLA Group recognises provisions to cover present obligations, whether these are legal or implied, which arise as a result of past events, provided that it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation (Note 25). A provision is recognised when the liability or obligation arises, with a charge to the relevant heading in the Consolidated income statement depending on the nature of the obligation, for the present value of the provision when the effect of discounting the value of the obligation to present value is material. The change in the provision due to its discounting each year is recognised under "Finance cost" in the Consolidated income statement.

These provisions include those recorded to cover environmental damage, which were determined on the basis of a case-by-case analysis of the situation of the polluted assets and the cost of decontaminating them.

4.t) Current and non-current debt classification

In the Consolidated statement of financial position debts are classified by their maturity date at year end. Debts that are due within twelve months are classified as current items and those due within more than twelve months as non-current items.

4.u) Revenue recognition

Revenues from sales is measured at the fair value of the assets or rights received as consideration for the goods and services provided in the normal course of the Group companies' business, net of discounts and applicable taxes.

Income from regulated activities where remuneration is based on a fixed margin is booked by the IBERDROLA Group under the "Net revenue" heading in the Consolidated income statement for the corresponding year.

In the case of some regulated activities carried out by the IBERDROLA Group, any discrepancies between costs estimated when setting the annual tariff and costs actually incurred are corrected in the following years' tariffs. These discrepancies are recognised as income or expense for the year in which they arise only if its proceed or payment is certain, regardless of future sales.

The IBERDROLA Group has electricity generation capacity assignment agreements with the Comisión Federal de la Electricidad (hereinafter, CFE) in Mexico for a term of 25 years from the date on which each combined cycle plant enters into commercial operation. These contracts set a pre-established payment timetable for assignments of electricity supply capacity and for plant operation and maintenance. IBERDROLA Group erred the question whether these contracts constitute a lease or service provision in accordance with the requirements of IFRIC 4: "Determining whether an arrangement contains a lease". Given that only IBERDROLA Group or manage the plant and that operating revenue is not transferred solely to CFE as these plants generate additional revenue that is sold to third parties and, further, due to the price of the products being linked to market rates, it was concluded that these contracts are a service to be recognised in accounting with the percentage of completion method.

Revenue from construction contracts is recognised in accordance with the accounting policy described in Note 4.v.

As to housing sales, the IBERDROLA Group follows the principle of recognising income at the time when legal title is transferred to the purchaser, which usually matches the date of notarisation of the respective contracts.

Interest income is accrued on a time proportional basis, by reference to the outstanding principal and the applicable effective interest rate, which is the rate that exactly discounts estimated future cash receipts through the expected life of the asset to that asset's carrying amount.

Dividend income is recognised when the IBERDROLA Group companies are entitled to receive them.

4.v) Construction contracts

If the income and expenses related to a construction contract can be estimated reliably, the income is recognised according to the degree of completion of the construction project by measuring the contract costs incurred to date as a proportion of the total estimated construction costs.

When the income from a contract cannot be reliably estimated, all such income is recognised to the extent that costs are incurred, provided that such costs are recoverable. No contract margin is recognised until it can be estimated reliably.

If the estimated costs of a contract exceed revenue from that contract, the loss is recognised immediately in the Consolidated income statement.

Changes to construction work and any claims are included within contract revenue if negotiations are at an advanced stage of maturity so that it is probable that the client will accept the claim and the amount can be measured reliably.

4.w) Transactions in foreign currency

Transactions carried out in currencies other than the functional currency of the Group companies are recorded at the exchange rates prevailing at the transaction date.

The monetary assets and liabilities denominated in foreign currency have converted to euros applying the existing rate at the close of the financial year, while the non-monetary ones assessed at historical cost are converted applying the exchange rates applied on the date on which the transaction took place.

During the year, the differences arising between the exchange rates at which the transactions were recorded and those in force at the date on which the related proceeds are made are charged or credited, as appropriate, to the Consolidated income statement.

Those foreign currency transactions in which the IBERDROLA Group has decided to mitigate translation risk through the use of financial derivatives or other hedging instruments are recorded as described in Note 4.l.

4.x) Income Tax

Since 1986, IBERDROLA has filed Consolidated Tax Returns with certain Group companies. Foreign companies are taxed according to the current legislation of their respective jurisdiction.

The expense or income for the Corporate income tax includes both the current and deferred tax. The tax on the current or deferred earnings are recognised in the consolidated income statement, unless arising from a transaction or economic success that has been recognised in the same year or in a different one, against net equity or from a business combination.

The assets or liabilities from tax on the current earnings, are assessed for the quantities expected to pay or recover from the tax authorities, using the regulations and tax rates that are approved or are about to be approved on the closing date.

Income Tax is accounted for using the general balance liability method, which consists of determining deferred tax assets and liabilities on the basis of the carrying amounts of assets and liabilities and their tax base, using the tax rates that can objectively be expected to be in force when the assets or liabilities are realised or settled. Deferred tax assets and liabilities arising as a result of direct charges or credits to equity are also accounted for with a debit or credit to equity.

The IBERDROLA Group recognises deferred tax liabilities in all cases but when:

- arise from the initial recognition of the goodwill or from an asset or liability in a transaction that is not a business combination and on the date of the transaction does not affect the accounting income or the taxable income;
- correspond to temporary differences related with investments in subsidiary companies, associates and joint ventures over which the Group has the ability to control the moment of their reversal and was not probable that their reversal occurred in a foreseeable future.

The IBERDROLA Group recognises deferred tax assets in all cases but when::

- it is probable that there are sufficient future tax earnings for clearing or when the tax legislation includes the possibility of future conversion of assets for deferred tax in a credit due to the public administration. However, the deferred tax assets that arise from the initial recognising of assets or liabilities in a transaction that is not a business combination and on the date of the transaction does not affect the accounting income or the taxable income, are not recognised;
- correspond to temporary differences related with investments in subsidiaries, associates and joint ventures inasmuch as the temporary differences will not be reinvested in a foreseeable future and are not awaiting creating future positive tax earnings to clear the differences.

Deductions in order to avoid double taxation and other tax credits as well as tax relief earned as a result of economic events occurring in the year are deducted from the Income Tax expense, unless there are doubts as to whether they can be realised.

The existence of uncertainties is considered in the taxable events, credits for negative taxable income or applied deductions. In those cases in which the asset or the liability for tax calculated with these criteria, exceeds the amount in the self-settlements, this is presented as current or not current on the consolidated statement of financial position taking into account the expected recovery or settlement date, considering, where applicable, the amount of the corresponding interest on arrears on the liability as earned in the profit and loss account. The IBERDROLA Group records the changes in facts and circumstances regarding tax uncertainties as a change in the estimate.

4.y) Final radioactive waste management costs

On 8 November 2003, the Royal Decree 1349/2003 was published regulating the ENRESA activities and its financing. This royal decree grouped together the previous legislation regulating the activities that ENRESA develops as well as its financing, and repeals, inter alia, the Royal Decree 1899/1984, of 1 August.

Meanwhile, the Royal Decree-law 5/2005 and the Law 24/2005 establish that the costs relating to the management of radioactive waste and spent fuel from nuclear plants, and to the dismantling and closure of the plants attributable to their operation and incurred after 31 March 2005, will be financed by the owners of the nuclear plants in use.

On the other hand, on 7 May 2009, the Royal Decree-law 6/2009 was published, adopting various energy sector measures and approving the social tariff. The principal measures introduced are as follows:

- Necessary costs incurred in the management of radioactive waste and nuclear fuel at nuclear power stations that are definitively dismantled before the state-owned radioactive waste management company ENRESA begins operating, which had not yet been done at the date of these Consolidated financial statements, and all necessary costs incurred in dismantling and closing these power stations, will be treated as diversification and capacity guarantee costs.

Amounts used to cover the cost of managing radioactive waste generated by research activities directly related to nuclear electricity generation and the costs deriving from the reprocessing of spent fuel sent overseas prior to the entry into force of the Electricity Industry Law 54/1997, and all other costs that may be specified by the royal decree, shall also be considered diversification and capacity guarantee costs.

- Amounts used to register provisions to cover the costs incurred in managing radioactive waste and spent fuel generated at operational nuclear power stations after the establishment of ENRESA as well as dismantling and closure costs will not be treated as supply diversification and security costs, since these will be financed by the owners of the nuclear power stations while they are operational, irrespective of the date on which they are generated.
- The balance of ENRESA's provision remaining after deduction of the amounts needed to cover the supply security and diversification costs will be used to cover costs not included in this category.
- To cover the costs associated with nuclear power plants in operation, the companies owning the stations must pay a charge directly proportional to the volume of energy generated at each plant. The definitive method used to calculate this charge will be approved by the resolution of the Council of Ministers. This fact has not taken place yet as of the date of issuance of these Consolidated financial statements.

After a detailed analysis of the impact of the Royal Decree-law 6/2009, the IBERDROLA Group considers that the rate is the best estimate available of the accrued expenses originated for that royal decree-law.

4.z) Earnings per share

Basic earnings per share are calculated by dividing the net profit for the year attributable to the Parent company by the weighted average number of ordinary shares outstanding during the year, excluding the average number of shares of the parent company held by Group companies (Notes 21 and 54).

Meanwhile, diluted earnings per share are calculated by dividing the net profit for the year attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the year, adjusted by the weighted average number of ordinary shares that would have been outstanding assuming the conversion of all the potential ordinary shares into ordinary shares of IBERDROLA. For these purposes, it is considered that shares are converted at the beginning of the year or at the date of issue of the potential ordinary shares, if the latter were issued during the current period.

4.aa) Non-current assets held for sale and discontinued operations

If the carrying amount of a non-current asset (or a disposable group of assets) is recovered principally through its sale rather than through its continued use, the IBERDROLA Group classifies it as held for sale and values it at the lower of its carrying amount and its fair value less the costs of sale. IBERDROLA

The impairment losses related with the disposal asset groups are assigned first to the goodwill and then to the rest of assets and liabilities proportionally. Value adjustments that could affect the stocks, financial assets, deferred tax assets, assets related with commitments with staff are not recognised. These assets are assessed in accordance with the principles contained in the previous sections. The losses recognised at the time of initial classification in this sub-heading and the capital gains and/or losses that are highlighted later are recognised in the consolidated income statement.

The elements classified as non-current kept for their disposal are not amortised.

A discontinued operation is a component of the entity that either has been sold or disposed of by other means, or is classified as held for sale and:

- represents a business line or geographical area that is significant and can be considered separately from the rest;
- is part of a single and coordinated plan to sell or dispose by other means a business line or geographical area that can be considered separately from the rest; or
- is a subsidiary acquired exclusively with intention to resale.

If the existence of discontinued operations is considered, the IBERDROLA Group recognizes a single amount in the Consolidated statement of comprehensive income that includes the total amount of:

- profit or loss after tax from discontinued operations, and
- profit or loss after tax recognized by measurement at fair value less costs of sale, or sale or disposal by other means of the assets or disposable groups of assets that constitutes the discontinued operation.

4.ab) Consolidated statements of cash flow

In the Consolidated statements of cash flow, which were prepared using the indirect method, the following terms are considered:

- Operating activities: the typical activities of the Group companies, as well as other activities that are not investing or financing activities.
- Investing activities: the acquisition, sale or disposal by other means of long-term assets and other investments not included in cash and cash equivalents.
- Financing activities: activities that result in changes in the size and composition of the equity and liabilities of the company that are not operating activities.

4.ac) Share-based employee compensation

The delivery of IBERDROLA shares to employees as compensation for their services is recognised under “Staff costs” in the Consolidated income statement as the employees perform the remunerated services, with a credit to equity under “Equity – Other reserves” in the Consolidated statement of financial position at the fair value of the equity instruments on the delivery date, defined as the date the IBERDROLA Group and its employees reach an agreement establishing the terms of the share delivery.

Fair value is determined in reference to the market value of shares at the concession date deducting estimated dividends, to which employees are not entitled, during the irrevocability period.

If remuneration based on equity instruments is paid in cash, the amount booked as “Staff costs” in the Consolidated income statement is credited to “Other non-current payables” or “Trade and other payables - Other current liabilities” on the liabilities side of the Consolidated statement of financial position, as appropriate. The fair value of the cash-settled compensation is remeasured at each reporting date.

The amount recognised on the consolidated income statement is adjusted to reflect the number of the market conditions and other conditions that are not related with vesting, they are considered in the assessment of the fair value of the instrument. The rest of the conditions are considered adjusting the number of equity instruments included in the determination of the transaction amount, so that finally, the amount recognised for the services received, is based on the number of equity instruments that will prospectively be consolidated.

The equity instruments retained to make the payment of the corresponding tax obligations to the employee do not change the qualification of the plan as settled on equity instruments.

5. FINANCING AND FINANCIAL RISK POLICY

The IBERDROLA Group is exposed to risks inherent to the different countries, industries and markets in which it operates and in the businesses it carries out, which could prevent it from achieving its objectives and executing its strategies successfully.

In particular, the financing and financial risk policy of the IBERDROLA Group approved by the Board of Directors identifies the risk factors described below. The IBERDROLA Group has an organisation and systems, which allow the financial risks to which the Group is exposed to be identified, measured and controlled.

Interest rate risk

The IBERDROLA Group is exposed to the risk of fluctuations in interest rates affecting cash flows and fair value in respect of items in the Statement of financial position.

In order to adequately manage and limit this risk, the IBERDROLA Group yearly determines the desired structure of the debt between fixed and floating interest rate, taking into account the indexing of income at a certain indicator, either interest rate or price index. On a yearly basis, actions to be carried out are determined throughout the year: new sources of financing (at a fixed, floating or indexed rate) and/or the use of interest rate derivatives.

The debt structure at 31 December 2017 and 2016, after considering the effect of hedge derivatives, is the following:

Thousand euros	31.12.2017	31.12.2016
Fixed interest rate	18,025,210	15,399,855
Floating interest rate	18,665,288	15,770,827
Limited floating interest rate (*)	–	50,000
Total Bank borrowings and other financial liabilities - Loans and others (Note 26)	36,690,498	31,220,682
Cash and cash equivalents (Note 20)	3,197,340	1,432,686
Other current financial assets	63,970	59,933
Total Bank borrowings and other financial liabilities - Loans and others	33,429,188	29,728,063

(*) Relating to certain borrowing agreements whose exposure to interest rate fluctuations is limited by caps and floors.

The reference interest rates for the floating rate borrowings are basically Euribor, Libor- sterling pound, Libor-dollar and the CDI in the case of the debt of the Brazilian subsidiaries).

Additionally, as of 31 December 2017, the IBERDROLA Group has arranged derivatives to cover the interest rate risk of the future financing for a nominal amount of EUR 3,620 million, which help to mitigate the interest rate risk.

Exchange rate risk

As the IBERDROLA Group's functional currency is the euro, fluctuations in the value of the foreign exchange rate in which borrowings are instrumented and transactions are made (mainly the sterling pound, the US dollar and the Brazilian real) with respect to the euro may have an impact on the finance costs, on the profit for the year and on the Group's equity.

The IBERDROLA Group reduces this risk by

- Ensuring that all its economic flows are carried out in the currency of each Group company, provided that this is possible and economically viable and efficient, through the use of derivatives if not.
- As far as possible, this covers the risk of transfer of earnings scheduled for the current year, thereby limiting the ultimate impact on Group earnings.
- As far as possible, this covers the expense of the exchange rate risk in the Mexican corporate taxes, limiting the overall impact on the earnings of Mexico and of the Group.
- Mitigating the impact on the consolidated net asset value of a hypothetical depreciation of currencies due to Group's investment in foreign subsidiaries by maintaining foreign currency debt, as well as through financial derivatives.

Note 6.c of these Consolidated financial statements includes information on the potential impact of the Brexit on the IBERDROLA Group.

Commodity price risk

The IBERDROLA Group's activities require the acquisition and sale of raw materials (natural gas, coal, fuel oil, gas oil, emission allowances, etc.), whose price is subject to the volatility of international markets (global and regional) where those raw materials are traded.

Likewise, the prices for such raw materials are linked to the price indexes of other raw materials (mainly oil) and, therefore, they also depend on the volatility of the global oil market.

The margin obtained in the operations depends on the relative competitiveness of the IBERDROLA Group's plants compared to its competitors. This relative competitiveness also depends on raw material prices.

Inherent business risk

The activities of the IBERDROLA Group are exposed to a range of business risks related to the uncertainty of the main variables affecting it, such as the evolution of the demand for electricity and gas, the availability of hydroelectric and wind power resources in the electricity production (both for IBERDROLA's and the rest of the competitors that operate in the same market) and the availability of the electricity production plants.

In section 4 of the consolidated management report, it offers detailed information related to these risks.

Liquidity risk

Exposure to adverse situations in the debt or capital markets or the IBERDROLA Group's economic and financial situation can hinder or prevent the IBERDROLA Group from obtaining the financing required to properly carry on its business activities.

IBERDROLA Group's liquidity policy is designed to ensure that it can meet its payment obligations without having to obtain financing under unfavourable terms. For this purpose, it uses various management measures such as the arrangement of committed credit facilities of sufficient amount, term and flexibility, diversification of the coverage of financing needs through access to different markets and geographical areas, and diversification of the maturities of the debt issued (Notes 26 and 52).

For fiscal year 2018 the IBERDROLA Group is expected to face the ordinary investment program established with the cash flow generated from its operations and access to the bank financial markets, capital markets and supranational moneylenders (such as EIB), even though, the Group has the treasury and sufficient credits and loans available to meet these investments.

At 31 December 2017 and 2016, the IBERDROLA Group had undrawn loans and credit facilities amounting to EUR 6,863,917 and 6,583,500 thousand, respectively.

The liquidity position of the IBERDROLA Group exceeds EUR 10,061 million, of which EUR 1.446 million correspond to NEOENERGIA and EUR EUR 8,615 million to the rest of the IBERDROLA Group,

The breakdown is shown below by maturities of the liquidity position as of 31 December 2017 and 2016, considering the balance of the sub-heading "Cash and cash equivalents" in the consolidated financial statements.

Thousand euros	2017	2016
Available maturity		
2017	–	266,219
2018	794,991	760
2019	364,250	–
2020 onwards	5,704,676	6,316,521
Total	6,863,917	6,583,500
Cash and cash equivalents (Note 20)	3,197,340	1,432,686
Total adjusted liquidity	10,061,257	8,016,186

Credit risk

The IBERDROLA Group is exposed to the credit risk arising from the possibility that counterparties (customers, suppliers, financial institutions, partners, etc.) might fail to comply with contractual obligations. This exposure may arise with regard to unsettled amounts, to the cost of replacing products that are not supplied, as well as, in the case of dedicated plants, to amounts on which depreciation is pending, of said plants.

Credit risk is managed and limited in accordance with the type of transaction and the credit worthiness of the counterparty. Specifically, there is a corporate credit risk policy which establishes criteria for admission, approval systems, authorisation levels, qualification tools, exposure measurement methodologies, exposition limits, mitigation tools, etc.

With regard to credit risk on trade receivables, the historical cost of defaults has remained moderate and stable at close to 1% of total turnover of this activity, despite the current difficult economic environment.

Regarding other exposure (counterparties in transactions with derivatives, placement of cash surpluses, sale transactions involving energy and guarantees received from third parties), in 2017 and 2016 there have been no material non-payments or losses.

The Group's Networks businesses in Spain and the UK do not sell energy. Therefore their credit risk is limited. In the case of Brazil and the United States, the activity of supplying to regulated tariff allows to recover, in general terms, commercial default.

Sensitivity analysis

The following sensitivity analyses show, for each type of risk (without reflecting the interdependence among risk variables), how income for the year and equity might be affected by reasonably possible changes in each risk variable at 31 December 2017 and 2016. Therefore, the sensitivity analysis does not show the effect on income for the year and equity that might have arisen if during 2017 and 2016 the risk variables had been different.

- Financial

The sensitivity of the consolidated profit and the equity to the variation of the interest rates is as follows:

Thousand euros	Increase/ decrease in interest rate (basis points)	Impact on profit before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2017	+ 25	171	67,229	67,400
	- 25	(171)	(67,229)	(67,400)
2016	+ 25	1,200	53,070	54,270
	- 25	(1,200)	(53,070)	(54,270)

The sensitivity of the consolidated profit and equity of the IBERDROLA Group to changes in the dollar/euro, sterling pound /euro and Brazilian real/euro exchange rate is as follows:

Thousand euros	Change in the dollar/euro exchange rate	Impact on profit before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2017	Depreciation 5%	(166)	(680,585)	(680,751)
	Appreciation 5%	183	752,226	752,409
2016	Depreciation 5%	752	(725,927)	(725,175)
	Appreciation 5%	(831)	802,341	801,510

Thousand euros	Change in the sterling pound/euro exchange rate	Impact on profit before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2017	Depreciation 5%	771	(524,700)	(523,929)
	Appreciation 5%	(853)	579,932	579,079
2016	Depreciation 5%	3,823	(438,573)	(434,750)
	Appreciation 5%	(4,225)	484,738	480,513

Thousand euros	Change in the brazilian real/euro exchange rate	Impact on profit before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
2017	Depreciation 5%	9,479	(242,586)	(233,107)
	Appreciation 5%	(10,477)	268,121	257,644
2016	Depreciation 5%	–	(102,277)	(102,277)
	Appreciation 5%	–	113,043	113,043

- Raw materials:

The sensitivity of the consolidated profit and the equity to changes in the market prices of the main raw materials is as follows:

Thousand euros

Year 2017	Variation in price	Impact on profit before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
Gas	+ 5%	(1,229)	14,232	13,003
	- 5%	1,363	(14,296)	(12,933)
Electricity	+ 5%	7,126	36,388	43,514
	- 5%	(7,202)	(36,388)	(43,590)
CO ₂	+ 5%	(62)	227	165
	- 5%	62	(227)	(165)
Coal	+ 5%	(1,116)	412	(704)
	- 5%	1,116	(412)	704

Thousand euros

Year 2016	Variation in price	Impact on profit before taxes Income/(Expense)	Direct impact on equity before taxes	Impact on equity before taxes
Gas	+ 5%	1,135	15,574	16,709
	- 5%	(1,163)	(15,090)	(16,253)
Electricity	+ 5%	7,574	8,493	16,067
	- 5%	(7,572)	(8,493)	(16,065)
CO ₂	+ 5%	(64)	404	340
	- 5%	64	(404)	(340)
Coal	+ 5%	(115)	172	57
	- 5%	115	(172)	(57)

6. USE OF ESTIMATES AND SOURCES OF UNCERTAINTY

6.a) Accounting estimates

The most significant estimates made by the IBERDROLA Group in these Consolidated financial statements are as follows:

- Unbilled power supplied:

The revenue figure for each year includes an estimate of the power supplied to customers of deregulated markets but not billed because it had not been measured at year end for reasons relating to the regular meter-reading period. The estimated unbilled power at 31 December 2017 and 2016 amounted to 2,005,863 and 1,821,047 thousand, respectively. This amount is included under "Trade debtors and other current receivables" on the Consolidated statements of financial position at 31 December 2017 and 2016.

- Settlements relating to regulated activities in Spain:

At the end of each year, the IBERDROLA Group estimates the definitive settlements relating to regulated activities in Spain for that year, establishing the shortfall in revenue, if any, that corresponds together with the amount that will be recovered in the future on the basis of the announcements made by the authorities and the periods during which this recovery will take place (Note 35).

These estimates are made on the basis of the provisional settlements published up to the date of formulation of the Consolidated financial statements and all available information on the sector.

- Contracts to trade energy supplies:

As mentioned in Note 4.I, the IBERDROLA Group analyses its contracts to trade energy supplies to ensure they are properly classified for accounting purposes. This analysis involves estimating final customer demand and other variables. These estimates are revised at regular intervals.

- Provisions for contingencies and expenses:

As indicated in Note 4.s, the IBERDROLA Group recognises provisions to cover present obligations arising from past events. For this purpose, it must assess the outcome of certain of legal or other nature procedures that are ongoing at the date of formulation of these Consolidated financial statements based on the best information available.

- Useful lives:

The IBERDROLA Group's tangible assets operate over very prolonged periods of time. The Group estimates their useful lives for accounting purposes (Note 4.e) taking into account each asset's technical characteristics, the period over which they are expected to generate economic benefits and the applicable legislation in each case.

- Costs incurred in closing and dismantling electricity production and distribution facilities:

The IBERDROLA Group periodically revises the estimates made concerning the costs to be incurred in the dismantling of its facilities.

- Provision for pensions and similar commitments and restructuring plans:

At each year end, the IBERDROLA Group estimates the current actuarial provision required to cover obligations relating to restructuring plans, pensions and other similar obligations to its employees. In several cases, it involves the valuation of the assets affected to certain plans. In making these estimates, the IBERDROLA Group receives advice from independent actuaries and expert appraisers (Notes 4.o, 4.p and 24).

- Fair value of investment property:

The IBERDROLA Group appraises its investment property each year. While these appraisals are particularly important given the current situation of the real estate market, the IBERDROLA Group considers that its appraisals, commissioned by independent valuers, appropriately reflect this situation.

- Impairment of assets:

As described in Notes 4.i and 13, the IBERDROLA Group, in accordance with applicable accounting regulations, tests the cash-generating units that require testing for impairment each year. Specific tests are also conducted if indications of impairment are detected. These impairment tests require estimating the future cash flows of the businesses and the most appropriate discount rate in each case. The IBERDROLA Group believes its estimates in this respect are appropriate and consistent with the current market situation and reflect its investment plans and the best available estimate of its future expense and income. Also, the discount rates reflect the risk of cash-generating units.

- Other intangible assets:

As disclosed in Note 4.b of these Consolidated financial statements, the "Other intangible assets" heading on the Consolidated statement of financial position includes wind farm projects and gas storage facilities in the development phase. The IBERDROLA Group estimates that these projects meet the identifiability requirement under IAS 38 for them to be capitalised, and that the Group's future investment plans will include the construction of the facilities proposed in these projects.

- Deferred tax assets:

As mentioned in Note 4.x, the IBERDROLA Group only recognizes deferred tax assets when future taxable profits are expected against which the recovery of those assets is possible. In this sense, the IBERDROLA Group performs projections of its taxable earnings to reach a final conclusion, projections that are consistent with the impairment tests mentioned earlier in this Note.

- Assets held for sale and discontinued operations:

The IBERDROLA Group, at each year end, estimates the existence of specific assets or cash-generating units that meet the conditions for their classification as assets held for sale or discontinued operations.

6.b) Sources of uncertainty

There are certain aspects that, at the date of the formulation of these Consolidated financial statements, constitute a source of uncertainty concerning the accounting effect:

- Section 12.5 of the Corporate Income Tax Law (Ley del Impuesto sobre Sociedades) introduced under the Royal Decree 4/2004, stated that financial goodwill arising from the acquisition of foreign companies was deductible for tax purposes. IBERDROLA is applying said deductibility for the financial goodwill arising from the acquisitions of Scottish Power Plc. (now Scottish Power Limited) and Energy East Inc. (now AVANGRID).

In October 2007, the European Commission decided to initiate a formal investigation of the aforementioned tax measure to examine whether it was compatible with the internal market.

In 2009 and 2011 the European Commission issued two Decisions (named First Decision and Second Decision) stating that article 12.5 constituted a forbidden State aid and should be removed. However, deductions could remain in place for acquisitions transacted or agreed before 21 December 2007 (this being the case of the acquisitions made by the IBERDROLA Group) due to the fact that the entities applying them had acted on the ground of legitimate expectations.

In February 2014, the Spanish National High Court (Audiencia Nacional) issued a resolution stating that article 12.5 does not apply to indirect acquisitions (i.e. second and lower-level tier subsidiaries). This decision has been appealed against by the IBERDROLA Group and other parties concerned.

In October 2014, the European Commission issued a third decision (named Third Decision) in which it determined that, as the Spanish tax authorities answered in 2012 to several “binding consultations” as to whether indirect acquisitions are deductible under article 12.5, it cannot be understood that the companies that made indirect acquisitions acted on the ground of legitimate expectations. Furthermore, as this was a measure subsequent to the date on which it was disclosed that the formal investigation process had begun, the Commission considered that, for companies which made indirect acquisitions prior to 21 December 2007, no legitimate expectations had been generated, since they were aware of the administrative practice which excluded indirect acquisitions from the scope of application of the tax measure. Therefore, the Commission requested to the Kingdom of Spain, which has appealed against that decision, to recover the aid given.

On 7 November 2014, the General Court of the European Union (TIGUE) set aside the two Commission Decisions referred earlier on the ground that the deduction under article 12.5 is not State aid because it is not selective. This Decision has been appealed against by the European Commission.

On 27 February 2015, the General Court of the European Union issued a resolution rejecting the interim suspension of the Third Decision, which means that Spanish tax authorities should have to recover the aid. However, this Resolution mentions a writing that was sent to the Spanish Kingdom by the General Director for Competition of the Commission, in which it is declared that the recovery of the aid won't be actively pursued until the European Court of Justice does not conclude on the appeals of the Commission against the General Court Resolutions of 7 November 2014.

Furthermore, on the same date it was published the third Decision in the Official Journal of the European Union, against which the IBERDROLA filed the corresponding appeal before the General Court on 22 May 2015.

On 21 December 2016 the Court of Justice of the European Union issued a resolution resolving the appeals submitted by the European Commission against the General Court rulings of 7 November 2014, dismissing said rulings and agreeing to refer the issue back to the Court to rule on the selectivity of the measure and examine the reasons for an appeal stated by the parties concerned, which had not been examined in these rulings. This resolution confirmed the validity of the First and Second Decisions. Consequently, the European Commission declared it will work with the Spanish authorities to implement the refund of the aid granted, including aid that had been declared incompatible with the domestic market by the Third Decision.

With the aim of executing the order to retrieve aid, on 1 June 2017 the Tax and Customs Control Division of the Tax Agency initiated an aid retrieval procedure that ended in 16 November 2017 with the notification of a tax settlement amounting to a tax base of EUR 576 million and 89 million of accrued interest. Payment of this settlement is currently postponed due to the order from the President of the General Court, dated 24 November 2017, which suspends the obligation to retrieve the aid until the date of the order that finalises the provisional measures procedure..

Actual recovery of the aid will be provisional, subject to the final outcome of the appeals submitted against the three decisions.

At the date of these consolidated financial statements, the appeal submitted had not been resolved.

It is the opinion of the Company and its counsel in this matter that it is probable that the Third Decision will be annulled by European courts.

- In 2009, a series of incentives were established to promote renewable energies in the United States that were initially applicable only to wind farms that were brought onstream prior to 31 December 2012. Part of these, specifically, the Production Tax Credits (PTC), were extended to wind farms whose construction has begun before 1 January 2015 (Note 3).

In December 2015 PTC were extended to those wind farms which construction will begin before 31 December 2019, but the unitary amount is gradually reduced for those wind farms which construction is initiated from 1 January 2017 onwards.

The IBERDROLA Group considers that this extension of PTC ensures an adequate profitability for the facilities put in use until 2019. Furthermore, the IBERDROLA Group considers that the wind farms, of which construction begins after 2019, would benefit from a remuneration system that will exceed the return required by the IBERDROLA Group for its investments. Therefore, the IBERDROLA Group believes that they will be able to recover its tangible and intangible assets in the United States related to renewable energy sources at the value stated in the Consolidated Statement of Financial Position at 31 December 2016.

- The IBERDROLA Group has stakes in several nuclear plants, all of which are located in Spain. The Santa María de Garoña nuclear plant, in which the IBERDROLA Group has a 50% stake, came into operation in 1971. It was disconnected from the electricity grid in 2012. The Royal Decree 102/2014, for the responsible and safe management of spent nuclear fuel and radioactive waste, authorises Nuclenor, S.A. (hereinafter "NUCLENOR"), the company that owns the plant, to apply for an extension of the operating licence for the plant for an indefinite period. On 2 June 2014, NUCLENOR applied to the Nuclear Safety Council (Consejo de Seguridad Nuclear, hereinafter "CSN") for a new operating licence valid until 2031. On 8 February 2017 plenary of the CSN has agreed to set the limits and conditions related to the application for renewal of operating authorization of the Santa María de Garoña nuclear power plant. The evaluations conclude that the proposals by NUCLENOR are acceptable, while, from the point of view of safety and radiation protection it is necessary for the holder to carry out additional actions that are identified within limits and conditions on nuclear safety and radiation protection and which are included in the proposal that the CSN has sent to the Ministry of Energy, Tourism and Digital Agenda, which will have six months to issue its resolution. At the date of formulation of these Consolidated Financial Statements neither the proposal of the CSN nor the resolution of the Ministry of Energy, Tourism and Digital Agenda are available.

The operating licences in effect for the rest of nuclear plants have a term of 30 to 40 years from their coming into operation. Those plants are governed by the Sustainable Economy Law (Ley de Economía Sostenible), enacted on 15 February 2011, which provides, with no time limit, that the share of nuclear power in the production mix must be determined in accordance with its production timetable and the licence renewals requested by nuclear plant owners within the framework of the prevailing law.

Taking this into account, as well as the investment and maintenance policies followed at its nuclear plants, the IBERDROLA Group considers that the corresponding operating licences will be renewed at least until those plants are 40 years old. Accordingly, for accounting purposes the plants will be depreciated over the resulting period (Note 4.e).

- The Notes 30 and 45 of these Consolidated financial statements describe the principal contingent liabilities of the IBERDROLA Group, the majority of which have arisen in ongoing litigation, the future course of which cannot be determined with certainty at the date of formulation of these Consolidated financial statements.
- The IBERDROLA Group is currently involved in negotiations and/or arbitration regarding some of its long-term contracts to supply or sell raw materials and believes that their outcomes will not have a significant change on the amounts shown in the Consolidated financial statements.

The IBERDROLA Group and its legal and tax advisors consider that no losses of assets and no significant liabilities will arise for the IBERDROLA Group as a result of the matters detailed in the paragraphs above.

6.c) Iberdrola and the result of the Referendum on the European Union in the United Kingdom (Brexit)

At the date of these Consolidated financial statements it is unknown of how the process of negotiations to take the United Kingdom out of the European Union (EU) will be.

However, IBERDROLA believes that there will be no significant short-term impact for the following reasons:

- Currency diversification offsets the potential impact of the Brexit in that the expected trend in the US dollar partially compensates for the impact of Brexit on the Sterling pound.
- Approximately 90% of total EBITDA generated by the IBERDROLA Group in the United Kingdom is accounted for by Regulated (Transmission - Distribution) and Renewables businesses. Both these areas of business have stable predictable regulation. In general terms, long-term British regulatory frameworks are defined in real terms and therefore possible inflationary pressures in the future would not affect expected returns.
 - Distribution: Remuneration guaranteed up to 2023 by the RIIOD-1 regulatory framework.
 - Transmission: Remuneration guaranteed up to 2021 by the RIOT1 regulatory framework.
 - Renewables: existing facilities and new projects, such as the East Anglia offshore wind power project, have the backing of the approved remuneration mechanisms: Renewables Obligation Certificates (ROCs) and Contracts for Differences (CfDs), respectively; which affect the first 15-20 years of asset useful life.

The IBERDROLA Group therefore believes that, since most of its businesses in the United Kingdom are regulated and since the supplies of electricity constitute an essential service, the sensitivity analyses performed demonstrate that none of its British cash-generating units are showing any signs of impairment at the date of these Consolidated financial statements.

7. BUSINESS COMBINATIONS

Year 2017

On 24 August 2017, the incorporation of the activity and businesses of Elektro Holding, S.A. (ELEKTRO) in Neoenergia S.A. (NEOENERGIA) was completed, according to the agreement of the NEOENERGIA shareholders (BB Banco de Investimento S.A.- Banco do Brasil, Caixa de Previdência dos Funcionários do Banco do Brasil –Previ and Iberdrola Energía, S.A.U. - IBERDROLA ENERGÍA), notified on 8 June 2017 and once the suspensive conditions have been met that were subject to the operation. Through this transaction, IBERDROLA Group acquired NEOENERGIA compared to the previous control granted by its prior stake. This thus results in an acquisition in stages.

NEOENERGIA is a leading private electricity group in Brazil, which operates in 11 states and is present in the energy generation, transmission, distribution and marketing business. Currently, do Brasil and Previ are holders of 12% and 49% respectively of the capital of NEOENERGIA, with 39% remaining owned by IBERDROLA ENERGÍA. After the effectiveness of the operation, on Banco do Brasil and Previ own approximately 9.35% and 38.21% respectively of the capital of NEOENERGIA, and IBERDROLA ENERGÍA now holds 52.45%, including the businesses of ELEKTRO as consideration.

The operation will be structured between NEOENERGIA and ELEKTRO via the Brazilian legal form called "incorporação", which has an increase in share capital in NEOENERGIA that will be fully subscribed by IBERDROLA ENERGÍA and will imply the termination of ELEKTRO and the transmission in block of its equity to NEOENERGIA, which will acquire the rights and obligations of it through universal succession.

The competent Brazilian authorities, Conselho Administrativo de Defesa Econômica (CADE), have authorised the merger operation between NEOENERGIA and ELEKTRO without restrictions, as it appears published in the Official Journal from 4 July.

The final fair value of the assets and liabilities of NEOENERGIA on 24 August 2017 and its carrying value on this date is the following:

Thousand euros	Note	Fair Value at 24.08.2017	Fair Value at 24.08.2017
Intangible assets.	9	3,646,381	2,611,485
Tangible fixed assets	11	1,136,997	1,136,997
Non-Current Financial investments		2,879,125	2,707,592
Deferred tax assets	30	176,485	176,485
Commercial debtors and other accounts receivable		52,048	52,048
Inventories		14,145	14,145
Commercial debtors and other accounts receivable		1,014,685	1,014,685
Current Financial investments		763,303	763,303
Cash and cash equivalents		76,366	76,366
Total		9,759,535	8,553,106

Thousand euros	Note	Fair Value at 24.08.2017	Fair Value at 24.08.2017
Provision for pensions and similar commitments and similar Non-current obligations	24	273,900	273,900
Other non-current provisions	25	269,544	129,657
Non-current financial debt	28	2,667,380	2,667,379
Other non-current payables		128,992	128,992
Deferred tax liabilities	30	452,915	20,586
Provision for pensions and similar commitments and similar current obligations	24	7,985	7,985
Other current provisions	25	45,201	45,201
Current Financial investments	28	1,228,822	1,228,822
Trade and other payables		1,361,369	1,361,368
Total		6,436,108	5,863,890
Net assets		3,323,427	
Fair value of previous stake in NEOENERGIA at 39%		(1,321,844)	
Adjustments in NEOENERGIA shares due to previous control (1)		8,723	
Recognition of non-controlling interests	21	(1,798,535)	
Goodwill arising in the acquisition	9	244,069	
Total acquisition cost		455,840	

(1) For the purposes of calculating acquisition cost, the value of NEOENERGIA shares has been reduced in EUR 8,723 thousand due to previous control by IBERDROLA Group over certain assets over which NEOENERGIA in turn had a stake.

As mentioned before, the IBERDROLA Group has acquired an additional stake in NEOENERGIA in consideration for the 47.55% interest it had in ELEKTRO, of which Iberdrola S.A. was the indirect holder of 100% of its shares through the Group company IBERDROLA ENERGÍA.

As a consequence of this, the amount of EUR 606,918 thousand has been recognised in the heading "Equity - Of non-controlling interests" in the consolidated financial statements 2017. They represent 47.55% of ELEKTRO's fair value at the date of the transaction (Note 21). The difference between this amount and ELEKTRO's fair value given as consideration resulted in EUR 493,293 thousand charged to "Equity - Other reserves" and a collection payment of EUR 342,214 thousand in "Equity - Translation differences" in the consolidated financial statements (negative net impact of EUR 151,079 thousand).

As a consequence of this business combination by stages, an amount of EUR 44,012 thousand was registered under the sub-heading 'Benefits of disposing of non-current assets' of the 2017 consolidated income statement (Note 42), which includes the following effects:

- Measurement of the previous shareholding in NEOENERGIA at the fair value on the acquisition date, which involved a capital gain of EUR 325,274 thousand as the difference between the fair value of EUR 1,321,844 thousand and a value in pounds of 996,570 thousand euros.
- Charge and debit on the Consolidated income statement for the losses recognised before the transaction under the sub-headings 'Translation differences' and 'Adjustments for changes in value' for the amount of 296,213 and 666 thousand euros, respectively, coming from the investment of the IBERDROLA Group.
- Measurement of the previous shareholding in which IBERDROLA Group had a stake at the fair value on the acquisition date, implied a capital gain of 14,285 thousand euros.

The IBERDROLA Group has opted to assess the minority shareholders in NEOENERGIA for the proportional part of the fair value of their identifiable assets and liabilities. This meant the recognition of EUR 1,798,535 thousand under the sub-heading 'Equity – Of non-controlling interests' of the 2017 Consolidated statements of financial position (Note 21).

The contribution of the incorporated net assets from the transaction with NEOENERGIA to the 2017 net consolidated income of the IBERDROLA Group has increased to a loss of approximately EUR 3,030 thousand, before considering the result of the previously described EUR 44,012 thousand euros. If this acquisition had taken place on 1 January 2017, the increase of the net turnover of consolidated businesses in 2017 would have amounted to 3,414,226 thousand euros and the decrease in net turnover for continuing operations would be 21,825 thousand euros.

Goodwill resulting from this business combination, which is EUR 244,069 thousands, is mainly composed of future economic benefits arising from the activity of NEOENERGIA that do not comply with the conditions established for its accounting recognition at the time of the business combination.

The costs incurred in the acquisition have not been significant.

This business combination has been recorder temporarily since the 12 month period following the acquisition of NEOENERGIA has not passed as set in IFRS 3: "Business combinations".

Year 2016

The IBERDROLA Group has not carried out any significant business combination in 2016.

8. GEOGRAPHICAL AND BUSINESS SEGMENT REPORTING

The IBERDROLA Group combines their segments tending to the nature of the business activities in the different geographic areas in which said activities take place. Group IBERDROLA'S operating segments are as follows:

- Network business: including all the energy transmission and distribution activities, and any other regulated activity originated in Spain, the United Kingdom, the United States and Brazil.
- Deregulated business: including electricity generation and sales businesses as well as gas trading and storage businesses carried on by the Group in Spain, Portugal, the United Kingdom and North America.
- Renewable business: activities related to renewable energies in Spain, the United Kingdom, the United States and Brasil.
- Other businesses: non-power businesses.

Additionally, Corporation includes the costs of the Group's structure (Single Corporation), of the administration services of the corporate areas that are subsequently invoiced to the other companies through specific service agreements.

The IBERDROLA Group manages globally not only the financial activities but also the effects of taxation on profits. Consequently, financial income and expenses and Income Tax have not been allocated to operating segments.

The transactions between the different segments are generally made in market conditions.

The key figures for the operating segments identified are as follows:

Business segmentation reporting for 2017

Thousand euros	Deregulated						Renewables						Networks						Other business, Corporation and adjustments	Total
	Spain and Portugal	United Kingdom	Mexico	Brazil	ROW	Total	Spain	United Kingdom	United States	Mexico	Brazil	ROW	Total	Spain	United Kingdom	United States	Brazil	Total		
NET REVENUE																				
External revenues	12,125,066	4,797,481	2,334,028	671	(59,862)	19,197,384	192,518	59,966	971,154	73,422	58,722	125,380	1,481,162	1,885,658	1,050,463	4,083,179	3,371,006	10,390,306	194,410	31,263,262
Intersegment revenue	(45,759)	77,810	(19,061)	367,512	77,148	457,650	597,635	479,942	(48)	346	25,664	581	1,104,120	131,575	171,565	–	685	303,825	21,166	1,886,761
Eliminations						(170,197)							–					–	(1,716,564)	(1,886,761)
Total revenue						19,484,837							2,585,282					10,694,131	(1,500,988)	31,263,262
RESULTS																				
Segment operating profit	403,250	(104,663)	429,514	39,519	(800,740)	(33,120)	250,443	217,402	(297,566)	25,646	40,367	51,458	287,750	1,001,297	603,027	778,598	276,812	2,659,734	(201,733)	2,712,631
Result of companies accounted for using the equity method - net of taxes	(4,331)	(51)	–	(1,531)	–	(5,913)	6,847	1,128	(43,877)	–	3,982	(38)	(31,958)	2,921	(89)	14,669	6,399	23,900	(14,762)	(28,733)
ASSETS																				
Segment assets	11,303,427	7,126,306	3,754,452	1,646,585	156,303	23,987,073	4,379,219	4,984,086	11,255,376	957,661	656,761	2,195,210	24,428,313	11,925,746	11,898,622	19,779,894	5,655,755	49,260,017	3,123,357	100,798,760
Companies accounted for using the equity method	31,383	–	–	710,242	–	741,625	65,125	6,457	178,077	–	–	(1,076)	248,583	29,781	–	122,654	–	152,435	648,253	1,790,896
LIABILITIES																				
Segment liabilities	2,661,029	1,477,277	1,104,965	391,876	48,662	5,683,809	754,938	929,372	3,546,940	298,709	64,134	373,739	5,967,832	5,735,668	2,458,169	6,630,179	2,047,965	16,871,981	1,955,412	30,479,034
OTHER INFORMATION:																				
Total cost incurred during the period in the acquisition of property, plant and equipment and non-current intangible assets	396,927	227,571	707,916	51,076	5,914	1,389,404	40,647	821,911	973,640	227,576	93,704	230,651	2,388,129	489,240	692,245	944,008	324,810	2,450,303	53,346	6,281,182
Depreciation and amortisation expenses	498,673	243,759	95,845	20,471	774,981	1,633,729	242,636	143,239	827,312	26,884	16,497	47,809	1,304,377	518,193	283,030	555,417	211,684	1,568,324	99,639	4,606,069
Expenses of the period other than depreciation and amortisation that did not result in cash outflows	45,012	3,468	2,239	–	–	50,719	4,029	–	9,179	–	–	23	13,231	97,248	24,328	72,385	21,680	215,641	154,270	433,861

Business segmentation reporting for 2016

Restated- (Note 2.c)	Deregulated						Renewables						Networks						Other business, Corporation and adjustments	Total
	Spain and Portugal	United Kingdom	Mexico	Brazil	ROW	Total	Spain	United Kingdom	United States	Mexico	Brazil	ROW	Total	Spain	United Kingdom	United States	Brazil	Total		
Thousand euros																				
NET REVENUE																				
External revenues	12,004,791	5,361,763	1,498,246	71,404	(1,228)	18,934,976	44,543	56,374	963,972	73,059	39,112	123,193	1,300,253	1,909,088	1,106,035	3,979,421	1,458,544	8,453,088	70,831	28,759,148
Intersegment revenues	(124,258)	106,566	(3,292)	291	49,264	28,571	732,700	367,240	–	(1,267)	–	707	1,099,380	140,588	213,058	–	–	353,646	21,816	1,503,413
Eliminations						(240,175)							–					–	(1,263,238)	(1,503,413)
Total revenue						18,723,372							2,399,633					8,806,734	(1,170,591)	28,759,148
RESULTS																				
Segment operating profit	986,453	17,161	338,176	(3,174)	(25,486)	1,313,130	250,625	129,668	218,225	25,230	15,708	63,326	702,782	1,100,314	692,426	729,464	126,991	2,649,195	20,746	4,685,853
Result of companies accounted for using the equity method - net of taxes	(25,693)	(100)	–	19,591	–	(6,202)	366	1,139	(9,406)	–	3,365	(8,870)	(13,406)	1,808	95	11,728	41,779	55,410	11,457	47,259
ASSETS																				
Segment assets	11,250,855	6,962,247	3,418,760	14,424	1,447,866	23,094,152	4,584,323	4,710,901	13,175,575	832,935	204,784	1,745,542	25,254,060	11,649,885	11,751,258	21,788,818	1,724,132	46,914,093	4,632,445	99,894,750
Companies accounted for using the equity method	5,953	1,825	–	438,914	–	446,692	61,879	7,908	144,788	–	111,088	(1,078)	324,585	51,395	92	143,107	657,082	851,676	616,702	2,239,655
LIABILITIES																				
Segment liabilities	2,571,554	1,189,049	1,020,133	11,375	402,665	5,194,776	769,914	783,486	5,252,396	267,507	17,652	316,351	7,407,306	5,932,897	2,515,384	8,760,558	570,528	17,779,367	3,169,327	33,550,776
OTHER INFORMATION:																				
Total cost incurred during the period in the acquisition of property, plant and equipment and non-current intangible assets	224,701	134,839	408,795	135	4,888	773,358	15,989	485,337	690,924	116,256	3,115	477,513	1,789,134	512,916	792,534	843,808	83,707	2,232,965	(49,397)	4,746,060
Depreciation and amortisation expenses	534,056	276,432	97,989	102	31,602	940,181	246,807	140,174	345,420	26,774	9,192	30,598	798,965	502,755	283,813	540,173	105,762	1,432,503	76,178	3,247,827
Expenses of the period other than depreciation and amortisation that did not result in cash outflows	22,556	5,567	964	–	–	29,087	3,025	–	8,563	–	–	–	11,588	26,582	21,607	63,609	840	112,638	102,745	256,058

Additionally the net revenue and non-current assets by geographical area is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated- (Nota 2.c)
Net revenue		
Spain	13,733,471	13,500,953
United Kingdom	5,907,910	6,524,172
North America	7,402,164	6,513,719
Brazil	3,430,399	1,569,060
ROW	789,318	651,244
Total	31,263,262	28,759,148

Thousand euros	31.12.2017	31.12.2016
Non-current assets(*)		
Spain	22,881,482	23,537,117
United Kingdom	22,433,802	21,898,039
North America	31,962,224	35,837,302
Brazil	6,290,435	1,444,265
ROW	2,086,492	1,514,166
Total	85,654,435	84,230,889

(*) Excluding non-current financial assets, deferred tax assets and non-current trade and other receivables.

In addition, the reconciliation between segment assets and liabilities and the total assets and liabilities in the Consolidated statement of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Segment assets	100,798,760	99,894,750
Non-current Financial investments	5,013,504	3,903,994
Current Financial investments	1,323,224	1,474,790
Cash and cash equivalents	3,197,340	1,432,686
Assets held for sale	355,731	–
Total assets	110,688,559	106,706,220

Thousand euros	31.12.2017	31.12.2016
Segment liabilities	30,479,034	33,550,776
Equity	42,733,186	40,687,389
Non-current equity instruments having the substance of financial liability	14,762	43,664
Long-term liabilities	29,784,705	26,926,882
Current equity instruments having the substance of financial liability	32,519	93,390
Short term liabilities	7,509,809	5,404,119
Liabilities linked to assets held for sale	134,544	–
Total liabilities and equity	110,688,559	106,706,220

9. INTANGIBLE ASSETS

The changes in 2017 and 2016 in intangible assets and their corresponding accumulated amortisations and provisions has been as follows:

Thousand euros	Balance at 01.01.2016	Differences in exchange rates	Modification of the consolidation perimeter	Additions/ (charge)/ reversals	Capitalised Staff costs (Note 38)	Transfers	Disposals /Derecognition	Balance at 31.12.2016	Differences in exchange rates	Modification of the consolidation perimeter (Note 7)	Additions/ (charge)/ reversals	Capitalised Staff costs (Note 38)	Transfers	Disposals /Derecognition	Assets held for sale (Note 34)	Write-off (Note 13)	Balance at 31.12.2017
Cost:																	
Goodwill	9,352,789	(605,188)	(35,351)	–	–	–	(1,197)	8,711,053	(573,238)	244,069	–	–	–	–	–	(449,480)	7,932,404
Concessions, Patents, licenses, trademarks and others	7,545,884	29,993	104,888	15,553	–	92	(1)	7,696,409	(796,107)	1,034,895	8,501	–	(336)	–	(12,695)	–	7,930,667
Intangibles assets under CINIF 12	726,508	179,979	–	84,089	23,696	(32,512)	(14,986)	966,774	(404,484)	4,802,502	338,120	34,372	(189,211)	(41,717)	–	–	5,506,356
IT Applications	1,869,488	(32,150)	–	143,269	7,377	24,234	(52,201)	1,960,017	(116,012)	–	157,639	7,927	40,599	(9,634)	(527)	–	2,040,009
Other intangible assets	4,861,701	(17,649)	25,639	10,678	–	(371,402)	(4,542)	4,504,425	(444,142)	32,755	5,939	–	(71,660)	(7,017)	(471,230)	–	3,549,070
Total cost	24,356,370	(445,015)	95,176	253,589	31,073	(379,588)	(72,927)	23,838,678	(2,333,983)	6,114,221	510,199	42,299	(220,608)	(58,368)	(484,452)	(449,480)	26,958,506
Accumulated depreciation and procurment:																	
Concessions, patents, licenses, trademarks and others	742,549	(43,632)	–	80,930	–	–	–	779,847	(55,164)	–	104,311	–	(142)	–	(5,355)	–	823,497
Intangibles assets under CINIF 12	209,266	55,604	–	51,505	–	–	(5,877)	310,498	(172,658)	2,221,975	134,587	–	–	(26,495)	–	–	2,467,907
IT Applications	1,262,538	(12,634)	–	164,905	–	1,691	(52,003)	1,364,497	(72,083)	–	182,870	–	1,852	(9,586)	(486)	–	1,467,064
Other intangible assets	554,990	(47,291)	–	146,688	–	–	(3,173)	651,214	(46,021)	1,796	120,325	–	(3,175)	(252)	(49,726)	–	674,161
Total accumulated depreciation	2,769,343	(47,953)	–	444,028	–	1,691	(61,053)	3,106,056	(345,926)	2,223,771	542,093	–	(1,465)	(36,333)	(55,567)	–	5,432,629
Impairment allowance (Note 41)	827,421	39,220	–	(68,182)	–	–	–	798,459	(81,435)	–	25,756	–	(18,706)	–	(346,224)	–	377,850
Total accumulated depreciation and procurment	3,596,764	(8,733)	–	375,846	–	1,691	(61,053)	3,904,515	(427,361)	2,223,771	567,849	–	(20,171)	(36,333)	(401,791)	–	5,810,479
Total net cost	20,759,606	(436,282)	95,176	(122,257)	31,073	(381,279)	(11,874)	19,934,163	(1,906,622)	3,890,450	(57,650)	42,299	(200,437)	(22,035)	(82,661)	(449,480)	21,148,027

The heading “Other intangible assets” includes, among other items, wind farm projects in the development phase which meet the identifiability requirement under NIC 38: “Intangible assets”, as they are separable and susceptible to individual sale and are carried at acquisition cost. The IBERDROLA Group transfers these assets to “Property, plant and equipment” in the Consolidated statement of financial position when construction of each wind farm commences.

The amounts incurred in due to research and development activities in 2017 and 2016 totals EUR 246,392 and 211,447 respectively.

The fully amortised intangible assets in use at 31 December 2017 and 2016 amounted to 1,093,271 and 384,669 thousand, respectively.

The IBERDROLA Group maintains at 31 December 2017 and 2016 commitments to acquire intangible assets for EUR 48,559 and 44,655 thousand.

In addition, at 31 December 2017 and 2016, there were no significant restrictions on the ownership of intangible assets, except for the regulated businesses that may require authorisation of the corresponding regulator for specific transactions.

The allocation of goodwill to the cash generating units at 31 December 2017 and 2016 is as follows:

Thousand euros	31.12.2017	31.12.2016
Electricity and gas generation and supply in the UK	4,330,357	4,502,132
Regulated activities in the UK	858,779	885,294
Renewable energies in the UK	493,279	510,026
Renewable energies in the USA	828,687	1,460,337
Regulated activities in the USA	999,482	1,143,048
Regulated activities in Brazil	198,107	175,224
Electricity generation and retail in the UK	173,768	–
Renewable energies in Brazil	10,764	–
Other activities	39,181	34,992
Total	7,932,404	8,711,053

The allocation of indefinite life and in-progress intangible assets at 31 December 2017 and 2016 to the various cash generating units is as follows:

Thousand euros	2017			2016		
	Intangible assets with indefinite useful lives	Intangible assets in progress	Total	Intangible assets with indefinite useful lives	Intangible assets in progress	Total
Electricity distribution in Scotland	751,075	–	751,075	781,646	–	781,646
Electricity distribution in Wales and England	722,856	–	722,856	752,279	–	752,279
Electricity transmission in the UK	285,463	–	285,463	297,082	–	297,082
Renewable energies in the USA	–	150,563	150,563	–	257,681	257,681
Electricity and gas distribution in New York (NYSEG)	996,025	–	996,025	1,139,094	–	1,139,094
Electricity and gas distribution in New York (RG&E)	897,766	–	897,766	1,026,721	–	1,026,721
Electricity transmission and distribution in Maine (CMP)	247,347	9,758	257,105	282,876	20,960	303,836
Electricity transmission and distribution in Connecticut (UI)	1,037,259	–	1,037,259	1,186,251	–	1,186,251
Gas distribution in Connecticut (CNG)	261,730	–	261,730	299,325	–	299,325
Gas distribution in Connecticut (SCG)	513,807	–	513,807	587,610	–	587,610
Gas distribution in Massachusetts (BGC)	35,042	–	35,042	40,076	–	40,076
Others	–	374,647	374,647	–	367,121	367,121
Total	5,748,370	534,968	6,283,338	6,392,960	645,762	7,038,722

The undefined useful life assets mostly correspond to the acquisition cost of licences to operate in different businesses that make up the main activity of the activities performed by the Group.

10. REAL ESTATE INVESTMENTS

The changes in 2017 and 2016 in the IBERDROLA Group's investment property were as follows:

Thousand euros	Balance at 01.01.2016	Additions/ (charge)/ reversals	Transfers	Decreases, disposals or reductions	Balance at 31.12.2016	Additions/ (charge)/ reversals	Transfers	Decreases, disposals or reductions	Balance at 31.12.2017
Real estate investments	561,873	7,321	(9,683)	(14,396)	545,115	4,169	61,434	(108,759)	501,959
Impairment allowance	(31,953)	–	4,118	–	(27,835)	–	1,030	–	(26,805)
Accumulated depreciation	(49,179)	(7,446)	1	1,686	(54,938)	(6,965)	–	10,778	(51,125)
Total net cost	480,741	(125)	(5,564)	(12,710)	462,342	(2,796)	62,464	(97,981)	424,029

The investment property owned by the IBERDROLA Group relates primarily to properties destined for leasing. The income accrued during fiscal years 2017 and 2016 for this operation are EUR 25,177 and 30,655 thousand, respectively, and were registered in sub-heading "Net revenue" of the consolidated income statement. The operating expenses directly related to the real estate investments during fiscal years 2017 and 2016 were not significant.

The fair value of real property investments in operation fully amortised intangible assets at 31 December 2017 and 2016 amounted to EUR 477,299 and 530,112 thousand, respectively. This fair value (classified in Level 3) is determined via expert independent appraisals made annually in accordance with the Assessment Standards published by the Royal Institution of Chartered Surveyors (RICS) of Great Britain, in their January 2014 edition. The assessments on 31 December 2017 and 2016 have been made by Knight Frank España.

The assets have been valued individually and not as part of a property portfolio.

The methods applied for the calculation of fair value have been the discount of cash flows, the capitalisation of revenue and the comparison method, contrasted, as much as possible, with comparable transactions to reflect the reality of the market and the prices to which they are currently closing the asset operations of similar characteristics to the reference operations.

The discount of cash flows is based on a prediction of the probable net income that real estate investment will generate for a period of time and considers its residual value at the end of the period. Cash flows are discounted at an internal rate of return that reflects the urban, construction and business risk of the asset.

The variables and key assumptions of the cash flow discount method are:

- Net income that the property will generate for a certain period of time, keeping in mind the initial contractual situation, development of renters and expected income, marketing costs, divestment expenses (variable percentage depending on the sale price 1%-3%), etc.
- Discount rate or objective internal return rate adjusted to reflect the risk that the investment entails depending on the localisation, occupation, renter quality, property age, etc.
- Disposal return, which consists of an estimate of the exit (sale) price of the property applying an estimated return for the close of the transaction at that date, to perpetuity.

For property for hire that does not include many variables as extensive and involves leased property for a period of time greater than 10 years and up and one renter, the capitalisation method for income is usually applied. This method consists of the perpetual capitalisation of the current contractual income via a capitalisation rate that inherently includes the risks and uncertainties that could arise in the market.

At 31 December 2017 and 2016, none of the investment properties had been fully depreciated and there were no restrictions on their realisation. Moreover, there were no contractual obligations to acquire, build, develop, repair or maintain investment property.

11. PROPERTY, PLANT AND EQUIPMENT

In addition, in 2017 and 2016 the reconciliation between segment assets and liabilities and the total assets and liabilities in the Consolidated statement of financial position is as follows:

Thousand euros	Balance at 01.01.2016	Differences in exchange rates	Modification of the consolidation perimeter	Additions/charge/(reversals)	Transfers	Disposals	Write-off	Balance at 31.12.2016	Differences in exchange rates	Modification of the consolidation perimeter (Note 7)	Additions/charge/(reversals)	Transfers	Disposals	Assets held for sale (Note 34)	Write-off	Balance at 31.12.2017
Cost:																
Land and constructions	1,848,719	25,707	(4,904)	65,379	375,359	(10,673)	–	2,299,587	(166,584)	21,668	50,966	55,432	(70,153)	(4,146)	–	2,186,770
Electricity plant in operation:																
Hydroelectric power plants	6,802,995	(36,321)	–	–	77,458	(797)	–	6,843,335	(66,744)	483,853	782	41,505	(1,546)	–	–	7,301,185
Thermal power plants	2,818,908	(151,000)	–	544	15,414	(1,467,171)	–	1,216,695	(80)	–	1,739	2,035	–	–	–	1,220,389
Combined cycle power plant	7,581,038	(8,272)	–	25,652	396,373	(19,667)	–	7,975,124	(533,449)	387,961	10,181	370,015	(70,487)	–	–	8,139,345
Nuclear power plants	7,459,302	–	–	(5,017)	109,408	(55,363)	–	7,508,330	–	–	64,495	106,402	(56,230)	–	–	7,622,997
Wind farms	23,302,455	73,997	–	(92,938)	(197,529)	(82,026)	–	23,003,959	(1,774,746)	173,632	200,975	1,600,322	(41,179)	–	–	23,162,963
Facilities:																
- Gas storage and other alternative plants	1,424,967	73,332	–	140	49,336	(290)	–	1,547,485	(108,079)	–	148	(56,357)	(6,678)	(1,275,314)	–	101,205
- Electricity Transmission	6,335,777	(173,212)	–	–	1,270,828	(38,545)	–	7,394,848	(700,661)	–	–	1,212,265	(14,540)	–	–	7,891,912
- Gas transmission	49,387	2,775	–	–	–	–	–	52,162	(3,974)	–	–	(38,652)	–	(6,507)	–	3,029
- Electricity distribution	29,997,892	(657,281)	–	73,502	811,803	(39,868)	–	30,186,048	(1,157,705)	–	85,628	1,295,496	(1,620,725)	–	–	28,788,742
- Gas distribution	2,934,325	143,087	–	–	(180,454)	(11,107)	–	2,885,851	(375,723)	–	–	302,575	(7,319)	(36,496)	–	2,768,888
Meters and metering devices	1,836,016	(29,048)	–	199,700	285,569	(186,300)	–	2,105,937	(118,329)	–	148,325	(24,739)	(60,493)	–	–	2,050,701
Dispatching centres and other facilities	1,729,001	(8,370)	–	3,451	136,386	(1,844)	–	1,858,624	(35,986)	–	48,939	259,591	(152,930)	–	–	1,978,238
Total Electricity plant in operation	92,272,063	(770,313)	–	205,034	2,774,592	(1,902,978)	–	92,578,398	(4,875,476)	1,045,446	561,212	5,070,458	(2,032,127)	(1,318,317)	–	91,029,594
Others in use	1,441,724	19,127	–	133,516	214,981	(102,288)	–	1,707,060	(104,005)	2,320	151,910	38,757	(79,215)	(4,823)	–	1,712,004
Electricity plant under construction	4,883,670	(158,301)	–	4,401,277	(2,918,251)	(13,648)	(29,245)	6,165,502	(424,346)	351,302	5,180,922	(4,736,672)	(19,436)	–	(37,499)	6,479,773
Prepayments and other PP&E under construction(*)	303,327	22,791	–	397,330	(85,042)	(77,235)	–	561,171	(42,442)	4,668	518,888	(591,653)	(93,515)	–	–	357,117
Total cost	100,749,503	(860,989)	(4,904)	5,202,536	361,639	(2,106,822)	(29,245)	103,311,718	(5,612,853)	1,425,404	6,463,898	(163,678)	(2,294,446)	(1,327,286)	(37,499)	101,765,258

(*) Prepayment amounts as of 31 December 2017 and 2016 amount to EUR 46,708 and 306,178, respectively.

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Thousand euros	Balance at 01.01.2016	Differences in exchange rates	Modification of the consolidation perimeter	Additions/ (charge)/ reversals	Transfers	Disposals Derecognitions	Write-off	Balance at 31.12.2016	Differences in exchange rates	Modification of the consolidation perimeter (Note 7)	Additions/ (charge)/ reversals	Transfers	Disposals Derecognitions	Assets held for sale (Note 34)	Write-off	Balance at 31.12.2017
Accumulated depreciation and procurement:																
Buildings	417,154	1,621	–	35,695	53,603	(7,039)	–	501,034	(34,968)	2,665	35,707	5,735	(50,419)	(972)	–	458,782
Electricity plant in operation:																
Hydroelectric power plants	3,689,894	(19,912)	–	128,464	(15,996)	(558)	–	3,781,892	(18,920)	112,248	104,263	(160)	(1,547)	–	–	3,977,776
Thermal power plants	2,012,384	(92,123)	–	25,813	(1,683)	(915,795)	–	1,028,596	(26)	–	33,550	–	–	–	–	1,062,120
Combined cycle power plant	2,805,310	(29,667)	–	275,084	–	(17,356)	–	3,033,371	(188,960)	140,080	243,875	(5,719)	(66,467)	–	–	3,156,180
Nuclear power plants	5,306,105	–	–	261,859	–	(54,102)	–	5,513,862	–	–	267,732	–	(55,612)	–	–	5,725,982
Wind farms	6,613,462	44,137	–	730,544	(247,842)	(9,601)	–	7,130,700	(469,740)	31,495	749,008	(94,428)	(9,971)	–	–	7,337,064
Facilities:																
- Gas storage and other alternative plants	298,945	15,775	–	26,985	19,629	(236)	–	361,098	(24,561)	–	26,834	(12,170)	(3,390)	(303,370)	–	44,441
- Electricity Transmission	1,407,862	(38,940)	–	132,617	127,942	(17,233)	–	1,612,248	(157,679)	–	145,509	122,359	(12,988)	–	–	1,709,449
- Gas transmission	12,126	707	–	298	–	–	–	13,131	(1,049)	–	195	(7,829)	–	(2,334)	–	2,114
- Electricity distribution	10,884,877	(123,233)	–	694,741	15,033	(29,209)	–	11,442,209	(407,799)	–	710,790	(143,299)	(1,611,442)	–	–	9,990,459
- Gas distribution	1,235,020	61,394	–	46,165	(102,736)	(5,625)	–	1,234,218	(157,392)	–	41,839	20,230	(5,544)	(10,178)	–	1,123,173
Meters and metering devices	1,050,397	(40,835)	–	125,020	51,132	(186,200)	–	999,514	(44,116)	–	121,502	(12,483)	(57,627)	–	–	1,006,790
Dispatching centres and other facilities	818,895	(13,661)	–	46,247	17,485	(1,690)	–	867,276	(16,333)	–	53,650	8,248	(152,344)	–	–	760,497
Total Electricity plant in operation	36,135,277	(236,358)	–	2,493,837	(137,036)	(1,237,605)	–	37,018,115	(1,486,575)	283,823	2,498,747	(125,251)	(1,976,932)	(315,882)	–	35,896,045
Others in use	972,805	4,510	–	106,886	75,431	(88,627)	–	1,071,005	(47,649)	1,848	102,536	977	(76,002)	(3,113)	–	1,049,602
Total accumulated depreciation	37,525,236	(230,227)	–	2,636,418	(8,002)	(1,333,271)	–	38,590,154	(1,569,192)	288,336	2,636,990	(118,539)	(2,103,353)	(319,967)	–	37,404,429
Impairment allowance (Note 41)	1,435,677	(22,869)	–	–	–	(525,628)	–	887,180	(47,679)	71	608,646	(179,575)	(244)	(989,949)	–	278,450
Total accumulated depreciation and procurement	38,960,913	(253,096)	–	2,636,418	(8,002)	(1,858,899)	–	39,477,334	(1,616,871)	288,407	3,245,636	(298,114)	(2,103,597)	(1,309,916)	–	37,682,879
Total net cost	61,788,590	(607,893)	(4,904)	2,566,118	369,641	(247,923)	(29,245)	63,834,384	(3,995,982)	1,136,997	3,218,262	134,436	(190,849)	(17,370)	(37,499)	64,082,379

The breakdown by business of the main investments made in property, plant and equipment in 2017 and 2016, additional to the ones included in the acquisition of NEONERGIA (Note 7) and not including the capitalization of financial (Note 38) nor staff costs (Note 43) is as follows:

Thousand euros	31.12.2017	31.12.2016
Deregulated Business		
Spain	390,487	219,697
United Kingdom	205,269	109,428
Mexico	710,948	393,672
Brazil	50,780	135
Others	5,869	4,888
Renewable Business		
Spain	36,737	8,318
United Kingdom	801,792	967,445
United States	970,464	689,475
Mexico	192,937	89,453
Brazil	91,828	616
ROW	229,079	1,284
Network Business		
Spain	484,467	498,322
United Kingdom	678,662	779,772
United States	895,638	792,963
Brazil	912	—
Corporation and other	46,619	(47,497)
Total	5,792,488	4,507,971

In 2016 the Longannet coal-fired power plant in the United Kingdom was closed, resulting in a decrease in the "Property, plant and equipment" heading of EUR 1,348,124 thousand gross cost, EUR 842,929 thousand of accumulated depreciation and EUR 505,195 thousand of provision for impairment.

The "Amortisation and provisions" heading, in the Consolidated income statement for 2017 includes EUR 646,145 thousand for impairment and write-offs of property, plant and equipment of the IBERDROLA Group (Note 41). In 2016 this heading included a debit of EUR 29,245 thousand.

The fully amortised intangible assets in use at 31 December 2017 and 2016 amounted to 2,277,060 and 2,909,361 thousand, respectively.

The IBERDROLA Group maintains at 31 December 2017 and 2016 commitments to acquire intangible assets for EUR 4,130,359 and 5.275.933 thousand.

At 31 December 2017 and 2016, the heading "Property, plant and equipment – Property, plant and equipment in use" included EUR 203,835 y 193,044 thousand, respectively, for assets held under finance leases corresponding primarily to IBERDROLA Group's corporate offices in Madrid, among other assets. The minimum payments on the lease contracts at 31 December 2017 is as follows:

Thousand euros	31.12.2017	31.12.2016
2017	–	33,899
2018	13,569	12,143
2019-2021	37,412	36,578
From 2022 onwards	123,873	129,230
Total	174,854	211,850
Financial Cost	28,890	43,493
Present value of the payments	145,964	168,357
Total	174,854	211,850

12. CONCESSION AGREEMENTS

A description is set out below of electricity service concession arrangements in Brazil within the scope of CINIIF 12: "Service Concession Arrangements" (Note 4.b):

Distribution

Company	Location	Concessi on date	Maturity date	No. of towns	Tariff cycle	Last review
Elektro Electricidade e Serviços, S.A.	Estado do Sao Paulo	27/08/1998	26/08/2028	223	4 years	Aug-15
Elektro Electricidade e Serviços, S.A.	Mato Grosso do Sul	27/08/1998	26/08/2028	5	4 years	Aug-15
Companhia de Eletricidade do Estado do Bahia, S.A.	Estado da Bahia	08/08/1997	07/08/2027	415	5 years	Apr-13
Companhia Energética de Pernambuco, S.A.	Estado de Pernambuco	30/03/2000	30/03/2030	184	4 years	Apr-17
Companhia Energética de Pernambuco, S.A.	Distrito de Fernando de Noronha	30/03/2000	30/03/2030	1	4 years	Apr-17
Companhia Energética de Pernambuco, S.A.	Estado da Paraíba	30/03/2000	30/03/2030	1	4 years	Apr-17
Companhia Energetica do Rio Grande do Norte, S.A.	Estado do Rio Grande do Norte	31/12/1997	30/12/2027	167	5 years	Apr-13

Transmission in operation

Company	Location	Concession date	Maturity date	Tariff cycle	Last review
Afluentes Geração de Energia Elétrica, S.A.	Estado da Bahia	06/08/1997	08/08/2027	5 years	2015
S.E. Narandiba, S.A. (SE Narandiba)	Estado da Bahia	28/01/2009	28/01/2039	5 years	2014
S.E. Narandiba, S.A. (SE Extremoz)	Estado do Rio Grande do Norte	10/05/2012	10/05/2042	5 years	2017
S.E. Narandiba, S.A. (SE Brumado)	Estado da Bahia	27/08/2012	27/08/2042	5 years	(1)
Potiguar Sul Transmissão de Energia, S.A.	Estado da Paraíba do Rio Grande do Norte	01/08/2013	01/08/2043	5 years	(1)

(1) First revision in 2018

Transmission in constructions

Company	Location	Concession date	Maturity date
EKTT 12-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estados do Mato Grosso do Sul e São Paulo	31/07/2017	31/07/2047
EKTT 13-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estado de São Paulo	31/07/2017	31/07/2047
EKTT 14-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estado de Santa Catarina	31/07/2017	31/07/2047
EKTT 15-A Serviços de Transmissão de Energia Elétrica SPE S/A	Estado do Ceará	31/07/2017	31/07/2047

Generation in operation

Company	Location	Concession date	Maturity date	Plant	Rate	installed capacity (MW)	% Neo	% installed capacity (MW)	Secured energy (MWmed)
Itapebí Geração de Energia, S.A.	Rio Jequitinhonha – BA	28/05/1999	31/08/2035	Itapebí	Hydro	462.01	100	462.01	209.1
Termopernambuco, S.A.	Complexo Portuário do Suape - PE	18/12/2000	18/12/2030	Termopernambuco	Thermal	532.76	100	532.76	504.12
Baguari Geração de Energia Elétrica, S.A.	Rio Doce - MG	15/08/2006	31/12/2039	Baguari I	Hydro	140.00	51	71.40	84.7
Geração CIII, S.A.	Rio Corumbá - GO	07/11/2001	14/02/2037	Corumbá III	Hydro	96.45	70	67.51	49.3
Energetica Aguas da Pedra, S.A. ⁽¹⁾	Rio Aripuanã - MT	03/07/2007	02/01/2043	Dardanelos	Hydro	261.00	51	133.11	154.9
Companhia Hidrelétrica Teles Pires, S.A. ⁽¹⁾	Rio Teles Pires - MT	07/06/2011	06/06/2046	Teles Pires	Hydro	1,819.80	51	928.10	930.7
Arizona 1 Energia Renovável, S.A.	Rio do Fogo - RN	04/03/2011	03/03/2046	Arizona 01	Wind	28.00	100	28.00	12.9
Mel 2	Areia Branca - RN	28/02/2011	27/02/2046	Mel 2	Wind	20.00	100	20.00	9.8
Caetité 1 Energia Renovável, S.A.	Caetité - BA	29/10/2012	29/10/2042	Caetité 1	Wind	30.00	100	30.00	13.0
Caetité 2 Energia Renovável, S.A.	Caetité - BA	07/02/2011	06/02/2046	Caetité 2	Wind	30.00	100	30.00	12.1
Caetité 3 Energia Renovável, S.A.	Caetité - BA	24/02/2011	23/02/2046	Caetité 3	Wind	30.00	100	30.00	11.2
Calango 1 Energia Renovável, S.A.	Bodó, Santana do Matos, Lagoa Nova – RN	28/04/2011	27/04/2046	Calango 1	Wind	30.00	100	30.00	13.9
Calango 2 Energia Renovável, S.A.	Bodó, Santana do Matos, Lagoa Nova – RN	09/05/2011	08/05/2046	Calango 2	Wind	30.00	100	30.00	11.9
Calango 3 Energia Renovável, S.A.	Bodó, Santana do Matos, Lagoa Nova – RN	30/05/2011	29/05/2046	Calango 3	Wind	30.00	100	30.00	13.9
Calango 4 Energia Renovável, S.A.	Bodó, Santana do Matos, Lagoa Nova – RN	19/05/2011	18/05/2046	Calango 4	Wind	30.00	100	30.00	12.8
Calango 5 Energia Renovável, S.A.	Bodó, Santana do Matos, Lagoa Nova – RN	02/06/2011	01/06/2046	Calango 5	Wind	30.00	100	30.00	13.7
Calango 6 Energia Renovável, S.A.	Bodó - RN	20/11/2014	19/11/2049	Calango 6	Wind	30.00	100	30.00	18.5
Santana 1, Energia Renovável, S.A.	Bodó - RN	14/11/2014	13/11/2049	Santana 1	Wind	30.00	100	30.00	17.3
Santana 2, Energia Renovável, S.A.	Lagoa Nova - RN	14/11/2014	13/11/2049	Santana 2	Wind	24.00	100	24.00	13.1
Canoas Energia Renovável, S.A.	São José do Sabugi/PB	04/08/2015	03/08/2050	Canoas	Wind	31.50	100	31.50	17.7
Lagoa 1 Energia Renovável, S.A.	Santa Luzia/PB	04/08/2015	03/08/2050	Lagoa 1	Wind	31.50	100	31.50	18.7
Lagoa 2 Energia Renovável, S.A.	São José do Sabugi/PB	04/08/2015	03/08/2050	Lagoa 2	Wind	31.50	100	31.50	17.5
Enerbrasil-Energias Renováveis do Brasil, S.A.	Rio do Fogo – RN	20/12/2001	20/12/2031	Enerbrasil	Wind	49.30	100	49.30	20.74
Generation in operation								2,710.69	

(1) Companies using the equity method

Generation in construction

Company	Location	Concession date	Maturity date	Plant	Rate	installed capacity (MW)	% Neo	% installed capacity (MW)	Secured energy (MWmed)
Geração Ceu Azul, S.A.	Rio Iguaçu - PR	20/08/2012	14/09/2049	Baixo Iguaçu	Hydro	350.20	70	245.14	171.3
Norte Energia, S.A. (1)	Rio Xingu - PA	26/08/2010	25/08/2045	Belo Monte	Hydro	11,233.10	10	1,123.31	4,571.0
Generation in construction								1,368.45	

(1) Companies using the equity method

Appendix II describes the main characteristics of these concessions.

The duration of each concession is 30 years in distribution and 30-35 years in generation, and they may be extended for up to 30 years upon application by the concession holder and at the discretion of the concession grantor, which is the Agência Nacional de Energia Elétrica (ANEEL) (Note 4.b).

The concession holder may not transfer such assets or use them as collateral without the prior written consent of the regulatory body.

At the end of a concession the property reverts automatically to the concession grantor and the amount of indemnification due to the concession holder is assessed and determined.

13. IMPAIRMENT OF NON-FINANCIAL ASSETS

Methodology of impairment tests

At least yearly, the IBERDROLA Group analyses its assets for indications of impairment. If such indications are found, an impairment test is conducted.

In addition, the IBERDROLA Group conducts a systematic analysis of the impairment of cash-generating units that include goodwill or intangible assets which have not come into use or with indefinite useful life.

As described in Notes 2.c and 7, the IBERDROLA Group incorporated ELEKTRO into NEOENERGIA in 2017. Considering that the date for taking control was 24 August 2017 and that the IBERDROLA Group has not identified indications of impairment after this date, no impairment test has been performed on NEOENERGIA.

The projections used in the impairment tests are based on the best forecast information held by the IBERDROLA Group and include the investment plans for each country prevailing at that time.

a) Assumptions used in deregulated business:

- Production of the facilities: the hours of operation used are consistent with those in previous years, and in line with the expected evolution of the energy mix of the countries where the IBERDROLA Group operates.

- Selling prices of electricity and gas: the selling prices used are the ones agreed upon in the signed price purchase agreements. For unsold production, future prices in the market where the IBERDROLA Group operates are used.
- Gas purchase prices: the prices used are taken from long-term purchase agreements signed by the IBERDROLA Group, estimating the variables included in them according to external studies.
- Electricity and gas retail margin: growth forecasts were used for the number of customers and unit margins based on the knowledge of the markets in which the IBERDROLA Group operates and the company's relative position in each of them.
- Investment: the projections were based on the best information available about the plants that were expected to be put into operation in the next years.
- Operation and maintenance costs: maintenance agreements for the current facilities were used. Other operating costs were projected consistent with the expected growth of each cash-generating unit, assuming its headcount grows at the same pace.

b) Assumptions used in the regulated business:

- Regulated income: approved income was used for years in which it was available, while for subsequent periods regulation set actualization mechanisms of such income, and these were applied in line with the estimated costs of the corresponding cash-generating units.
- Investment: the projections were based on investment plans consistent with the expected demand growth in each concession and with the estimate of future income used.
- Operation and maintenance costs: the best estimation available of the performance of the operation and maintenance cost was used, which is in line with the income assumed to be received in each year.

c) Assumptions used in the renewables business:

- Facilities' production: the operation hours of each plant were consistent with their historical output. In this respect, the long-term predictability of wind output was taken into account, which was also covered by regulatory mechanisms that enabled wind farms to produce whenever meteorological and network conditions allowed it.
- Selling prices of electricity : the selling prices used are the ones agreed upon in the signed price purchase agreements. For unsold production, future prices in the market where the IBERDROLA Group operates are used. In any case, the existing support mechanisms have been taken into account.
- As described in Note 6.b, an estimate has been made of the regulation that will apply to USA facilities whose construction starts on 31 December 2019.
- Investment: the projections were based on the best information available about the plants that were expected to be put into operation in the next years, taking into account the fixed prices stated in the contracts to buy wind turbines from various suppliers among which is SIEMENS GAMESA (Note 51) as well as the technical and financial capacity of the IBERDROLA Group to successfully fulfil the planned projects.

- Operation and maintenance costs: the prices set in land leases and maintenance agreements for the useful life of the facilities were used, where the high predictability of the costs of wind farms must be taken into account.

d) Forecast period and growth nominal rate:

The forecast period of future cash flows were of 10 years for the regulated business and the growth nominal rate (g) used to extrapolate these projections beyond the reporting period are as follows:

cash-generating unit	2017		2016	
	No. of years	g	No. of years	g
Electricity and gas generation and supply in the UK	Useful life / 10	- 1.5%	Useful life / 10	- 1.5%
Electricity distribution in Scotland	10	2.5%	10	2.5%
Electricity distribution in Wales and England	10	2.5%	10	2.5%
Electricity transmission in the UK	10	2.5%	10	2.5%
Renewable Energies in the UK	Useful life	-	Useful life	-
Renewable energies in the USA	Useful life	-	Useful life	-
Electricity and gas distribution in New York (NYSEG)	10	1.0%	10	0.8%
Electricity and gas distribution in New York (RG&E)	10	1.0%	10	0.8%
Electricity transmission and distribution in Maine (CMP)	10	1.0%	10	0.8%
Electricity transmission and distribution in Connecticut (UI)	10	1.0%	10	0.8%
Gas distribution in Connecticut (CNG)	10	1.0%	10	0.8%
Gas distribution in Connecticut (CNG)	10	1.0%	10	0.8%
Gas distribution in Massachusetts (BGC)	10	1.0%	10	0.8%
Electricity distribution in Brazil (ELEKTRO)	Concession life	-	Concession life	-

Although NIC 36: recommends the use of projections to five years for impairment test purposes, IBERDROLA has decided to use the periods included in this table for the following reasons:

- The most appropriate method for assets in the generation business is using their remaining useful lives. This is due to the fact that in the deregulated business there are long-term energy sale contracts in force and long-term estimated prices curves are frequently used in the operating activity of the IBERDROLA Group (contracts, hedges, etc.).
- The electricity transmission and distribution concessions include longer regulatory periods and the method that the regulator will use to calculate the new tariff at the beginning of the new regulatory period is known.
- The IBERDROLA Group considers its projections to be reliable and that past experience demonstrates its ability to predict cash flows in periods such as those under consideration.

Moreover, the nominal growth rate considered in the electricity and gas transmission and distribution activities in the United Kingdom and the United States is consistent with the market and inflation growth forecasts used by the IBERDROLA Group for these markets.

e) Discount rate:

The methodology for calculating the discount rate used by IBERDROLA consisted of adding to the temporary value of money or risk-free rate of each market the specific asset risks or risk premium of the asset or business.

The risk-free rate corresponded to 10-year Treasury bonds issued in the market, with sufficient depth and solvency. In countries with economies or currencies lacking sufficient depth and solvency, a country risk and currency risk was estimated so that the aggregate of all such components were considered to be the finance cost without the risk spread of the asset.

The asset's risk premium corresponded to the specific risks of the asset, the calculation of which took into account the unlevered betas estimated on the basis of comparable companies performing the same main activity.

The discount rates before taxes used for the impairment test were:

Cash-generating unit	Rates 2017	Rates 2016
Electricity and gas generation and supply in the UK	6.25%	6.51%
Electricity distribution in Scotland	4.75%	5.01%
Electricity distribution in Wales and England	4.75%	5.01%
Electricity transmission in the UK	4.75%	5.01%
Renewable Energies in the UK onshore/offshore	5.95%/6.85%	5.91%/7.11%
Renewable Energies in the UK onshore/offshore	6.13%/7.58%	6.43%
Electricity and gas distribution in New York (NYSEG)	5.48%	5.44%
Electricity and gas distribution in New York (RG&E)	5.48%	5.44%
Electricity transmission and distribution in Maine (CMP)	5.48%	5.44%
Electricity transmission and distribution in Connecticut (UI)	5.48%	5.44%
Gas distribution in Connecticut (CNG)	5.48%	5.44%
Gas distribution in Connecticut (CNG)	5.48%	5.44%
Gas distribution in Massachusetts (BGC)	5.48%	5.44%
Electricity distribution in Brazil (ELEKTRO)	12.56%	13.32%

Impairments and write-offs recognised in 2017 and 2016

During 2017 and 2016, the IBERDROLA Group has registered the following valuation adjustments as a consequence of the impairment tests carried out (Note 41):

- As a consequence of the impairment test carried out in 2017 and 2016 on the renewable facilities in the USA (Note 4.b), the IBERDROLA Group has proceeded to revert part of the provision accounted for in relation their intangible assets from past years. In 2017 and 2016 this write off has amounted to EUR 42,959 thousand and to EUR 68,182 thousand, respectively.
- In the renewable energy cash generating unit in the US the recoverable amount is EUR 449,480 thousand lower than book value due to the tax reform resulting in substantial changes in book values such as tax rate. Said amount has been written-off from goodwill (Note 9).

Sensitivity analysis

The IBERDROLA Group has performed several sensitivity analyses of the impairment test results carried out in a systematic way including reasonable changes in a series of basic assumptions defined for each cash-generating unit:

- Electricity and gas generation and supply in the UK:
 - Decrease of 10% in energy produced.
 - Decrease of 10% in margin per kWh.

- Decrease of 10% in electricity and gas customer growth.
- Decrease of 10% in electricity and gas retail per kWh.
- Increase of 10% in operating and maintenance costs.
- Increase of 10% in investment costs.
- Regulated activities in the UK, US and Brazil:
 - Decrease of 10% in rate of return on which regulated remuneration is based.
 - Increase of 10% in operating and maintenance costs.
 - Decrease of 10% in investment (resulting in a subsequent decrease in remuneration).
- Renewable energies in the UK and the US:
 - Decrease of 5% in energy produced.
 - Decrease of 10% in total price per kWh, solely applicable to production for which there is no long-term sales agreement.
 - Increase of 10% in operating and maintenance costs.
 - Increase of 10% in investment costs.

Moreover, the IBERDROLA Group has performed a sensitivity analysis, increasing the applicable discount rate in each case in 100 basis points.

These sensitivity analyses were carried out for each basic assumptions separately would not state out any depreciation whatsoever, except for the following cases:

- Electricity distribution in Scotland, Wales and England, whose value in use is 3,497 thousand euros more than its value in pounds, in which an increase of 86 basis points on the discount rate would imply that the value in use is lower than book value.
- Electricity Generation and Retail Scotland, Wales and England, whose value in use is 1,326 thousand euros more than its value in pounds, in which an increase of 98 basis points on the discount rate would imply that the value in use is lower than book value.
- Renewable production in Scotland, Wales and England, whose value in use is 513 million euros more than its value in pounds, in which a decrease of 3.8% in wind energy or of 81 basis points on the discount rate would imply that the value in use is lower than book value.
- Renewable energy in the USA, whose value, as previously mentioned, has been adjusted in use. Therefore any negative adjustment would imply that the value in use is lower than book value.

14. INVESTMENT

14.a) Companies accounted for using the equity method

Movement for the years 2017 and 2016 in the carrying amounts recognised through global integration of IBERDROLA Group's associates and combines business (Appendix I) is as follows:

Thousand euros	Associated companies	Subgroup Neenergia	Subgroup Flat Rock	Other combined business	Total
Balance at 01.01.2016	595,792	916,468	155,218	382,705	2,050,183
Investment	13,077	–	1,366	33,017	47,460
Modification of the consolidation perimeter	–	–	–	20,341	20,341
Transfers	–	–	(9,470)	18,500	9,030
Profit for the year from continuing activities	45,936	30,237	(9,406)	(19,508)	47,259
Profit for the year from discontinued activities (Note 34)	1,464	–	–	–	1,464
Other global result	(6,611)	(20,120)	–	(6,267)	(32,998)
Dividends	(11,557)	(28,169)	–	(51,469)	(91,195)
Translation differences	4,770	215,657	7,080	21,246	248,753
Disposals	(104)	–	–	(60,153)	(60,257)
Others	(282)	–	–	(103)	(385)
Balance at 31.12.2016	642,485	1,114,073	144,788	338,309	2,239,655
Investment	6,387	10,422	2,215	58,307	77,331
Modification of the consolidation perimeter (Note 7)	–	770,306	–	–	770,306
Transfers	–	–	–	88,886	88,886
Profit for the year from continuing activities	6,346	(7,189)	(2,302)	14,188	11,043
Profit for the year from discontinued activities (Note 34)	328	–	–	–	328
Value adjustment (provision)/reversion	–	–	–	(39,776)	(39,776)
Other global result	10,295	(12,453)	–	664	(1,494)
Dividends	(210,465)	(38,026)	(3,107)	(27,062)	(278,660)
Translation differences	(14,323)	(133,664)	(16,656)	(30,040)	(194,683)
Disposals	(41,576)	(993,227)	–	(99,964)	(1,134,767)
Diluted effect merger SIEMENS-GAMESA (Note 42)	250,695	–	–	–	250,695
Others	2,032	–	–	–	2,032
Balance at 31.12.2017	652,204	710,242	124,938	303,512	1,790,896

The balance corresponding to the NEOENERGIA Subgroup includes the shares in Companhia Hidreletrica Teles Pires, S.A (TELES PIREs), Norte Energia, S.A. (NORTE ENERGÍA) and Energetica Aguas da Pedra, S.A.(EAPSA) IBERDROLA Group holds through as of 31 December 2017.

Commitments related to associated companies and combined business

Scottish Power Transmission Limited is working with the British operator National Grid in relation to the joint venture NGET/SPT Upgrades, Ltd. in order to build a submarine interconnection in the Irish sea to increase the power transmission capacity between England and Scotland. It is a capital-intensive project where the IBERDROLA Group has an investment commitment of EUR 111 million in 2017. The project is scheduled to be completed in the fourth quarter of 2017. The project was implemented in December 2017 and reached a transmission capacity of 900 MW. In 2018 additional works increasing this capacity to 2,200 MW are expected to be completed.

Impairment of shares accounted for using the equity method

The stock exchange listing of the IBERDROLA Group's holding in GAMESA at 31 December of 2017 amounts to EUR 628,390 thousand, increasing the book value to EUR 600,039 thousand.

Main Transactions

The main transactions performed by the IBERDROLA Group in connection with these equity investments accounted for using the equity method are described in the following paragraphs.

Year 2017

- In accordance with the merger agreement for the wind businesses of Gamesa Corporación Tecnológica, S.A. (GAMESA) and of Siemens AG (SIEMENS) started in fiscal year 2016 by virtue of which Siemens Wind HoldCo would be absorbed (as an absorbed company) on behalf of GAMESA (as an absorbed company):
 - On 13 March 2017 the defence authorities of the European competition authorised the merger without commitments, meeting all of the conditions precedent to which the merger was subject.
 - The GAMESA Board of Directors from 29 March 2017 recognises the compliance of all of the conditions to execute the merger document, which is signed on 3 April in the Biscay Commercial Registry.

As a result of the above, GAMESA issues shares representing approximately 59% of the capital given to SIEMENS, causing a dilution in the participation percentage held by the IBERDROLA Group that changes from 19.69% to 8.07%(Note 42).

Despite having a holding percentage lower than 20%, the IBERDROLA Group is considered to have significant influence over Siemens Gamesa Renewable Energy, S.A.(hereinafter, SIEMENS GAMESA), amongst other aspects, for the status of IBERDROLA as a main shareholder as well as for the presence of one of their representatives in its Board of Directors and the performance of significant transactions with this company.

- On 27 April 2017, the IBERDROLA Group sold its shareholding in Amara, S.A.U. (Note 42).
- Such as is indicated in Notes 2.c. 7, on 8 June 2017 the shareholders of NEOENERGIA reached an agreement for NEONERGIA to incorporate the Brazilian subsidiary company. After the operation, on 24 August 2017, IBERDROLA ENERGÍA changes to have 52.45% (opposed to 39% before the transaction), incorporating in consideration of the businesses of ELEKTRO. NEOENERGIA taking control has been recorded based on the requirements of the business combinations in stages.

Year 2016

On 14 June 2016, the IBERDROLA Group sold its stake in the Italian companies SER S.p.A. (SER) and SER 1 S.p.A. (SER 1). Following the acquisition on February 2016 of 50.1% of the company SER and 2% of SER 1, the IBERDROLA Group owned 100% of SER and 4% of SER 1, being the remaining 96% of the equity owned by SER.

The total amount of the disinvestment amounted to EUR 193,720 thousand, of which EUR 1 million have been collected, EUR 83,980 thousand were received on 28 November 2016 and EUR 108,740 thousand will be received on 31 May 2017.

This transaction has resulted in a gross capital loss of EUR 8,844 thousand which has been registered Consolidated income statement for the period ended on 31 December 2016.

Summary of Financial Information

The summarised financial information as of 31 December 2017 (at 100% and before intercompany eliminations) for the major subgroups/companies accounted for using the equity method is as follows:

	NORTE ENERGIA	TELES PIRES	EAPSA	Subgroup NEONERGIA	Subgroup Flat Rock	
Thousand euros	31.12.2017	31.12.2017	31.12.2017	31.12.2016	31.12.2017	31.12.2016
Segment	Deregulated-Brazil			Various-Brazil	Renewables – USA	
Current assets	175,235	63,182	21,034	1,597,685	3,330	2,961
Non-current assets	10,443,300	1,279,910	375,217	6,952,143	258,311	316,958
Total assets	10,618,535	1,343,092	396,251	8,549,828	261,641	319,919
Current Liabilities	949,420	86,188	23,256	2,410,958	715	590
Non-Current Liabilities	6,803,595	742,725	121,243	3,062,941	13,064	13,581
Total assets	7,753,015	828,913	144,499	5,473,899	13,779	14,171
Income from ordinary activities	721,344	242,853	69,178	3,815,832	14,728	14,201
Depreciation and amortisation	(92,205)	(48,704)	(6,230)	(300,786)	(14,391)	(21,048)
Income from interests	26,905	6,252	2,269	214,438	32	18
Expenses from interests	(209,149)	(79,032)	(8,794)	(538,630)	(347)	(346)
Tax (expense)/income	(86,548)	22,135	(3,928)	(41,292)	386	–
Profit for the year from continuing operations	(77,168)	(41,461)	23,171	92,057	(12,049)	(19,870)
Other global profit	–	–	–	(69,300)	–	–
Total global profit	(77,168)	(41,461)	23,171	22,757	(12,049)	(19,870)
Other information						
Cash and cash equivalents	(2,998)	(26,662)	(8,184)	412,444	2,057	1,474
Current financial liabilities (*)	479,081	42,609	16,708	1,463,175	47	–
Non-Current financial liabilities (*)	6,564,756	681,784	74,074	2,698,621	–	–

(*) Excluding trade and other payables

14.b) Non-current equity instruments

All the financial assets included under this heading in the Consolidated statement of financial position at 31 December 2017 and 2016 were classified as available-for-sale assets.

14.c) Other financial assets

The detail of “Other non-current financial assets” and “Other current financial assets” in the IBERDROLA Group’s Consolidated statement of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Non-current		
Collection rights in Brazil (Notes 4.b and 12)	2,084,988	315,073
Long-term deposits and guarantees	282,156	133,522
Fixed-income securities	4,116	16,461
Concessional guarantee of the sufficiency tariff in Brazil (Note 12)	55,642	48,672
Long-term deposits	28,757	32,375
Credits to third parties	87,576	48,567
Assets for pension plans (Note 24)	3,326	–
Other investments in companies accounted for using the equity method	4,824	5,272
Others	79,995	117,144
Bad debt provisions	(18,815)	(21,418)
Total	2,612,565	695,668
Current		
Collection rights in Brazil (Notes 4.b and 12)	17,167	–
Short-term cash deposits	2,065	3,929
Fixed-income securities		
Related to equity instruments having the substance of a financial liability	–	3,018
Others	–	1,593
Concessional guarantee of the sufficiency tariff in Brazil (Note 12)	129,244	66,524
Accounts receivable for financing imbalance in revenues in 2017	215,889	–
Accounts receivable for financing imbalance in revenues in 2016	–	240,917
Other investments in companies accounted for using the equity method	5,970	54,843
Short-term deposits	158,126	202,420
Others	78,216	210,679
Bad debt provisions	(7,794)	(7,582)
Total	598,883	776,341

Collection rights in Brazil

The heading “Collection rights in Brazil” relates to the compensation receivable by the Brazilian companies upon expiry of their service concession arrangements (Note 4.b and 12). The Law N°12.783/13 provides that such indemnification must be determined by the replacement value (Valor Novo de Reposição VNR) of the concession assets which have not been depreciated/amortised by the end of the concession period.

The fair value of the financial asset receivable from the concession grantor at the end of the concession is determined using the residual value of the Regulatory Asset Base (Base de Remuneração Regulatória BRR) at the end of the contractual term of the concession.

The method specified by the regulator protects the value of the Regulatory Asset Base after each ordinary tariff review. Ordinary reviews are conducted every four years. This means that after the regulator has conducted a tariff review the value of the Regulatory Asset Base prior to that date cannot be changed except to the extent that it might be updated in accordance with Brazilian Market Prices General Index (Índice General de Precios de Mercado Brasileño - IGPM). The next tariff review will determine the value of the regulatory asset base only with regard to additions in the interval between two tariff reviews.

To estimate the amount of the financial asset, observable values are used. Specifically, the net replacement value, as calculated by the energy regulator in the course of the latest tariff review. The amount is updated in the intervals between tariff reviews by additions to the underlying fixed assets and currency translation differences or, as the case may be, any changes in the method of calculation of the net realizable value and the IGPM.

The acquisition of NEOENERGIA Group (Note 7) results in an increase of non-current and current balance for said amount of EUR 1.747,731 and 17,167 thousand, respectively.

Long-term deposits and guarantees

The "Long term deposits and guarantees" heading essentially corresponds to the portion of guarantees and deposits received from customers at the time of recruitment as security of electricity supply (which are recorded in "Non-Current Liabilities - Other non-current payables" in the Consolidated statement of financial position - Note 29) and have been deposited with the competent Public Authorities in accordance with the current legislation in Spain.

Collection right due to imbalanced financing

Act 24/2013 of the Electricity Sector establishes that, in the case that in a period an imbalance occurs due to an income deficit in the settlements of the electricity sector, its quantity may not exceed 2% of the estimated incomes for the system for this period. Furthermore, the accumulated debt due to imbalances in preceding periods may not exceed 5% of the income estimated for the system. If these limits are exceeded, the entrance tolls will be reviewed at least in a total equivalent to the excess of these limits. This law establishes, furthermore, that the part of the imbalance due to an income deficit that, without exceeding these limits, is not compensated via the increase of tolls and charges, will be financed by those subject to the settlement system proportionally to the remuneration that corresponds to them for the activity they carry out.

In fiscal years 2017 and 2016, the IBERDROLA Group estimated that the final settlement of the Spanish electrical system corresponding to 2017 and 2016, respectively, would have a surplus, even though, the provisional settlements made until 31 December 2017 and 2016 had an income deficit. IBERDROLA Group's financed deficit as of 31 December 2016 has been collected in 2017.

15. COMMERCIAL DEBTORS AND OTHER ACCOUNTS RECEIVABLE

The detail of "Non-current trade and other receivables" in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Receivables from Brazilian customers	107,840	27,317
CFE (Note 4.u)	302,870	303,877
Account receivable for the sale to NEOENERGIA of COELBA and COSERN (Note 21)	–	231,800
Others	432,241	327,921
Bad debt provisions	(4,261)	(3,832)
Total	838,690	887,083

These balances relate to accounts receivable arising in the normal course of business of the IBERDROLA Group and, therefore, are recognised at amortised cost. This broadly coincides with its fair value.

16. MEASUREMENT AND COMPENSATION OF FINANCIAL INSTRUMENTS

Most of the financial assets and liabilities registered in the Consolidated statements of financial position correspond to the financial instruments classified under the category of loans and receivables, charges and payables.

Fair value in the heading "Financial debt - loans and other receivables" in current and non-current liabilities in the consolidated financial statements of IBERDROLA Group as of 31 December 2017 and 2016 amounts to EUR 38,208,032 and 33,442,203 thousand. Book value is EUR 36,690,498 and 31,220,682, respectively. Said value is classified in Level 2. The fair value of the derivative financial instruments does not differ significantly from book value thereof.

The sensitivity of the fair value of the IBERDROLA Group's borrowings, after the effect of hedge accounting, to changes in the euro-dollar and euro-sterling pound exchange rates is as follows:

Thousand euros	2017		2016	
Interest rate variation	Depreciation 5%	Appreciation 5%	Depreciation 5%	Appreciation 5%
Debt's value variation:				
US dollar	(276,383)	305,476	(261,883)	289,449
Sterling Pound	(126,534)	139,854	(145,134)	160,412
Brazilian reals	(221,734)	245,074	(42,440)	46,907

The estimated fair value of borrowings bearing fixed interest rates, after the effect of hedge accounting at 31 December 2017 and 2016, calculated by discounting future cash flows at market interest rates, amounted to EUR 18,675,372 thousand and EUR 16,557,885 thousand, respectively. The interest rate curve used to make this calculation takes into account the risks associated with the electricity industry and the credit rating of the IBERDROLA Group. The sensitivity of that fair value to interest rate fluctuations is as follows:

Thousand euros	31.12.2017		31.12.2016	
Interest rate variation	+0.25%	- 0.25%	+0.25%	- 0.25%
Debt's value variation	(246,825)	253,059	(230,585)	237,119

The IBERDROLA Group measures certain available-for-sale assets and derivative financial instruments at fair value, provided they can be measured reliably, classifying them into three levels:

- Level 1: assets and liabilities quoted in liquid markets.
- Level 2: assets and liabilities whose fair value is determined using valuation techniques with observable market data.
- Level 3: assets and liabilities whose fair value is determined using valuation techniques without observable market data.

The breakdown of financial instruments measured at fair value by levels is as follows:

Thousand euros	Value at 31.12.2017	Level 1	Level 2	Level 3
Other financial investments – Brazil receivables (Note 14.c)	2,102,155	–	2,102,155	–
Derivative financial instruments (financial assets) (Note 27)	1,267,298	10,952	1,159,198	97,148
Derivative financial instruments (financial liabilities) (Note 27)	(604,016)	(87,528)	(501,210)	(15,278)
Total	2,765,437	(76,576)	2,760,143	81,870

Thousand euros	Value at 31.12.2016	Level 1	Level 2	Level 3
Other financial investments – Brazil receivables (Note 14.c)	315,073	–	315,073	–
Derivative financial instruments (financial assets) (Note 27)	1,603,047	30,402	1,415,860	156,785
Derivative financial instruments (financial liabilities) (Note 27)	(1,110,319)	(65,508)	(918,560)	(126,251)
Total	807,801	(35,106)	812,373	30,534

At 31 December 2017 and 2016 equity instruments of not listed companies classified as available for sale, measured at acquisition cost, whose fair value cannot be measured reliably, amounts to EUR 67,086 thousand and EUR 64,073 thousand, respectively.

The reconciliation between initial and final balances for financial instruments classified as Level 3 of the fair-value hierarchy is as follows:

Derivative Financial instruments		
Thousand euros	2017	2016
Initial balance	30,534	(23,327)
Income and expense recognised in Consolidated income statement	15,544	60,183
Income and expense recognised in Consolidated income statement	(4,930)	(725)
Purchases	(1,736)	2,198
Sales and settlements	(5,990)	(6,271)
Translation differences	(6,247)	1,751
Transfers outside Level 3	54,695	(3,275)
Final balance	81,870	30,534

The fair value of Level 3-classified financial instruments has been determined by the discounted cash flow method. Projections of these cash flows are based on assumptions not observable in the market, and mainly correspond to purchase and sale price estimates that the Group normally uses, based on its experience in the markets.

None of the possible foreseeable scenarios of the indicated assumptions would result in a material change in the fair value of the financial instruments classified at this level.

In addition, the IBERDROLA Group's financial assets and liabilities are compensated and presented net on the Consolidated statement of financial position when a legally enforceable right exists to offset the amounts recognised and the Group intends to settle the assets and liabilities net or simultaneously. The breakdown of netted financial assets and liabilities at 31 December 2017 and 2016 is as follows:

31.12.2017						
				Uncompensated amounts under compensation agreements		
Thousand euros	Gross amount	Compensated amount	Net amount	Financial instruments	Financial guarantee	Net amount
ASSET DERIVATIVES						
Current						
Raw materials	433,974	(297,850)	136,124	(46,882)	(10,735)	78,507
Others	9,605	(2,001)	7,604	–	(990)	6,614
Non-current						
Raw materials	119,594	(4,024)	115,570	(11,887)	(32,726)	70,957
Others	49,836	(17)	49,819	–	(48,675)	1,144
Total	613,009	(303,892)	309,117	(58,769)	(93,126)	157,222
OTHER FINANCIAL ASSETS						
Receivables	459,917	(385,027)	74,890	(35,157)	(5,009)	34,724
LIABILITIES DERIVATIVES						
Current						
Raw materials	384,035	(297,848)	86,187	(46,882)	(4,896)	34,409
Others	6,483	(2,001)	4,482	–	(1)	4,481
Non-current						
Raw materials	20,985	(4,026)	16,959	(11,887)	(2,469)	2,603
Others	17	(17)	–	–	–	–
Total	411,520	(303,892)	107,628	(58,769)	(7,366)	41,493
OTHER FINANCIAL LIABILITIES						
Payables	634,887	(385,027)	249,860	(35,157)	(8,301)	206,402

31.12.2016						
				Uncompensated amounts under compensation agreements		
Thousand euros	Gross amount	Compensated amount	Net amount	Financial instruments	Financial guarantee	Net amount
ASSET DERIVATIVES						
Current						
Raw materials	1,052,447	(790,604)	261,843	(125,678)	(21,509)	114,656
Others	51,185	(10,974)	40,211	–	–	40,211
Non-current						
Raw materials	166,693	(21,809)	144,884	(7,872)	(44,528)	92,484
Others	69,267	(277)	68,990	–	(59,029)	9,961
Total	1,339,592	(823,664)	515,928	(133,550)	(125,066)	257,312
OTHER FINANCIAL ASSETS:						
Receivables	569,327	(461,166)	108,161	(38,033)	(17,543)	52,585
LIABILITIES DERIVATIVES						
Current						
Raw materials	1,059,667	(790,604)	269,063	(125,678)	(47,213)	96,172
Others	17,634	(10,974)	6,660	–	(235)	6,425
Non-current						
Raw materials	56,759	(21,809)	34,950	(7,872)	(2,983)	24,095
Others	589	(277)	312	–	–	312
Total	1,134,649	(823,664)	310,985	(133,550)	(50,431)	127,004
OTHER FINANCIAL LIABILITIES						
Payables	740,552	(461,166)	279,386	(38,033)	(11,810)	229,543

17. NUCLEAR FUEL

The breakdown of the “Nuclear Fuel” heading in the Consolidated statement of financial position at 31 December 2017 and 2016, and of the changes therein in 2017 and 2016 is as follows:

Thousand euros	Fuel loaded into the reactor core	Nuclear fuel in progress	Total
Balance at 01.01.2016	271,519	78,363	349,882
Additions	–	104,214	104,214
Capitalised financing expenses (Notes 4.g and 43)	–	2,465	2,465
Transfers	112,860	(112,860)	–
Fuel consumed (Note 4.g)	(133,931)	–	(133,931)
Balance at 31.12.2016	250,448	72,182	322,630
Additions	–	135,311	135,311
Capitalised financing expenses (Notes 4.g and 43)	–	2,193	2,193
Transfers	141,188	(141,188)	–
Fuel consumed (Note 4.g)	(128,251)	–	(128,251)
Balance at 31.12.2017	263,385	68,498	331,883

The IBERDROLA Group’s nuclear fuel purchase commitments at 31 December 2017 and 2016 amount to EUR 433,577 thousand and EUR 628,794 thousand, respectively.

18. INVENTORIES

The breakdown of the “Inventories” heading (Note 4.h) in the Consolidated statements of financial position at 31 December 2017 and 2016 is as follows:

Thousand euros	31.12.2017	31.12.2016
Energy sources	212,475	344,213
Emission allowances and renewable certificates	338,534	61,977
Real estate inventories	1,224,092	1,278,139
Land and plot	985,623	1,008,944
Developments in construction	229,361	247,792
Developments completed	9,108	21,403
Other inventories	226,644	74,378
Real estate inventories impairment allowance	(131,624)	(125,205)
Total	1,870,121	1,633,502

The variations in the impairment allowance in 2017 and 2016 are as follows:

Thousand euros	2017	2016
Initial balance	125,205	121,827
Charges	20,832	21,703
Reversals	(13,404)	(12,120)
Translation differences	–	(868)
Applications and others	(1,009)	(5,337)
Final balance	131,624	125,205

The heading “Net revenue” in the 2017 and 2016 Consolidated financial statements includes EUR 169,045 thousand and EUR 29,898 thousand, respectively, relating to sales of inventories and real estate.

On the other hand, at 31 December 2017, the IBERDROLA Group has in place “take or pay” contracts with several natural and liquefied natural gas suppliers for the supply of 29 bcm of gas during the period from 2018 to 2039, earmarked for retailing and for consumption at the Group's electricity production facilities. The prices under these contracts are determined on the basis of formulas commonly used in the market, which index the price of gas to the performance of other energy variables. Moreover, the IBERDROLA Group has purchase commitments of 11 bcm of natural gas in the National Balancing Point (NBP).

The information in relation to the undertaking for said contracts at 31 December 2017 is as follows:

Thousand euros	31.12.2017
2018	2,173,513
2019	524,497
2020	443,350
2021	458,485
2022	455,271
From 2023 onwards	5,245,587
Total	9,300,703

19. COMMERCIAL DEBTORS AND OTHER ACCOUNTS RECEIVABLE

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Customers	5,753,703	4,793,479
Receivables ⁽¹⁾	735,201	814,044
Other investments in companies accounted for using the equity method	9,610	21,140
Bad debt provisions	(642,142)	(412,953)
Total	5,856,372	5,215,710

(1) The heading “Other receivables” includes, among other, best receivable estimates IBERDROLA Group expects to collect due to favourable rulings by the preme Court due to non-inclusion of territorial supplements, following the amendment introduced by Royal Decree Law 20/2012 in the tolls Order (Order IET/221/2013 and Order IET/1491/2013) for 2013. This amount, totalling EUR 133,864 thousand was recognised as debit in the heading “Taxes” in the consolidated financial statements of 2016 in the amount of EUR 119,337 thousand. The financial update registered with a debit in “Financial income” in the consolidated financial statements for 2017 and 2016 amounts to EUR 11,600 and 2,927 thousand, respectively.

Generally, the amounts included under this caption in the Consolidated statement of financial position do not bear any interest.

The variations in the impairment allowance in 2017 and 2016 are as follows:

Thousand euros	2017	2016
Initial balance	412,953	390,982
Charges	219,397	190,157
Bad debt provision	(212,575)	(139,666)
Translation differences	(53,594)	(9,689)
Transfers	1,674	(10,656)
Excess	(5,202)	(8,175)
Modification of the consolidation perimeter (Note 7)	279,489	–
Final balance	642,142	412,953

Most of this provision relates basically entirely to gas and electricity consumers.

The breakdown of trade receivables and other current and non-current receivables with regard to their credit-risk status is as follows:

Thousand euros	31.12.2017	31.12.2016
Provisioned trade receivables and other non-current receivables	4,261	3,832
Provisioned trade receivables and other current receivables	642,142	412,953
Non-provisioned financial assets in default	1,116,557	804,566
Financial assets not in default and not provisioned	5,578,505	5,298,227
Provisions	(646,403)	(416,785)
Total	6,695,062	6,102,793

The breakdown of the age of financial assets in default for which no provision was considered necessary as at 31 December 2017 and 2016 is as follows:

Thousand euros	31.12.2017	31.12.2016
Up to 90 days	663,099	421,462
Between 90 and 180 days	170,729	201,800
More than 180 days	282,729	181,304
Total	1,116,557	804,566

The IBERDROLA Group considers that it is not necessary to allocate these balances based on historic payment behaviour and the counter party credit solvency analysis.

20. CASH AND CASH EQUIVALENTS

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Cash	188,165	181,692
Short-term deposits	3,009,175	1,250,994
Total	3,197,340	1,432,686

Short-term deposits mature within a period of less than three months and bear market interest rates. There are no restrictions on cash withdrawals for significant amounts.

21. EQUITY

Share capital

Changes in 2017 and 2016 in the different items of share capital of IBERDROLA are as follows:

	Date	% Capital	Number of shares	Nominal	Euros
Balance at 01.01.2016		–	6,336,870,000	0.75	4,752,652,500
Free capital increase	26 January 2016	0.952	60,327,000	0.75	45,245,250
Share capital reduction	26 April 2016	2.457	(157,197,000)	0.75	(117,897,750)
Free capital increase	22 July 2016	1.956	122,079,000	0.75	91,559,250
Balance at 31.12.2016		–	6,362,079,000	0.75	4,771,559,250
Free capital increase	25 January 2017	1.539	97,911,000	0.75	73,433,250
Share capital reduction	24 May 2017	3.410	(219,990,000)	0.75	(164,992,500)
Free capital increase	21 July 2017	1.242	77,515,000	0.75	58,136,250
Balance at 31.12.2017			6,317,515,000	0.75	4,738,136,250

The capital increases taken place in 2017 and 2016 correspond to the different execution approved by the General Shareholders' Meeting through which the *Iberdrola dividendo flexible* system is implemented.

Information on the holders of free of charges allocation rights who accepted the irrevocable rights purchase commitment assumed by IBERDROLA is as follows:

	Free of charges allocation rights		Rights waved
	Number	Thousand euros	Number
Free capital increase			
26 January 2016	3,320,519,969	421,706	31
22 July 2016	746,444,927	92,559	43
25 January 2017	1,956,083,947	264,071	38
21 July 2017	2,596,794,942	381,729	37

Additionally, on 26 April 2016 and 24 May 2017, capital decreases were performed by redeeming treasury shares already held, as approved at the General Shareholders Meeting of 8 April 2016 and 31 March 2017, respectively, through the amortisation of treasury shares.

There were no changes to IBERDROLA's share capital other than those resulting from the transactions described above. There are no claims on IBERDROLA's share capital other than those provided for in the Spanish Companies Law.

IBERDROLA's shares are listed for trading on the Spanish electronic trading system (the "Mercado Continuo Español"), forming part of the IBEX-35 and the European Eurostoxx-50 indexes.

Major shareholders

Since IBERDROLA's shares are represented by the book-entry system, the exact stakes held by its shareholders are not known. The table below summarises major direct and indirect shareholdings in the share capital of IBERDROLA at 31 December 2017 and 2016, as well as the holdings of financial instruments disclosed by the owners of these stakes in compliance with the Royal Decree 1362/2007 of 19 October. This information is based on filings by the owners of the stakes in the official registers of the National Securities Market Commission (hereinafter, Comisión Nacional del Mercado de Valores - CNMV) or the company's financial statements or press releases, and it is presented in the 2017 IBERDROLA Group's Annual Corporate Governance Report.

Among direct or indirect shareholders with a significant stake, IBERDROLA treats as a "significant shareholder" any shareholder who exerts a significant influence on the company's financial and operating decisions when they i) attend the Board of Directors or a similar committee or ii) they have the possibility of exercising the proportional representation system. Therefore, the company treats Qatar Investment Authority as significant shareholder, being the only shareholder who satisfied that condition as of 31 December 2017 and 2016.

Holder	% of voting rights 2017			Financial instruments 2017	Directors in IBERDROLA 2017
	Direct	Indirect	Total		
Qatar Investment Authority ⁽¹⁾	–	8.570	8.570	–	–

(1) Parent company of Qatar Holding Luxembourg II, S.A.R.L., direct owners of the holding

Holder	% of voting rights 2016			Financial instruments 2016	Directors in IBERDROLA 2016
	Direct	Indirect	Total		
Qatar Investment Authority ⁽¹⁾	–	8.509	8.509	–	–

(1) Parent company of Qatar Holding Luxembourg II, S.A.R.L., direct owners of the holding

In addition, the breakdown of other companies having at 31 December 2017 and 2016 direct and indirect voting rights higher than 3% of the share capital is as follows:

Holder	% of voting rights 2017			% of voting rights 2016		
	Direct	Indirect	Total	Direct	Indirect	Total
Norges Bank	3.210	–	3.210	3.196	–	3.196
Blackrock, Inc	–	3.030	3.030	–	3.011	3.011
Kutxabank, S.A.	–	–	–	–	3.003	3.003
Capital Research and Management Company (CRMC)	–	3.100	3.100	–	–	–

Financial management

The IBERDROLA Group's main financial management objectives are to ensure short and long-term financial stability, robust financial liquidity ratios, the optimization of the liquidity position, the management of financial risks, and at the same time maintaining a sustainable remuneration policy for its shareholders.

As of 31 December 2017 Moody's, Standard & Poor's and Fitch's ratings were Baa1 (positive), BBB+ and BBB+, respectively.

Leverage ratios at 31 December 2017 and 2016 stand at:

Thousand euros	31.12.2017	31.12.2016
Bank borrowings and other financial liabilities - Loans and others (Note 26)	36,690,498	31,220,682
Equity instruments having the substance of a financial liability (Note 22)	47,281	137,054
Derivative financial liabilities	377,398	668,010
Gross debt	37,115,177	32,025,746
Derivative financial assets	969,398	1,119,077
Other current financial assets	63,970	59,933
Cash and cash equivalents (Note 20)	3,197,340	1,432,686
Cash assets	4,230,708	2,611,696
Net debt	32,884,469	29,414,050
Equity		
Of the parent company	35,509,260	36,690,965
Of Minority shareholders	5,671,380	3,445,898
Of subordinated perpetual obligations	1,552,546	550,526
	42,733,186	40,687,389
Leverage	43.49%	41.96%

Derivative financial instruments detailed in the table above only include the ones relating to financing operations which breakdown is as follows (Note 27):

2017						
Thousand euros	Derivative assets			Derivative liabilities		
	Short term	Long term	Total	Short term	Long term	Total
Interest rate hedges	42,810	104,531	147,341	31,367	(69,300)	(37,933)
Exchange rate hedges	502,059	301,682	803,741	(168,028)	(141,488)	(309,516)
Total hedging derivatives	544,869	406,213	951,082	(136,661)	(210,788)	(347,449)
Exchange rate derivatives	3,017	–	3,017	(12,255)	–	(12,255)
Interest rate derivatives	–	2,621	2,621	(596)	(4,420)	(5,016)
Treasury shares derivatives	–	12,678	12,678	–	(12,678)	(12,678)
Total non-hedging derivatives	3,017	15,299	18,316	(12,851)	(17,098)	(29,949)
Total	547,886	421,512	969,398	(149,512)	(227,886)	(377,398)

2016						
Thousand euros	Derivative assets			Derivative liabilities		
	Short term	Long term	Total	Short term	Long term	Total
Interest rate hedges	31,449	181,928	213,377	40,545	(125,931)	(85,386)
Exchange rate hedges	318,110	554,748	872,858	(383,536)	(174,555)	(558,091)
Total hedging derivatives	349,559	736,676	1,086,235	(342,991)	(300,486)	(643,477)
Exchange rate derivatives	22,429	188	22,617	(7,893)	(183)	(8,076)
Interest rate derivatives	–	3,112	3,112	(2,253)	(7,091)	(9,344)
Treasury shares derivatives	–	7,113	7,113	–	(7,113)	(7,113)
Total non-hedging derivatives	22,429	10,413	32,842	(10,146)	(14,387)	(24,533)
Total	371,988	747,089	1,119,077	(353,137)	(314,873)	(668,010)

Powers delegated by the General Shareholders' Meeting

The General Shareholders' Meeting on 8 April 2016 resolved, in respect of items seven and eight on the agenda, to delegate powers to the Board of Directors, with express powers of substitution, for a period of five years, to:

- increase share capital in the terms and to the limits stipulated in Article 297.1 b) of the Spanish Companies Law ("Ley de Sociedades de Capital"), with authorisation to exclude preferential subscription rights, and
- issue bonds or debentures swappable for and/or convertible into shares in the Company or other companies, and warrants on new or existing shares in the Company or other companies, to a maximum amount of EUR 5,000 million. This authorisation includes the delegation of powers to, where applicable: (i) determine the basis and procedures for conversion, swap or exercise; (ii) increase share capital by the amount required to cover applications for conversion; and (iii) exclude shareholders' preferential subscription rights on the issue.

Both authorisations have a joint limit to a maximum nominal amount of 20% of the share capital.

Legal reserve

Under the Spanish Companies Law, 10% of net profit for each year must be transferred to the legal reserve until the balance of this reserve reaches at least 20% of the share capital.

The legal reserve can be used to increase capital provided that the remaining reserve balance does not fall below 10% of the increased share capital amount. Otherwise, until the legal reserve exceeds 20% of share capital, it can only be used to offset losses, provided that sufficient other reserves are not available for this purpose.

Revaluation reserves

The balance of "Revaluation reserves" arose as a result of the revaluation of property, plant and equipment made by IBERDROLA pursuant to the Royal Decree-law 7/1996. This balance can be used, free of tax, to offset recorded losses both prior years' accumulated losses and current year losses or losses which might arise in the future, and to increase share capital. From 1 January 2007, the balance of this reserve can be taken to unrestricted reserves, provided that the monetary surplus has been realised. The surplus will be deemed to have been realised on the portion on which depreciation has been taken for accounting purposes or if the revalued assets have been transferred or derecognised. If the balance of this account was used in any way other than as specified in the Royal Decree-law 7/1996, it would be subject to tax.

Share premium

The Spanish Companies Law expressly permits the use of the share premium account balance to increase capital and does not establish any specific restrictions as to its use.

Other restricted reserves

"Other restricted reserves" of the heading "Equity" of the Consolidated statement of financial position primarily includes the restricted reserve set up by IBERDROLA in accordance with article 335.c) of the Spanish Companies Law arising from the capital reductions carried out in prior years through the retirement of treasury shares. The restricted reserves relating to Group companies other than the parent IBERDROLA are included under "Retained earnings" of the same heading.

Non-controlling interests

The variations in this headings in 2017 and 2016 are as follows:

Thousand euros	Subgroup AVANGRID	Subgroup NEONERGIA	Other	Total
Balance at 01.01.2016	3,099,986	19,353	126,948	3,246,287
Result of the year non-controlling interests	98,769	1,594	14,548	114,911
Other global result	(10,753)	–	13,954	3,201
Dividends	(89,880)	–	(11,202)	(101,082)
Translation differences	165,356	4,724	1,868	171,948
Others	13,631	(884)	(2,114)	10,633
Balance at 31.12.2016	3,277,109	24,787	144,002	3,445,898
Modification of the consolidation perimeter (Note 7)	–	2,320,651	–	2,320,651
Share capital increase	–	318,086	241	318,327
Result of the year non-controlling interests	294,822	30,412	8,496	333,730
Other global result	(2,784)	8,595	135	5,946
Dividends	(89,880)	(2,453)	(8,999)	(101,332)
Translation differences	(412,362)	(142,085)	(1,530)	(555,977)
Transactions with non-controlling interests	–	–	(67,503)	(67,503)
Others	(5,943)	(19,990)	(2,427)	(28,360)
Balance at 31.12.2017	3,060,962	2,538,003	72,415	5,671,380

On 27 December 2017, NEOENERGIA approved an increase of capital for the amount of 2,585 thousand Brazilian reales (659,175 thousand euros). The IBERDROLA Group took part in this increase in its shareholding percentage by means of the cash delivery for an amount of 60,062 thousand euros and the termination of receivables with NEOENERGIA for the amount of 285,643 thousand euros, which includes the receivables that the IBERDROLA Group held for sale to NEOENERGIA in 2015 for the entirety of its direct interest in the distributors of Companhia de Electricidade do Estado da Bahia, S.A. (COELBA) and Companhia de Electricidade do Rio Grande do Norte, S.A. (COSERN) (Note 15).

The summarised financial information as of 31 December 2016 related to subgroups in which IBERDROLA Group does not have a 100% stake refers to amounts consolidated before intercompany eliminations:

	Subgroup AVANGRID		Subgroup NEOENERGIA
Thousand euros	31.12.2017	31.12.2016	31.12.2017
Current assets	1,452,916	1,727,499	2,772,747
Non-current assets	30,197,275	35,559,240	9,769,105
Total assets	31,650,191	37,286,739	12,541,852
Current Liabilities	2,647,748	2,604,176	2,929,339
Non-Current Liabilities	12,620,537	17,116,473	4,484,977
Total assets	15,268,285	19,720,649	7,414,316
Gross operating profit (EBITDA)	1,834,662	1,833,064	577,588
Amortisations and provisions	(1,968,444)	(908,339)	(249,016)
Result of companies accounted for using the equity method - net of taxes	(29,207)	2,322	(9,160)
Financial result	(172,378)	(209,227)	(171,945)
Non-current asset profit/(loss)	1,006	31,371	44,098
Corporate tax	1,923,433	(216,746)	(43,157)
Non-controlling interests	(1,034)	(328)	(30,412)
Net profit for the year	1,588,038	532,117	117,996

Subordinated perpetual obligations

On 27 February 2013, the IBERDROLA Group's perpetual subordinated bonds issuance was completed and disbursed, in the amount of EUR 525 million. The issue price was set at 99.472% of the face value, with a fixed annual coupon of 5.75% as from the issue date to 27 February 2018, when the IBERDROLA Group announced said coupons were to be depreciated. The interest accruing on these bonds will not be callable but rather cumulative. However, the IBERDROLA Group will be obligated to settle the interest accrued in the event it distributes dividends.

On 22 November 2017, the IBERDROLA Group's perpetual subordinated bonds issuance was completed and disbursed, in the amount of EUR 1,000 million. The issue price was set at 100% of the face value, with a fixed annual coupon of 1.875% as from the issue date to 22 May 2023. From the first repricing date on, the coupon will be equal to the applicable five-year swap rate plus a 1.592% annual spread during the following five years, a 1.8492% annual spread during each of the five-year repricing periods beginning on 22 May 2028, 2033 and 2038, and a 2.5992% annual spread during the following five-year repricing periods.

The interest accruing on these bonds will not be callable but rather cumulative. However, the IBERDROLA Group will be obligated to settle the interest accrued in the event it distributes dividends. Although these bonds do not have a contractual maturity date, the IBERDROLA Group has the option of redeeming them on 22 May 2023, and from that date on, every five years.

After analysing the issue conditions, the IBERDROLA Group recognised the cash received with a credit to "Subordinated perpetual obligations" of the equity on the Consolidated statement of financial position, as it considers that it does not meet the criteria for classification as a financial liability, given that the IBERDROLA Group does not have a commitment to deliver cash, as the circumstances that would require it to do so - namely distribution of dividends and exercise of its right to redeem the bonds - are fully under its control. As a result, accrued interests from the obligations issue have been registered amounting to EUR 32,242 and EUR 22,948 thousand, under the heading "Subordinated perpetual obligations owners" of the Consolidated income statement at 31 December 2017 and 2016, respectively.

Unrealised assets and liabilities revaluation reserve

The change in this reserve arising from valuation adjustments to available-for-sale assets and derivatives designated as cash flow hedges at 31 December 2017 and 2016 is as follows:

Thousand euros	01.01.2016	Change in fair value and others	Allocation to the values of hedged assets	Amounts allocated to income	31.12.2016	Change in fair value and others	Allocation to the values of hedged assets	Amounts allocated to income	31.12.2017
Unrealised assets and liabilities revaluation reserve of companies accounted for using the equity method (net of tax):	19,504	(16,559)	–	14	2,959	10,442	–	16	13,417
Available-for-sale assets									
Others	51	(13)	–	–	38	577	–	–	615
	51	(13)	–	–	38	577	–	–	615
Cash flow hedges:									
Interest rate swaps	(378,045)	(225,436)	–	141,870	(461,611)	51,156	–	51,561	(358,894)
Collars	(4,127)	(716)	–	593	(4,250)	(130)	–	128	(4,252)
Derivatives on commodities	33,538	12,221	–	71,847	117,606	88,042	–	31,070	236,718
Currency forwards	22,619	123,824	(7,884)	(5,009)	133,550	(46,442)	(24,965)	(13,950)	48,193
	(326,015)	(90,107)	(7,884)	209,301	(214,705)	92,626	(24,965)	68,809	(78,235)
Tax effect on available-for-sale assets and cash flow hedges	84,409	23,983	1,512	(47,590)	62,314	(22,220)	4,787	(22,932)	21,949
Total	(222,051)	(82,696)	(6,372)	161,725	(149,394)	81,425	(20,178)	45,893	(42,254)

Treasury shares

The IBERDROLA Group buys and sells treasury shares in accordance with the prevailing law and the resolutions of the General Shareholders' Meeting. Such transactions include purchases and sales of company shares and of derivative instruments having company shares as the underlying asset.

At 31 December 2017 y 2016 the balances of the various instruments are as follows:

	31.12.2017		31.12.2016	
	No. of shares	Thousand euros	No. of shares	Thousand euros
Treasury shares of IBERDROLA	75,710,149	507,175	151,224,777	868,936
Treasury shares of SCOTTISH POWER	1,156,863	8,417	1,374,405	9,580
Swaps over treasury shares	6,000,000	41,646	1,867,929	11,899
Accumulators (exercised shares)	1,835,379	11,561	1,624,221	9,283
Accumulators (potential shares)	4,592,392	28,998	31,870,828	183,669
Total	89,294,783	597,797	187,962,160	1,083,367

(a) Treasury shares

The changes in 2017 and 2016 in the treasury shares of IBERDROLA (Note 4.m) are as follows:

	IBERDROLA		SCOTTISH POWER	
	No. of shares	Thousand euros	No. of shares	Thousand euros
Balance at 01.01.2016	67,636,166	405,457	1,638,563	10,163
Additions	245,721,539	1,450,724	404,154	2,464
Share capital reduction	(157,197,000)	(946,566)	–	–
<i>Iberdrola dividendo flexible ⁽¹⁾</i>	1,504,604	–	56,040	–
<i>Iberdrola dividendo flexible ⁽²⁾</i>	–	(1,992)	–	–
Disposals ⁽³⁾	(6,440,532)	(38,687)	(724,352)	(3,047)
Balance at 31.12.2016	151,224,777	868,936	1,374,405	9,580
Additions	154,508,438	1,002,731	318,172	2,159
Share capital reduction	(219,990,000)	(1,280,176)	–	–
<i>Iberdrola dividendo flexible ⁽¹⁾</i>	1,896,638	–	95,524	–
<i>Iberdrola dividendo flexible ⁽²⁾</i>	–	(9,379)	–	–
Disposals ⁽³⁾	(11,929,704)	(74,937)	(631,238)	(3,322)
Balance at 31.12.2017	75,710,149	507,175	1,156,863	8,417

(1) Shares received

(2) Free of charges allocation rights disposed.

(3) Includes awards to employees.

These treasury shares from SCOTTISH POWER correspond to the matching shares held by the trust in the share plan called Share Incentive Plan.

During 2017 and 2016, treasury shares held by the IBERDROLA Group were below the legal limit.

(b) Derivatives settled by physical delivery

The IBERDROLA Group recognises the transaction directly in equity under “Treasury shares” and records the obligation to buy back the shares under “Bank borrowings and other financial liabilities – loans and others” heading of the liabilities side of the Consolidated statement of financial position.

- Total return swaps

The IBERDROLA Group has arranged four swaps on treasury shares with the following features: during the life of the contract it will pay the financial entity 3-month Euribor plus a spread on the notional and will receive the dividends corresponding to the shares paid out to the financial entity. On the expiration date IBERDROLA will buy the shares at the strike price set out in the contract.

The characteristics of these contracts at 31 December 2017 and 2016 are as follows:

	No. of shares as of 31.12.2017	Strike price	Maturity date	Interest rate	2017 Thousand euros
<i>Total Return Swap</i>	6,000,000	6.941	24/07/2018	Euribor 3 months + 0.45%	41,646
Total	6,000,000				41,646

	No. of shares as of 31.12.2016	Strike price	Maturity date	Interest rate	2016 Thousand euros
<i>Total Return Swap</i>	1,867,929	6.370	18/04/2017	Euribor 3 months + 0.55%	11,899
Total	1,867,929				11,899

- Treasury share accumulators

The IBERDROLA Group holds several purchase accumulators on treasury shares.

These accumulators are obligations to buy in the future, with a notional amount of zero on the start date. The number of shares to be accumulated depends on the market price quoted on a range of observation dates throughout the life of the options – in this case, on a daily basis. A strike price is set, and a knockout level above which the structured product is “knocked out” and shares are no longer accumulated.

The accumulation mechanism is as follows:

- when the spot price is below the strike price, two units of the underlying security are accumulated;
- when the spot price is between the strike price and the knockout level, only one unit of the underlying security is accumulated; and
- when the spot price is above the knockout level, no shares are accumulated.

The characteristics of these contracts at 31 December 2017 and 2016 are as follows:

2017	No. of shares	Average Price of the period	Maturity date	Thousand euros
Exercised shares	1,835,379	6.2990	18/07/2018	11,561
Potential maximum ⁽¹⁾	4,592,392	6.3144	10/01/2018 - 18/07/2018	28,998

2016	No. of shares	Average Price of the period	Maturity date	Thousand euros
Exercised shares	1,624,221	5.7154	26/01/2017 - 10/02/2017	9,283
Potential maximum ⁽¹⁾	31,870,828	5.7629	26/01/2017 - 10/02/2017	183,669

(1) Maximum number of additional shares that could be accumulated according to the described mechanism until the maturity of the structures (assuming that the cash price during the remaining life of the structure is always below the strike price).

Distribution of dividends with charge to 2017 results

IBERDROLA's Board of Directors has agreed to propose at the General Shareholders' Meeting, the distribution, chargeable to the results of 2017 and the retained earnings from previous years, a gross dividend whose gross amount will be the same as the following amounts:

- (a) 8,220,427.60 euros that were paid out in an interim dividend payment on 29 January 2018 to the holders of 58,717,340 IBERDROLA shares that chose to receive their remuneration in cash under the framework of the second execution of the Iberdrola scrip dividend system corresponding to 2017 through the collection of an amount corresponding to the 2017 dividend payment of 0.140 gross euros per share; and
- (b) the determinable amount will be determined by multiplying:
 - (i) the gross amount per share that, in final dividends, the Company will distribute under the framework of the first execution of the 2018 Iberdrola scrip dividend system (the final dividend), and will be equal to the cash remuneration; by
 - (ii) the total number of shares with respect to those which their shareholders have chosen to receive cash remuneration for under the framework of the aforementioned execution

On the date of authorisation of these annual accounts, it is not possible to know the cash remuneration. Therefore the amount of the final dividend or, consequently, the amount of the Dividend cannot be determined.

The payment of the Final dividend shall be made together with the execution of the increase in share capital that will be proposed at the General Shareholders' Meeting, to offer the shareholders the possibility of receiving their remuneration in cash (through the payment of the Final dividend) or in the free shares of the new issuance of the Company (through the aforementioned increase in share capital).

The payment of the Final dividend is configured as one of the alternatives that the shareholder may choose when receiving their remuneration on the first execution of the Iberdrola scrip dividend corresponding to 2018. As a consequence of the aforementioned, it will be understood that these shareholders who choose to receive their remuneration in cash by means of the Final dividend with respect to all or part of their shares, expressly, automatically and irrevocably waive the free allocation rights corresponding to these shares and the possibility of putting them on the market.

Share-based compensation plans

2011-2013 Strategic Bonus Programme

On 24 June 2014, based on a proposal from the former Appointments and Remuneration Committee, the Board of Directors resolved to settle, having met 93.20% of the targets set, the 2011-2013 Strategic Bonus, approved at the General Shareholders' Meeting of 27 May 2011 were also approved by the Board of Directors. In the first half of 2016, therefore, the three annual payments were made in the form of 2,872,129 shares. These shares included those delivered to executive directors (Note 48) and to senior management (Note 50).

The heading "Staff expenses" of the Consolidated income statement does not include any amount for 2017 (for 2016 it includes a credit of EUR 2,068 thousand corresponding to the amount accrued for this incentive plan that was recorded in the sub-headings "Other reserves" of the Consolidated statement of financial position).

2014-2016 Strategic Bonus Programme

On 25 April 2017 the Board of Directors, on the recommendation of the Appointments and Remuneration Committee, decided to pay the 2014 and 2016 Strategic Bonus on determining that 93.20% of the objectives had been met. In the second half of 2017 the first annual payments were made in the form of 2,908,151 shares and EUR 1,578 thousand in cash. These shares included those delivered to executive directors (Note 48) and to senior management (Note 50).

The heading "Staff costs" of the consolidated income statement from 2017 includes a charge of EUR 22,031 thousand respectively corresponding to the amount accrued for this incentive plan, which has been recorded with charge and debit to the sub-headings "Other reserves" and "Other payables" of the consolidated statement of financial position, EUR 19,935 and 2,096 thousand, respectively. The heading "Staff Costs" in the 2016 Income statement includes EUR 5,879 thousand for this item.

As a result of UIL's integration in 2015, the 2014-2016 Strategic Bonus for AVANGRID's company directors will be liquidated in cash for the accrued amount for 2015 and 2014, and was replaced in 2016 by a new one, which will be referenced to AVANGRID's shares. The first settlement as scheduled was made in the first quarter of 2017 for EUR 4.860 million, and the second and final settlement will take place in the first quarter of 2018. The accumulated amount at 31 December 2017, which amounts to EUR 4,611 thousand has been reclassified into the heading "Other non-current payables" of the Consolidated statement of financial position.

Strategic bonus 2017-2019

The General Shareholders Meeting of 31 March 2017 approved under agenda item seven on the establishment of a Strategic Bonus for the executive directors, senior executives and other executive personnel of IBERDROLA and its subsidiaries (300 beneficiaries), tied to the IBERDROLA Group's performance in relation to certain metrics throughout the assessment period, from 2017 to 2019:

- a) Average annual accumulated growth of the net benefit during the period from 2017-2019 greater than 5%, calculated from the close of fiscal year 2016. It shall be understood that this target is not met if this growth does not improve the 2016 income.

- b) Total profitability for the shareholder during the period from 2017-2019 greater than the total profitability for the shareholder of EUROSTOXX UTILITIES INDEX. It shall be understood that this target is not met if the total profitability for the shareholder is 5 percentage points lower than the profitability of EUROSTOXX UTILITIES INDEX. It shall be understood that it is fully met if it is 5 percentage points greater.
- c) Financial strength as measured by the ratio FFO/Net Debt is maintained. It shall be understood that this target is not met if this ratio falls lower than the close of fiscal year 2016.
- d) Reduction of CO 2 emissions in line with UN ODS 7 and 13. The target shall be considered met if it reaches a reduction of 5% in the average intensity of emissions in the period from 2017-2019 compared with the average of the period from 2014-2016. This target will be treated as unmet if average emissions are not reduced.

The specific weight of each of these parameters in the global assessment of the performance in the period from 2017-2019 will be 30% for the first and second, and 20% for the third and fourth.

The maximum number of shares to be delivered to the beneficiaries of the 2017-2019 Strategic Bonus will be 14,000,000 shares, equal to 0.22% of the share capital at the time this resolution is adopted. A maximum of 2,500,000 shares will be delivered to the executive directors in compliance with the terms and conditions of the scheme. As of 31 December 2017 12,765,000 shares were issued.

The payment period for the scheme will run from 2020 to 2022. Payments will be made in the form of shares on a deferred basis in those three years.

The heading "Staff expenses" of the consolidated income statement from 2017 includes a charge of EUR 12,576 thousand respectively corresponding to the amount accrued for this incentive plan, which has been recorded with charge and debit to the sub-headings "Other reserves" and "Other payables" of the consolidated statement of financial position, EUR 11,878 and 698 thousand, respectively.

AVANGRID shares bonus

The General Shareholders Meeting of 16 June 2016 approved under agenda item seven on the establishment of a Strategic Bonus for the executive directors, senior executives and other executive personnel of IBERDROLA and its subsidiaries (80 beneficiaries), tied to the IBERDROLA Group's performance in relation to certain metrics throughout the assessment period, from 2016 to 2019:

- a) The performance of consolidated net profit. The target is that the average annual growth from the period of 2014-2019, based on the closing of 2014, is 10% for excellent compliance, 8% for good compliance and it shall be understood that the target is not met if this growth does not reach 6%.
- b) Improvement of the AVANGRID financial strength, measured via the ratio Net Debt/EBITDA (Net Debt/Operating income-EBITDA) that is 2.6 for excellent compliance, 2.7 for good compliance and it shall be understood that the target is not met if this growth exceeds 2.8.
- c) The relative position of the share value respect to a group made up by AVANGRID (Nextera, ConEd, Eversource) and the S&P 500 Utilities Index (source: Bloomberg). it shall be understood that the target has been met excellently if the relative position is the first, second position for good compliance, third position for satisfactory compliance and it shall be understood that the target is not met if below the third position.

Each indicator weighs a third of the total.

The maximum number of gross shares to be delivered to the group of the Bonus beneficiaries will be 2,500,000 shares, of which 1,252,893 shares are delivered.

The payment period for the scheme will run from 2020 to 2022. Payments will be made in the form of shares on a deferred basis in those three years. If each of the three performance targets is reached at a good level on 31 December 2018, an advanced credit of the bonus could be made for each participant in 2019.

The number of transactions of stock options are as follows:

No. of shares	2017	2016
Initial balance	1,313,540	124,749
Additions	85,759	1,279,491
Exercised	(146,406)	(90,700)
Final balance	1,252,893	1,313,540

The heading "Staff expenses" of the consolidated income statement from 2017 and 2016 includes a charge of EUR 4,569 and 2,152 million respectively corresponding to the amount accrued for this incentive plan has been recorded with charge and debit to the sub-headings "Other reserves" of the consolidated statement of financial position.

SCOTTISH POWER share-based incentive plan

Lastly, SCOTTISH POWER has share-based plans for its employees. There are two types of plans:

- Sharesave Schemes: savings plans in which employees decide the amount they want to contribute to the plan (between GBP 5 and GBP 250 on a monthly basis) and this is deducted monthly from their salary. At the end of a three or five year saving period, as applicable to each plan, employees may use the money saved to buy IBERDROLA shares at a discounted option price set at the beginning of the plan or to receive the amount saved in cash.

The fair value of the employee's share purchase options is determined at the start of the plan, and is registered in the income statement over the plan's consolidation period (three or five years) with a credit to equity. The "Staff costs" heading in the 2017 and 2016 Consolidated income statements includes EUR 904 and 1,558 thousand, respectively for this concept.

The number of transactions of stock options are as follows:

	Number of accounts	Number of shares
Balance at 01.01.2016	2,878	6,039,443
Exercised	(60)	(58,211)
Derecognised	(202)	(449,551)
Balance at 31.12.2016	2,616	5,531,681
Exercised	(90)	(125,025)
Derecognised	(117)	(279,308)
Balance at 31.12.2017	2,409	5,127,348

- Share Incentive Plan: this plan has an option for purchasing shares with tax incentives plus a contribution from the company. The employees decide on the amount they wish to contribute, which is deducted from their monthly salary (the maximum contribution allowed by the law in the United Kingdom is GBP 125 on a monthly basis). The shares purchased with this contribution are called partnership shares. Additionally, SCOTTISH POWER complements the employee's contribution to a maximum of GBP 50 monthly. The shares purchased with the company's contribution are called matching shares.

The contributions, both from the company and the employees, are contributed to a trust which buys the shares, and they are held in this trust until withdrawn by the employees. All shares are purchased in the market at the monthly market price.

The partnership shares are owned by the employees who purchased them with their own money, however, the shares acquired with the contribution from the company (matching shares) are not consolidated until three years after the date of purchase. The matching shares acquired by the trust at 31 December 2017 and 2016 amount to 1,151,594 and 1,370,213, respectively. Additionally, at 31 December 2017 and 2016, the trust holds 5,269 and 4,192 shares, respectively, yet not assigned to employees.

The contributions of the Company are made in cash on a monthly basis and are charged to the income statement during the three years the employee must remain in the company in order to be entitled to these shares.

The "Staff costs" heading in the 2017 and 2016 Consolidated income statements includes EUR 2,257 and 2,615 thousand, respectively for this concept.

22. EQUITY INSTRUMENTS HAVING THE SUBSTANCE OF A FINANCIAL LIABILITY

The change in this heading of the Consolidated statements of financial position at 31 December 2017 and 2016 is as follows (Note 4.1):

Thousand euros	2017	2016
Initial balance	137,054	216,430
Financial expenses accrued in the year	6,230	8,821
Payments	(76,427)	(94,156)
Translation differences	(13,294)	5,959
Debt depreciation	(6,282)	–
Final balance	47,281	137,054

The amount in this heading as of 31 December 2017 and 2016 accrues an average interest rate in USD of 8.63% and 5.46% respectively.

23. DEFERRED INCOME

The change in this heading of the Consolidated statements of financial position at 31 December 2017 and 2016 is as follows :

Thousand euros	Government Grants	Investment Tax Credits	Emission allowances	Transfer of assets from third parties	Assets financed from third parties	Other deferred income	Total deferred income
Balance at 01.01.2016	300,787	1,395,656	31	2,671,500	1,974,701	168,777	6,511,452
Additions	12,944	–	354	81,291	282,421	2,435	379,445
Disposals	(24)	–	(31)	(3,178)	(1,013)	(2)	(4,248)
Transfers	(2,252)	–	–	994	1,279	(21)	–
Translation differences	3,747	69,974	–	(7,798)	(92,434)	7,759	(18,752)
Allocation to the income statement (Note 4.n)	(17,507)	(61,394)	(354)	(113,560)	(70,615)	(14,165)	(277,595)
Balance at 31.12.2016	297,695	1,404,236	–	2,629,249	2,094,339	164,783	6,590,302
Additions	10,385	29,568	257	92,921	228,651	2,808	364,590
Disposals	(92)	(1,423)	–	(2)	(8,213)	(3)	(9,733)
Translation differences	(9,392)	(174,808)	–	(4,381)	(79,672)	(19,103)	(287,356)
Allocation to the income statement (Note 4.n)	(16,200)	(58,635)	(257)	(116,001)	(73,743)	(12,216)	(277,052)
Modification of the consolidation perimeter (Note 7)	(223)	–	–	–	–	101	(122)
Liabilities held for sale (Note 34)	–	–	–	–	–	(1,527)	(1,527)
Balance at 31.12.2017	282,173	1,198,938	–	2,601,786	2,161,362	134,843	6,379,102

24. PROVISION FOR PENSIONS AND SIMILAR COMMITMENTS AND SIMILAR OBLIGATIONS

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Defined benefit plans (Spain)	402,883	510,299
Long-service bonuses and other long-term benefits (Spain)	42,539	43,062
Defined benefit plans (United Kingdom)	637,521	519,754
Defined benefit plans (United States)	918,186	1,103,160
Defined benefit plans (Brazil)	248,537	–
Defined benefit plans and other long term benefits (Spain and other countries)	58,376	67,409
Restructuring plans	266,027	146,677
Total	2,574,069	2,390,361

Each year IBERDROLA estimates, based on an independent actuarial report, the payments for pensions and similar benefits that it will have to meet in the coming year. These are recognised as current liabilities in the Balance sheet.

24.a) Defined benefit plans and other non-current employee benefits**Spain**

IBERDROLA Group's main commitments to providing defined benefits for its employees, in addition to those provided by Social Security, are as follows:

- Employees subject to IBERDROLA Group's Collective Labour Agreement who retired before 9 October 1996, are covered by a defined benefit retirement pension scheme, the actuarial value of which was fully externalised at 31 December 2017 and 2016.

IBERDROLA Group has no liability of any kind for this group and has no claim on any potential excess generated in the assets of this plan over the defined benefits.

- Also, in relation to serving employees and employees who have retired after 1996 and are subjected to IBERDROLA Group's Collective Labour Agreement and members/beneficiaries of the IBERDROLA Pension Plan, risk benefits (e.g. widowhood, permanent disability or orphanage) which guarantee a defined benefit at the time the event giving rise to such benefits occurs, are instrumented through a pluriannual insurance policy. The guaranteed benefit consists of the difference between the present actuarial value of the above mentioned defined benefit at the time of the event and the member's vested rights at the time of the event, if the latter were lower. The premiums on the insurance policy for 2017 and 2016 are recognised under "Staff costs" heading in the Income statement and came to EUR 10,065 thousand and EUR 11,112 thousand, respectively.
- In addition, IBERDROLA maintains a provision against certain commitments to its employees other than those indicated above, which are covered by internal funds linked to social security benefits, consisting mainly of free electricity supply, with an annual consumption limit, for retired employees and other long term benefits, primarily consisting of long-service bonus for active employees at 10, 20 and 30 years of service.

United Kingdom (SCOTTISH POWER)

SCOTTISH POWER employees residing in the United Kingdom, hired before 1 April 2006, are covered by several defined benefit retirement plans: ScottishPower Pension Scheme (SPPS) and Manweb Group of Electricity Supply Pension Scheme (Manweb).

USA (AVANGRID)

The former employees of SCOTTISH POWER that now form part of the workforce of the IBERDROLA Group in the United States, most of them belonging to the workforce of the Iberdrola Renewables Holding Inc. (hereinafter, ARHI), are members of various post-employment plans (Supplemental Executive Retirement Plan, Iberdrola Renewables Retiree Benefits Plan and Iberdrola Renewables Retirement Plan).

With effect from 30 April 2011, a change affecting all plan participants occurred in the Iberdrola Renewables Retiree Benefits Plan, whereby the benefit receivable at retirement age was set at the amount accrued until 30 April 2011 and the plan became a defined-contribution scheme from that date onwards.

On the other hand, the employees of the AVANGRID NETWORKS Group are affiliated to various defined benefit retirement pension plans (Qualified Pension Plans, Non Qualified Pension Plans), disability benefit plans (Long Term Disability Plans) and health insurance plans (Postretirement Welfare Plans).

UIL Group's employees were covered by several defined benefit retirement plans (Qualified Pension Plans, Non Qualified Pension Plans) and health plans (Postretirement Welfare Plans).

Brazil

Such as is indicated in Notes 2.c. and 7, on 24 August 2017 NEOENERGIA was acquired through the incorporation of ELEKTRO. ELEKTRO, CELPE, COELBA and COSERN employees are covered by several defined benefit retirement plans. COELBA employees are covered by a health plan too.

Other commitments with employees

In addition, some IBERDROLA Group companies have provisions to meet certain commitments with their employees, other than those described above, which are met by in-house pension funds.

The most significant information related to plans is as follows:

Thousand euros	United States										Brazil						Total	
	Spain		United Kingdom		ARHI		UIL		AVANGRID NETWORKS		ELEKTRO ⁽¹⁾		NEOENERGIA ⁽²⁾		Other		Total	
	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016	31.12.2017	31.12.2016
Present value of the obligation	(445,422)	(553,361)	(6,189,753)	(6,261,592)	(63,425)	(72,785)	(1,015,714)	(1,126,064)	(2,389,049)	(2,629,032)	(303,237)	(336,323)	(542,248)	–	(58,376)	(67,409)	(11,007,224)	(11,046,566)
Fair value of plan assets	–	–	5,552,232	5,741,838	34,622	37,722	661,511	695,330	1,853,869	1,991,669	343,432	376,175	348,118	–	–	–	8,793,784	8,842,734
Net asset / (Net provision)	(445,422)	(553,361)	(637,521)	(519,754)	(28,803)	(35,063)	(354,203)	(430,734)	(535,180)	(637,363)	40,195	39,852	(194,130)	–	(58,376)	(67,409)	(2,213,440)	(2,203,832)
Amounts recognised in the Consolidated statement of financial position:																		
Provision for pensions and similar commitments and similar obligations	(445,422)	(553,361)	(637,521)	(519,754)	(28,803)	(35,063)	(354,203)	(430,734)	(535,180)	(637,363)	–	–	(248,537)	–	(58,376)	(67,409)	(2,308,042)	(2,243,684)
Assets for pensions and similar commitments and similar obligations (Note 14.c)	–	–	–	–	–	–	–	–	–	–	–	–	3,326	–	–	–	3,326	–
Net assets / (Net provision)	(445,422)	(553,361)	(637,521)	(519,754)	(28,803)	(35,063)	(354,203)	(430,734)	(535,180)	(637,363)	–	–	(245,211)	–	(58,376)	(67,409)	(2,304,716)	(2,243,684)

- (1) The related amounts have not been recognised in the Consolidated statement of financial position at 31 December 2017 and 2016, respectively, since the requirements set forth in the current legislation for their accounting treatment are not met.
- (2) On 24 August 2017 (Note 7) NEOENERGIA's pension allowance amounted to EUR 281,885 thousand. A surplus of EUR 67,688 thousand due to the application of IFRIC 14 was not recognised: "IAS 19 - The limit on a defined benefit asset, minimum funding requirements and their interaction". As of 31 December said surplus amounts to EUR 51,081 thousand euros.

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The changes in provisions for the commitments detailed in the previous section in 2017 and 2016 is as follows:

Thousand euros	Spain		United Kingdom	United States			Brazil ⁽¹⁾		Other	Total
	Electricity tariff	long-service bonus		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA		
Balance at 01.01.2016	459,986	41,046	6,272,818	73,133	1,055,586	2,595,775	206,387	–	62,698	10,767,429
Normal cost (Note 38)	6,981	3,227	63,851	420	14,538	35,986	840	–	5,147	130,990
Cost for past services (Note 38)	–	–	18,080	–	–	–	–	–	–	18,080
Financial expenses (Note 44).	9,575	678	209,637	2,686	43,918	101,485	26,233	–	1,966	396,178
Modification of plan (Note 38)	–	–	–	–	(8,989)	–	–	–	–	(8,989)
Actuarial gains and losses										
To profit (Note 38)	–	3,606	–	–	–	–	–	–	(838)	2,768
To reserves	48,802	–	859,441	(1,884)	19,006	(82,042)	60,057	–	1,343	904,723
Members contributions	–	–	10,507	–	–	–	925	–	–	11,432
Payments	(15,045)	(5,495)	(320,807)	(5,094)	(58,250)	(150,095)	(16,493)	–	(2,907)	(574,186)
Translation differences	–	–	(851,935)	3,524	60,255	127,923	58,374	–	–	(601,859)
Balance at 31.12.2016	510,299	43,062	6,261,592	72,785	1,126,064	2,629,032	336,323	–	67,409	11,046,566
Modification of the consolidation perimeter (Note 7)	–	–	–	–	–	–	–	584,319	–	584,319
Normal cost (Note 38)	8,117	3,557	66,610	571	15,967	33,062	2,098	500	2,665	133,147
Cost for past services (Note 38)	–	–	35,474	–	254	112	–	–	79	35,919
Other costs recognised under "Staff costs" (Note 38)	–	–	–	–	–	–	–	–	(33)	(33)
Financial expenses (Note 44).	7,619	339	171,036	2,431	42,817	96,178	34,086	19,747	2,046	376,299
Actuarial gains and losses										
To profit (Note 38)	2,878	551	–	–	–	–	–	–	–	3,429
To reserves	(113,255)	–	351,828	2,626	27,943	134,144	(5,791)	(23,912)	(2,080)	371,503
Members contributions	–	–	8,558	–	–	–	1,056	282	–	9,896
Payments	(12,775)	(4,970)	(458,571)	(3,062)	(54,219)	(168,499)	(18,969)	(15,187)	(7,171)	(743,423)
Translation differences	–	–	(246,774)	(9,273)	(143,112)	(334,980)	(45,566)	(23,501)	(4,539)	(807,745)
Liabilities held for sale (Note 34)	–	–	–	(2,653)	–	–	–	–	–	(2,653)
Balance at 31.12.2017	402,883	42,539	6,189,753	63,425	1,015,714	2,389,049	303,237	542,248	58,376	11,007,224

- (1) As the surplus was not recognised, the actuarial differences recognised in reserves were adjusted upwards in 2017 by EUR 5,258 thousand and in 2016 EUR 43,507 thousand in the application of the current legislation IFRIC 14: "IAS 19 - The limit on a defined benefit asset, minimum funding requirements and their interaction". Moreover, in the years 2017 and 2017, and for the same concept, the finance costs recognised were adjusted upwards by EUR 6,526 and 8,475 thousand, respectively.

The average length at the end of the year of the liability for the employee benefits described previously is:

Years	Spain		United Kingdom	United States			Brazil	
	Electricity tariff	long-service bonus		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA
Average length	17	8	21	13	13	11	14	9

The movement in the fair value of the plan assets is as follows:

Thousand euros	United Kingdom	United States			Brazil		Total
		ARHI	UIL	AVANGRID NETWORKS	ELEKTRO	NEOENERGÍA	
Fair Value at 01.01.2016	5,915,545	38,284	647,357	1,893,611	270,711	–	8,765,508
Modification of the consolidation perimeter	–	–	–	–	–	–	–
Revaluation (Note 44)	201,330	1,353	26,626	73,815	34,812	–	337,936
Actuarial gains and losses to reserves	552,312	864	20,218	38,298	16,502	–	628,194
Company contributions	182,845	493	21,757	38,313	783	–	244,191
Members contributions	10,507	–	–	–	925	–	11,432
Payments	(320,807)	(5,094)	(58,250)	(150,095)	(16,493)	–	(550,739)
Translation differences	(799,894)	1,822	37,622	97,727	68,935	–	(593,788)
Fair Value at 31.12.2016	5,741,838	37,722	695,330	1,991,669	376,175	–	8,842,734
Modification of the consolidation perimeter (Note 7)	–	–	–	–	–	370,102	370,102
Revaluation (Note 44)	160,311	1,221	26,101	73,009	38,353	13,839	312,834
Actuarial gains and losses to reserves	97,442	3,566	67,827	179,109	(2,734)	(8,293)	336,917
Company contributions	230,710	–	9,304	19,406	902	7,886	268,208
Members contributions	8,558	–	–	–	1,056	282	9,896
Payments	(461,680)	(3,062)	(46,827)	(153,102)	(18,969)	(15,187)	(698,827)
Translation differences	(224,947)	(4,825)	(90,224)	(256,222)	(51,351)	(20,511)	(648,080)
Fair Value at 31.12.2017	5,552,232	34,622	661,511	1,853,869	343,432	348,118	8,793,784

The main assumptions applied in the actuarial reports that determined the provisions needed to meet the abovementioned commitments at 31 December 2017 and 2016 are as follows:

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2017	Discount rate	Wage increase	Price kWh (euros)	Inflation	Survivorship table	Health insurance cost Pre-Medicare/medicare
Spain						
Electricity tariff ⁽¹⁾	1.64%	–	2018 0,120; 2019 0,119; 2020 0,113; 2021 0,112; 2022 0,112; [...]	–	PERMF 2000P	–
long-service bonus(1)	0.80%	1.00%	–	–	PERMF 2000P	–
United Kingdom	2.60%	3.70%	–	3.20%	Pre-retirement/Post-retirement Men: 85% AMC00/Post-retirement:90% S2PMA CMI2016 (1,50% improvement rate) Women: 85%/Post-retirement:100% S2PFA CMI2016 (1,50% improvement rate)	–
United States						
ARHI	3.80%	n.a.	–	2.00%	RP-2006 fully generational table using MP-2017	RX: 7,50%/8,50% (2018); 7,25%/8,25%(2019) ; [...] : 4,50%/4,50% (2030 onwards)
UIL	3.80%	3.50%-3.80%	–	2.00%	RP-2006 fully generational table using MP-2017	RX: 7,50%/8,50% (2018); 7,25%/8,25%(2019) ; [...] : 4,50%/4,50% (2030 onwards)
AVANGRID NETWORKS	3.63%	Based on the age and Union/ Non Union	–	2.00%	RP-2006 fully generational table using MP-2017	RX: 7,50%/8,50% (2018); 7,25%/8,25%(2019) ; [...] : 4,50%/4,50% (2030 onwards)
Brazil						
ELEKTRO	10.1%	6.60%	–	4.50%	AT – 2000 (1996 US Annuity 2000)	–
	Health plans 10.20%	n.a.	–	n.a.	AT 2000 Basic	–
NEOENERGIA	Saving benefits 9.93%	5.55%	–	4.50%	Coelba: SUSEP:BR EMSsb v.2015 (male) - 15%; Celpe:AT2000 Male; Cosern:AT2000 (40% male+60%female)-10%	–
	Risk benefits 9.59%	5.55%	–	4.50%	Coelba: AT 2000 Basic; Celpe:AT2000 Male; Cosern: AT2000 -10%	–

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2016	Discount rate	Wage increase	CPI increase	Inflation	Survivorship table	Health insurance cost Pre-Medicare/medicare
Spain						
Electricity tariff ⁽¹⁾	1.50%	–	2017 0,118 (Euro) 2018 1,30%; 2019 1,50%; 2020 1,60%; 2021 1,80%; 2022 on 2,00%	–	PERMF 2000P	–
long-service bonus ⁽¹⁾	0.80%	1.00%	-	–	PERMF 2000P	–
United Kingdom	2.90%	3.50%	–	3.00%	Pre-retirement/Post-retirement Men: 85% AMC00/Post-retirement:90% S2PMA CMI2013 (1,50% improvement rate)	-
					Women_ 85%/Post-retirement:100% S2PFA CMI2013 (1,50% improvement rate)	
United States						
ARHI	3.81%	N/A	–	2.00%	RP-2006 fully generational table using MP-2016	RX: 6,75%/8,50% (2017); 6,50%/8,00%(2018) ; [...] : 4,50%/4,50% (2028 onwards)
UIL	4.24%	3.50%-3.80%	–	2.00%	RP-2006 fully generational table using MP-2016	RX: 6,75%/8,50% (2017); 6,50%/8,00%(2018) ; [...] : 4,50%/4,50% (2028 onwards)
AVANGRID NETWORKS	4.12%	Based on the age and Union/ Non Union	–	2.00%	RP-2006 fully generational table using MP-2016	RX: 6,75%/8,50% (2017); [...]; 4,50%/4,50% (2028 on.)
Brazil						
ELEKTRO	11.03%	7.63%	–	5.00%	AT – 2000 (1996 US Annuity 2000)	-

(1) In both cases, the retirement age has been established pursuant to the Law 27/2011, of 1 August, on the upgrade, adjustment and upgrade of the Social Security system, providing for a gradual increase in the retirement age in accordance with the law.

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The most relevant figures for these commitments over the last years are the following:

Thousand euros	2017	2016	2015	2014	2013
Spain					
Present value of the obligation	(445,422)	(553,361)	(501,032)	(639,903)	(555,265)
Net asset / (Net provision)	(445,422)	(553,361)	(501,032)	(639,903)	(555,265)
Experience adjustments	7,799	4,664	25,355	5,442	15,280
United Kingdom					
Present value of the obligation	(6,189,753)	(6,261,592)	(6,272,818)	(5,884,621)	(5,055,518)
Fair value of plan assets	5,552,232	5,741,838	5,915,545	5,491,355	4,656,454
Net asset / (Net provision)	(637,521)	(519,754)	(357,273)	(393,266)	(399,064)
Experience adjustments	46,097	(17,836)	27,541	59,629	(471)
Experience adjustments arising on plan assets	97,442	552,312	(77,098)	329,368	250,978
ARHI					
Present value of the obligation	(63,425)	(72,785)	(73,133)	(73,564)	(60,777)
Fair value of plan assets	34,622	37,722	38,284	38,519	33,813
Net asset / (Net provision)	(28,803)	(35,063)	(34,849)	(35,045)	(26,964)
Experience adjustments	(975)	1,626	7,834	(1,955)	2,259
Experience adjustments arising on plan assets	3,810	864	(2,695)	1,805	1,958
UIL					
Present value of the obligation	(1,015,714)	(1,126,064)	(1,055,586)	–	–
Fair value of plan assets	661,511	695,330	647,357	–	–
Net asset / (Net provision)	(354,202)	(430,734)	(408,229)	–	–
Experience adjustments	27,026	(30,075)	182	–	–
Experience adjustments arising on plan assets	67,787	20,218	(10,620)	–	–
AVANGRID NETWORKS					
Present value of the obligation	(2,389,049)	(2,629,032)	(2,595,775)	(2,460,863)	(1,921,426)
Fair value of plan assets	1,853,869	1,991,669	1,893,611	1,824,332	1,671,768
Net asset / (Net provision)	(535,180)	(637,363)	(702,164)	(636,531)	(249,658)
Experience adjustments	(25,591)	37,797	(11,669)	(17,729)	(17,831)
Experience adjustments arising on plan assets	179,082	38,298	(95,019)	40,051	78,020
ELEKTRO					
Present value of the obligation	(303,237)	(336,323)	(206,387)	(273,740)	(248,859)
Fair value of plan assets	343,432	376,175	270,711	336,762	317,751
Net asset / (Net provision)	40,195	39,852	64,324	63,022	68,892
Experience adjustments	17,615	(15,966)	(5,980)	(3,507)	(1,827)
Experience adjustments arising on plan assets	(2,734)	16,502	(10,632)	47	(48,654)
NEOENERGIA					
Present value of the obligation	(542,248)	–	–	–	–
Fair value of plan assets	348,118	–	–	–	–
Net asset / (Net provision)	(194,130)	–	–	–	–
Experience adjustments	(7,298)	–	–	–	–
Experience adjustments arising on plan assets	(8,293)	–	–	–	–

The sensitivity at 31 December 2017 of the present value of the obligation of these commitments to changes in the discount rate:

Increase/decrease	Spain		United Kingdom	United States		AVANGRID NETWORKS	Brazil	
	Electricity tariff	long-service bonus		ARHI	UIL		ELEKTRO	NEOENERGÍA
Increase/decrease (basic points)								
+ 10	(7,019)	(339)	(116,217)	(808)	(13,568)	(25,868)	(3,244)	(5,082)
- 10	7,218	344	125,157	826	13,861	26,341	3,974	5,555
Inflation (basic points)								
+ 10	–	–	116,601	–	–	–	–	–
- 10	–	–	(113,440)	–	–	–	–	–
Wage increase (basic points)								
+ 10	–	367	–	–	2,307	2,276	730	–
- 10	–	(356)	–	–	(2,288)	(2,255)	(631)	–
Survivorship table (years)								
+ 1	–	–	231,057	–	–	–	4,125	–
Health insurance cost (basic points)								
+ 25	–	–	–	200	1,289	1,333	–	–
- 25	–	–	–	(179)	(1,230)	(1,279)	–	–
Price increase (basic points)								
+ 10	7,558	–	–	–	–	–	–	–

Category of assets

The main categories of plan assets, as a percentage of total plan assets at year end, are shown in the table below:

2017	Equity securities	Fixed income securities	Cash and cash equivalents	Others
United Kingdom	18%	41%	6%	35%
ARHI				
Retirement plan	35%	46%	–	19%
Retiree Benefits Plan	50%	47%	4%	–
UIL				
Qualified Pension Plans	53%	42%	–	5%
Postretirement Welfare Plans	69%	23%	5%	3%
AVANGRID NETWORKS				
Qualified Pension Plans	41%	32%	2%	25%
Postretirement Welfare Plans	49%	38%	2%	11%
ELEKTRO	6%	84%	–	10%
NEOENERGÍA	3%	82%	10%	6%

2016	Equity securities	Fixed income securities	Cash and cash equivalents	Others
United Kingdom	24%	51%	5%	20%
ARHI				
Retirement plan	31%	48%	1%	20%
Retiree Benefits Plan	45%	55%	-	-
UIL				
Qualified Pension Plans	54%	41%	-	5%
Postretirement Welfare Plans	72%	24%	3%	1%
AVANGRID NETWORKS				
Qualified Pension Plans	35%	37%	2%	26%
Postretirement Welfare Plans	49%	35%	3%	13%
ELEKTRO	8%	85%	-	7%

The assets associated with these plans include neither financial instruments issued by the IBERDROLA Group nor tangible nor intangible assets.

Moreover, the breakdown of assets of the plans measured at fair value by level is as follows:

Thousand euros	Value at 31.12.2017	Level 1	Level 2	Level 3
United Kingdom	5,552,232	55,522	4,774,919	721,791
ARHI	34,622	3,462	25,274	5,886
UIL	661,511	66,151	482,903	112,457
AVANGRID NETWORKS	1,853,869	185,387	1,353,324	315,158
ELEKTRO	343,432	247,272	78,988	17,172
NEOENERGÍA	348,118	3,481	302,863	41,774
Total	8,793,784	561,275	7,018,271	1,214,238

Thousand euros	Value at 31.12.2016	Level 1	Level 2	Level 3
United Kingdom	5,741,838	278,660	4,968,932	494,246
ARHI	37,722	126	32,781	4,815
UIL	695,330	3,000	655,052	37,278
AVANGRID NETWORKS	1,991,669	393,345	1,092,734	505,590
ELEKTRO	376,175	224,180	108,280	43,715
Total	8,842,734	899,311	6,857,779	1,085,644

24.b) Defined contribution plans

The active employees of IBERDROLA and employees who have retired after 9 October 1996, are members of the IBERDROLA pension plan with joint promoters, are covered by an occupational, defined-contribution retirement pension system independent of the Social Security system.

In accordance with this system and IBERDROLA's effective Collective Labour Agreement, the periodic contribution to be made is calculated as a percentage of the annual pensionable salary of each employee, except for employees joining the Company after 9 October 1996, who from 1 June 2017 are subject to a contributory system where the Company pays 56,45% and the employee 43,55% (before this date, the Company paid 55% and the employee 45%). For the ones hired after 20 July 2015 the company pays 1/3 and the employee 2/3, until the date in which the employee takes part in the Base Salary Rating (SBC). At this moment the same criteria will be applied to those employees as the ones who were hired since 9 October 1996. The respective subsidiaries finance these contributions for all their active employees under 65.

IBERDROLA's contributions in 2017 and 2016 were EUR 26,205 thousand and EUR 22,823 thousand, respectively, and are recognised under "Staff costs" heading in the Income statement.

The contribution made on behalf of SCOTTISH POWER, AVANGRID and NEONERGY employees in 2017 and 2016 is recognised under "Staff costs" in the Consolidated income statements.

Thousand euros	2017	2016
SCOTTISH POWER	10,464	8,169
AVANGRID	31,598	30,217
NEOENERGIA	2,912	–
Total	44,974	38,386

24.c) Restructuring plans

Given the interest shown by some of the employees in requesting early retirement, IBERDROLA Group offered these employees mutually agreed termination of the employment relationship Spain. IBERDROLA Group has carried out a process of individual termination contracts. At 31 December 2017, the existing provisions in this regard correspond to the following restructuring plans:

Thousand euros	31.12.2017		31.12.2016	
	Provisions	No. of contracts	Provisions	No. of contracts
2012 restructuring plan	3,396	66	10,538	180
2014 restructuring plan	54,986	309	78,904	368
2015 restructuring plan	15,717	82	21,587	94
2016 restructuring plan	12,531	63	16,831	64
2017 restructuring plan	140,934	439	–	–
Total	227,564	959	127,860	706

In addition, from 2015, The Company of the IBERDROLA Group, Iberdrola Ingeniería y Construcción, S.A.U. signed a total of 72 individual contracts terminating the employment relationship in Spain, for which the IBERDROLA Group has registered a provision of EUR 18,106 thousand at 31 December 2017.

Additionally, SCOTTISH POWER, has a provision at 31 December 2017 regarding various restructuring plans amounting to EUR 5,057 thousand. In addition, as of 31 December 2017 the allowance linked to other restructuring plans mainly in NEOENERGIA amount to EUR 15,300 thousand.

The discount to present value of the provisions is charged to “Finance cost” heading in the Income statement.

The movement in provisions for the commitments detailed in the previous section in 2017 and 2016 is as follows:

Thousand euros	2017	2016
Initial balance	146,677	177,611
Charge	172,154	26,412
Financial Cost	29	1,134
Actuarial gain and losses and other	(1,931)	(1,313)
Payments and translation differences(*)	(50,902)	(57,167)
Final balance	266,027	146,677

(*) Payments made during 2017 and 2016 amount to EUR 49,302 thousand and EUR 56,093 thousand, respectively.

The main assumptions applied in the actuarial reports that determined the provisions needed to meet the abovementioned commitments relating to the restructuring plans at 31 December 2017 and 2016 are as follows:

	2017		2016	
	Discount rate	Inflation	Survivorship table	Discount rate
Employment regulation plan	0.38%	0.70%	PERM	0.40%
Other Restructuring plans	0.45%	1.00%	F 2000P	0.50%

25. OTHER PROVISIONS

The movement and breakdown of the heading "Other provisions" in the liabilities in the Balance sheet in 2017 and 2016 is as follows:

Thousand euros	Provisions for litigation, indemnity payments and similar costs	Provision for CO 2 emissions (Note 4.q)	Provision for facility closure costs (Notes 4.r and 6.a)	Other provisions	Total
Balance at 01.01.2016	766,520	121,500	1,634,778	483,866	3,006,664
Charge or reversals for the year with a debit/credit to "Property, Plant and Equipment" (Note 4.d)	–	–	(68,806)	(9,416)	(78,222)
Charge for discount to present value (Note 44)	(1,551)	–	31,954	–	30,403
Charge for the year to income statement	57,962	55,275	–	6,565	119,802
Reversal due to excess	(46,506)	(1,873)	(5,695)	(14,048)	(68,122)
Modification of the consolidation perimeter	–	–	–	11,830	11,830
Translation differences	16,308	(8,406)	(18,713)	21,699	10,888
Payments made, transfers and other	(192,000)	–	(43,457)	(27,254)	(262,711)
Emission allowances and Green certificates	–	(112,375)	–	–	(112,375)
Balance at 31.12.2016	600,733	54,121	1,530,061	473,242	2,658,157
Charge or reversals for the year with a debit/credit to "Property, Plant and Equipment" (Note 4.d)	–	–	215,234	–	215,234
Charge for discount to present value (Note 44)	31,879	–	28,096	1,817	61,792
Charge for the year to income statement	206,650	508,885	–	58,760	774,295
Reversal due to excess	(89,489)	–	–	(4,792)	(94,281)
Modification of the consolidation perimeter (Note 7)	302,193	–	9,942	2,610	314,745
Translation differences	(42,261)	(4,944)	(59,398)	(59,606)	(166,209)
Transfers	10,228	296,624	(3,881)	(99)	302,872
Payments made and other	(61,886)	–	(4,356)	(21,991)	(88,233)
Emission allowances and Green certificates	–	(438,780)	–	–	(438,780)
Balance at 31.12.2017	958,047	415,906	1,715,698	449,941	3,539,592

The IBERDROLA Group has provisions for responsibilities arising from litigation in progress and from indemnity payments, obligations, collateral and other similar guarantees, and those aimed at covering environmental risks. These last ones have been determined on the basis of a case-by-case analysis of the polluted assets status and the cost that will have to be incurred in cleaning them.

The IBERDROLA Group also maintains provisions to meet a series of costs needed for dismantling work at its nuclear and thermal power plants, its wind farms, and at other facilities.

The cost arising from dismantling obligations is recalculated on a regular basis to incorporate to the estimate of future costs our experience of the reasonableness of provisions of dismantling events, or to include new statutory or regulatory requirements.

The detail of provision for plants closure costs is as follows:

Thousand euros	31.12.2017	31.12.2016
Thermal power plants	80,123	66,920
Nuclear power plants	590,023	519,670
Wind-powered farms and other alternative stations	853,387	754,560
Combined cycle power plant	154,954	146,843
Other facilities	37,211	42,068
Total	1,715,698	1,530,061

The amount related to nuclear plants covers the costs in which the plant operator will incur from the end of its useful life until ENRESA (Note 4.y) takes control of them.

The discount rates (minimum and maximum range) before taxes of the main countries in which the IBERDROLA Group used in the present value of the operating provisions are:

Country	Currency	Discount rate 2017		Discount rate 2016	
		5 years	30 years	5 years	30 years
Spain	Euro	0.37%	2.84%	0.26%	2.61%
United Kingdom	Sterling Pound	0.72%	1.76%	0.47%	1.87%
United States	US dollar	2.21%	2.74%	1.93%	3.07%

The estimated dates on which the IBERDROLA Group considers that it will have to meet the payments relating to the provisions included in this caption of the Consolidated statement of financial position at 31 December 2017 are as follows:

Thousand euros	
2018	586,237
2019	144,645
2020	48,746
2021 on	2,759,964
Total	3,539,592

26. BANK BORROWINGS AND OTHER FINANCIAL LIABILITIES – LOANS AND OTHERS

The detail of the bank borrowings pending of amortization at 31 December 2017 and 2016 stand at:

	Borrowings at 31 December 2017 and maturing in							
		Short term		Long term				
Thousand euros	Balance at 31.12.2017 (*)	2018	2019	2020	2021	2022	2023 and following	Total long term
Euros								
Financial leases	62,613	2,044	2,043	2,044	2,045	2,045	52,392	60,569
Debentures and bonds	17,713,790	3,433,833	1,214,088	1,779,269	1,214,524	2,011,035	8,061,041	14,279,957
Other financing transactions	5,486,334	528,585	932,592	2,290,352	474,598	623,023	637,184	4,957,749
Unpaid accrued interest	264,594	264,594	–	–	–	–	–	–
	23,527,331	4,229,056	2,148,723	4,071,665	1,691,167	2,636,103	8,750,617	19,298,275
Foreign currency								
US dollars	5,744,380	1,078,307	398,758	578,907	175,897	306,610	3,205,901	4,666,073
Sterling Pound	2,613,166	239,555	46,093	46,095	382,168	44,598	1,854,657	2,373,611
Brazilian reals	4,617,130	1,529,724	639,776	925,103	493,172	432,907	596,448	3,087,406
Others	43,925	3,551	2,953	3,163	3,389	3,633	27,236	40,374
Unpaid accrued interest	144,566	144,566	–	–	–	–	–	–
	13,163,167	2,995,703	1,087,580	1,553,268	1,054,626	787,748	5,684,242	10,167,464
Total	36,690,498	7,224,759	3,236,303	5,624,933	2,745,793	3,423,851	14,434,859	29,465,739

(*) As at 31 December 2017, financial debt includes EUR 833,417 thousand from drawdowns on credit lines and credit facilities, and EUR 2,026,949 thousand from issues of domestic promissory notes (USCP) and the Euro Commercial Paper (ECP).

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Thousand euros	Balance at 31.12.2016 (*)	Borrowings at 31 December 2016 and maturing in						
		Short term			Long term			
		2017	2018	2019	2020	2021	2022 and following	Total long term
Euros								
Financial leases	64,403	1,986	1,985	1,985	1,985	1,985	54,477	62,417
Debentures and bonds	16,530,475	2,683,621	1,666,937	1,537,720	1,793,616	1,151,514	7,697,067	13,846,854
Other financing transactions	4,860,516	613,332	210,201	2,014,804	931,899	328,536	761,744	4,247,184
Unpaid accrued interest	274,405	274,405	–	–	–	–	–	–
	21,729,799	3,573,344	1,879,123	3,554,509	2,727,500	1,482,035	8,513,288	18,156,455
Foreign currency								
US dollars	5,431,403	483,493	445,128	346,032	708,460	302,321	3,145,969	4,947,910
Sterling Pound	2,984,923	314,449	199,211	47,969	47,972	338,197	2,037,125	2,670,474
Brazilian reals	879,500	192,501	216,738	73,358	89,449	87,435	220,019	686,999
Others	51,088	3,874	3,575	3,367	3,347	3,586	33,339	47,214
Unpaid accrued interest	143,969	143,969	–	–	–	–	–	–
	9,490,883	1,138,286	864,652	470,726	849,228	731,539	5,436,452	8,352,597
Total	31,220,682	4,711,630	2,743,775	4,025,235	3,576,728	2,213,574	13,949,740	26,509,052

(*) As at 31 December 2016, financial debt includes EUR 710,852 thousand from drawdowns on credit lines and credit facilities, and EUR 1,454,416 thousand from issues of domestic promissory notes and the Euro Commercial Paper (ECP).

The borrowings previously mentioned refer to the amounts drawn down and outstanding at 31 December 2017 and 2016.

Significant transactions carried out by IBERDROLA during 2017 are as follows:

2017						
Lessor	Operation	Millions of euros	Currency	Coupon	Extension	Maturity
Main new financing transactions						
AVANGRID Inc	Green bonds	600	USD	3.15%	-	7 years
COELBA / CELPE	Loan 4131 ⁽¹⁾	235	USD	-	-	3 years
COSERN	Infrastructure debentures	370	BRL	IPCA+4.7%	-	5/7 years
ELEKTRO	Promissory notes	350	BRL	105% CDI	-	1 year
	Loan 4131 ⁽¹⁾	50	USD	-	-	3 years
Iberdrola S.A.	Bilateral loan ⁽²⁾	350	EUR	-	option +1 year	4 years
Iberdrola Financiación, S.A.U.	Bilateral loan ⁽²⁾	600	EUR	-	option +1 year	3 years
	Bilateral loan	300	EUR	-	-	5 years
	Bilateral loan	100	EUR	-	-	18 months
	BEI loan	500	EUR	-	-	7 years
	Bilateral green loan	500	EUR	-	option 6 + 6 months	18 months
Iberdrola Finanzas, S.A.U.	Private issuance ⁽¹⁾	1,000	NOK	2.70%	-	10 years
	Extension	150	EUR	Euribor 3m+0.67%	-	7 years
	Extension	50	EUR	1.67%	-	12 years
	Green bonds	1,000	EUR	1.00%	-	8 years
	Green bonds	750	EUR	1.25%	-	10 years
	Private issuance	300	EUR	1.62%	-	12 years
	Private issuance	60	EUR	1.78%	-	13 years
	Private issuance	50	EUR	1.67%	-	12 years
	Green Private issuance	100	EUR	Euribor 3m+0.67%	-	7 years
Iberdrola International, B.V.	Hybrid Green bonds	1,000	EUR	1.88%	-	Perpetual
Itapebí Geração de Energia, S.A.	Debentures 476	100	BRL	119.2% CDI	-	5 years
Lagoa I, S.A.	BEI loan	330	BRL	-	-	16 years
COELBA	Loan 4131 ⁽¹⁾	115	USD	-	-	3 years
CELPE	Loan 4131 ⁽¹⁾	90	USD	-	-	3 years
ELEKTRO	Loan 4131 ⁽¹⁾	110	USD	-	-	3 years
Rochester Gas and Electric Corp.	Bond market US	300	USD	3.10%	-	10 years
Termopernambuco.S.A.	Debentures 476	200	BRL	118.4% CDI	-	5 years
Main transaction for extending existing financing						
Iberdrola S.A.	Syndicated loan	2,331	EUR	-	+1 year	5 years
	Syndicated loan	1,856	EUR	-	+1 year	5 years
	Syndicated loan	500	EUR	-	+1 year	5 years
Iberdrola Financiación, S.A.U.	Syndicated loan	900	EUR	-	+1 year	3 years
	Bilateral loan	75	EUR	-	+1 year	3 years
	Bilateral green loan	500	EUR	-	+6 months	18 months

(1) Currency swaps to company currency.

(2) Reconfiguration, does not involve entry of funds.

The most significant financial transactions performed by the IBERDROLA Group during the year 2016 have been the following:

2016						
Lessor	Operation	Millions of euros	Currency	Coupon	Extension	Maturity
Main new financing transactions						
Avangrid, Inc.	Syndicated loan	1,500	USD	-	option 1 +1 year	5 years
	Commercial paper program	1,000	USD	-	-	-
ELEKTRO	BEI loan ⁽¹⁾	50	EUR	-	-	8 years
Iberdrola Distribución Eléctrica S.A.U.	BEI loan ⁽¹⁾	325	EUR	-	-	7 years
Iberdrola Financiación, S.A.U.	BEI loan	200	EUR	-	-	6 years
Iberdrola Finanzas, S.A.U.	Green bond	750	EUR	1.00%	-	8 years
Iberdrola International, B.V.	Green bond	1,000	EUR	1.13%	-	10 years
	Green bond	700	EUR	0.38%	-	9 years
	Private issuance	200	EUR	Euribor 3m+0.35%	-	2 years
	Private issuance	50	EUR	Euribor 6m+0.75%	-	7 years
Iberdrola México, S.A. de C.V.	Bank loan ⁽¹⁾	300	USD	-	-	2 years
Iberdrola S.A.	Syndicated loan	500	EUR	-	option 1 +1 year	5 years
	Bilateral loans	49.5	EUR	-	option 1 +1 year	3 years
New York State Electric & Gas Corp.	Bond 144A	500	USD	3.25%	-	10 years
Pier II Quecholac Felipe Ángeles, S.A. de C.V.	Bank loan	560.5	PESOS MXN	-	-	7 years
	Bank loan	560.5	PESOS MXN	-	-	13 years
Main transaction for extending existing financing						
Iberdrola S.A.	Syndicated loan	2,406	Euro	-	+1 year	5 years
	Syndicated loan	1,837	Euro	-	+1 year	5 years
	Leasing	91.8	Euro		+11.5 years	18.5 years
	Bilateral loans	150	Euro	-	+1 year	3 years
Iberdrola Financiación, S.A.U.	Bilateral loan	600	Euro	-	+1 year	3 years

(1) Disposal of financing executed in 2015 does not result in new debt.

Certain Group investment projects, mainly related to renewable energies, have been financed specifically through loans that include covenants such as the compliance with certain financial ratios or the obligation to pledge in benefit of creditors the shares of the project-companies (Note 47). The fair value of real property investments in operation fully amortised intangible assets at 31 December 2017 and 2016 amounted to EUR 436 and 166 thousand, respectively. In some of these loans, the establishment of a reserved deposit for the fulfilment of the obligations under the loan agreements is required, being the default ratios and/or the security deposit not reaching the agreed amount, the reason to preclude the dividends in the year in which they had not been fulfilled.

In relation to credit ratings covenants, IBERDROLA has arranged funding with the European Investment Bank, amounting to EUR 1,323 million and EUR 1,349 million at 31 December 2017 and 2016, respectively, which may have to be renegotiated or shored up with additional guarantees in the event of a significant rating downgrade. Also, at 31 December 2017 and 2016, the IBERDROLA Group has arranged loans and credits amounting to EUR 1,320 and 1,381 million, respectively, whose cost would be revised as a result of the decline in its credit rating. However, in both cases, the increase in cost would not be significant.

Financial entities have facilitated IBERDROLA and its subsidiaries loans and other agreements with a maturity that can be affected by a change of control being; the most significant ones at 31 December 2017 were the following ones:

- There are loans subject to an anticipated maturity date or that may require additional guarantees if a change of corporate control takes place in a public offering. In total they account for EUR 2,039,499 thousand approximately, except in the case when the change of control cannot be prejudicial.
- Moreover, approximately BRL 5,668,987 thousand (equivalent to EUR 1,442,843 thousand) in issues and BRL 12,164,196 thousand (equivalent to EUR 3,096,048 thousand) in loans corresponding to NEONERGIA would be affected by a change of control in the issuer, except for in the case when it takes place as a consequence of reorganizations within the Group or is allowed by lenders.
- On the other hand, approximately EUR 13,635,472 thousand corresponding to shares issued in the Euromarket will be subject to an anticipated maturity date when a change of control takes place if the credit rating of IBERDROLA drops below the investment grade, or if it is already below it, it drops a notch, provided that the rating agency has downgraded the rating due to a change of control.
- Lastly, approximately EUR 644,468 thousand and USD 1,700,000 thousand (equivalent to EUR 1,429,172 thousand) corresponding to issuances and loans by the IBERDROLA Group would be subject to an anticipated maturity if a change of control of the lender takes place.

At 31 December 2017 and 2016, IBERDROLA was fully up to date on all its financial debt payments. None of the amounts in the table above matured prior to 31 December 2017.

At the date of authorization for issue of these Financial statements, neither IBERDROLA nor any of its material subsidiaries were in breach of their financial commitments or any kind of obligation that could trigger the early redemption of their financial undertakings.

The average cost of debt of the IBERDROLA Group in 2017 and 2016 was 2.91% and 3.17%, respectively.

27. DERIVATIVE FINANCIAL INSTRUMENTS

The breakdown of items contributing to derivatives at 31 December 2017 and 2016, is as follows:

	2017				2016			
	Assets		Liabilities		Assets		Liabilities	
Thousand euros	Short term	Long term	Short term	Long term	Short term	Long term	Short term	Long term
INTEREST RATE HEDGES	42,810	104,531	31,367	(69,300)	31,449	181,928	40,545	(125,931)
Cash flow hedges	7,264	1,436	(11,169)	(62,034)	–	–	(10,638)	(117,934)
Interest rate swaps	7,264	1,436	(11,169)	(62,034)	–	–	(10,609)	(117,934)
Collar	–	–	–	–	–	–	(29)	–
fair value hedges	35,546	103,095	42,536	(7,266)	31,449	181,928	51,183	(7,997)
Interest rate swaps	34,354	96,959	42,536	–	31,449	173,705	49,754	–
Others	1,192	6,136	–	(7,266)	–	8,223	1,429	(7,997)
EXCHANGE RATE HEDGES	502,059	301,682	(168,028)	(141,488)	318,110	554,748	(383,536)	(174,555)
Cash flow hedges	180,447	56,721	(84,465)	(28,504)	223,638	92,717	(51,167)	(49,130)
Interest rate swaps	(4,051)	43,627	(58,008)	(23,053)	63,364	53,170	6,436	(44,525)
Currency forwards	184,498	13,094	(26,457)	(5,451)	160,274	39,547	(57,603)	(4,605)
fair value hedges	178,666	244,961	25,435	(112,984)	30,152	462,031	29,809	(76,031)
Interest rate swaps	178,651	244,439	25,435	(112,984)	30,152	460,988	29,792	(76,031)
Others	15	522	–	–	–	1,043	17	–
Fair net investment abroad	142,946	–	(108,998)	–	64,320	–	(362,178)	(49,394)
Interest rate swaps	(3,346)	–	(28,156)	–	(3,804)	–	(4,128)	(42,886)
Currency forwards	146,292	–	(80,842)	–	68,124	–	(341,075)	(6,508)
Collar	–	–	–	–	–	–	(16,975)	–
RAW MATERIALS HEDGES	120,806	35,111	(65,261)	(11,654)	195,991	66,921	(236,756)	(38,082)
Cash flow hedges	120,806	35,111	(65,261)	(11,654)	195,991	66,921	(236,756)	(38,082)
Futures	120,806	35,111	(65,261)	(11,654)	195,991	61,095	(236,756)	(38,082)
Others	–	–	–	–	–	5,826	–	–
NO HEDGE DERIVATIVES	356,773	107,418	(382,979)	(100,565)	949,894	127,670	(914,321)	(101,347)
Treasury shares derivatives	–	12,678	(2)	(12,678)	1	7,113	–	(7,113)
Swaps over treasury shares	–	12,678	(2)	(12,678)	1	7,113	–	(7,113)
Interest rate derivatives	3,017	–	(12,255)	–	22,429	188	(7,893)	(183)
Currency forwards	3,017	–	(12,255)	–	22,429	82	(7,893)	(66)
Interest rate swaps	–	–	–	–	–	106	–	(117)
Derivatives on commodities	353,756	92,119	(370,126)	(83,467)	927,464	117,257	(904,175)	(86,960)
Futures	353,751	90,050	(370,114)	(83,467)	924,572	117,257	(900,825)	(86,960)
Others	5	2,069	(12)	–	2,892	–	(3,350)	–
Interest rate derivatives	–	2,621	(596)	(4,420)	–	3,112	(2,253)	(7,091)
Interest rate swaps	–	1,831	1,525	–	–	2,097	(131)	6
Others	–	790	(2,121)	(4,420)	–	1,015	(2,122)	(7,097)
NETTED OPERATIONS (Note 16)	(299,851)	(4,041)	299,851	4,041	(801,579)	(22,085)	801,579	22,085
Total	722,597	544,701	(285,050)	(318,966)	693,865	909,182	(692,489)	(417,830)

The maturity schedule of the notional underlyings of derivative instruments contracted by IBERDROLA Group and outstanding at 31 December 2017, is as follows:

Thousand euros	2018	2019	2020	2021	2022 and following	Total
INTEREST RATE HEDGES	1,157,334	258,400	1,630,956	671,664	5,384,863	9,103,217
Cash flow hedges	7,334	7,556	65,956	86,164	4,044,363	4,211,373
Interest rate swaps	7,334	7,556	65,956	86,164	4,044,363	4,211,373
fair value hedges	1,150,000	250,844	1,565,000	585,500	1,340,500	4,891,844
Interest rate swaps	1,150,000	194,794	1,565,000	575,000	1,303,000	4,787,794
Others	–	56,050	–	10,500	37,500	104,050
EXCHANGE RATE HEDGES	11,033,942	1,601,465	531,740	1,049,507	1,002,711	15,219,365
Cash flow hedges	5,444,413	123,363	45,726	44,213	570,659	6,228,374
Interest rate swaps	498,804	–	–	–	495,235	994,039
Currency forwards	4,945,609	123,363	45,726	44,213	75,424	5,234,335
fair value hedges	997,905	1,478,102	486,014	1,005,294	432,052	4,399,367
Interest rate swaps	997,905	1,474,502	486,014	1,005,294	432,052	4,395,767
Others	–	3,600	–	–	–	3,600
Fair net investment abroad	4,591,624	–	–	–	–	4,591,624
Interest rate swaps	46,520	–	–	–	–	46,520
Currency forwards	4,545,104	–	–	–	–	4,545,104
RAW MATERIALS HEDGES	1,855,761	268,845	65,244	23,121	77,938	2,290,909
Cash flow hedges	1,855,761	268,845	65,244	23,121	77,938	2,290,909
Futures	1,855,761	268,845	65,244	23,121	77,938	2,290,909
NO HEDGE DERIVATIVES	4,023,475	626,554	62,140	121,295	1,154,896	5,988,360
Treasury shares derivatives	33	–	–	–	1,000,000	1,000,033
Treasury shares derivatives	33	–	–	–	1,000,000	1,000,033
Interest rate derivatives	356,836	–	–	–	–	356,836
Currency forwards	356,836	–	–	–	–	356,836
Derivatives on commodities	3,636,606	576,554	62,140	46,295	154,896	4,476,491
Futures	3,569,686	544,500	62,140	46,295	154,896	4,377,517
Others	66,920	32,054	–	–	–	98,974
Interest rate derivatives	30,000	50,000	–	75,000	–	155,000
Interest rate swaps	–	50,000	–	–	–	50,000
Others	30,000	–	–	75,000	–	105,000
Total	18,070,512	2,755,264	2,290,080	1,865,587	7,620,408	32,601,851

The information presented in the table above includes notional amounts of derivative financial instruments arranged in absolute terms (without offsetting assets and liabilities or purchase and sale positions) and, therefore, do not constitute the risk assumed by IBERDROLA Group since this amount only records the basis on which the calculations to settle the derivative are made.

The heading "Finance expense" in the 2017 and 2016 Consolidated income statements includes EUR thousand 127,358 and EUR 105,759 thousand, respectively, in connection with derivatives linked to financial indices that fail to meet the conditions to qualify as hedging instruments or, having met the conditions, but as explained in Notes 4.I and 44 are partially ineffective. The "Finance income" heading in the Consolidated income statements for the same years also includes EUR 122,244 thousand and EUR 168,332 thousand, respectively, for the abovementioned items (Note 43).

The nominal value of the liabilities for which foreign exchange hedges (Note 5) have been arranged is as follows:

2017							
Hedge rate	Thousand US dollars	Thousand Japanese Yens	Thousand Norwegian Kroner	Thousand Mexican Pesos	Thousand Swiss Francs	Thousand Sterling Pound	Thousand euros
Cash flow	500,000	–	1,450,000	1,500,000	–	–	–
Fair value	3,851,604	28,000,000	–	–	–	700,000	76,306

2016						
Hedge rate	Thousand US dollars	Thousand Japanese Yens	Thousand Norwegian Kroner	Thousand Mexican Pesos	Thousand Swiss Francs	Thousand Sterling Pound
Cash flow	705,000	–	450,000	1,500,000	250,000	–
Fair value	2,283,266	28,000,000	–	–	–	700,000

The nominal value of the most significant liabilities for which interest rate hedges (Note 5) have been arranged is as follows:

2017			
Hedge rate	Thousand euros	Thousand Sterling Pound	Thousand Brazilian reals
Cash flow	338,611	225,000	–
Fair value	4,891,844	–	348,574

2016		
Hedge rate	Thousand euros	Thousand Sterling Pound
Cash flow	145,672	225,000
Fair value	5,323,844	–

28. STATEMENT OF CASH FLOWS

The 2017 transactions of the liabilities classified as financing activities in the Cash flow statement excluded from the equity sub-headings, is the following:

Thousand euros	Cash flow				Other non-cash changes				Modification of the consolidation perimeter (Note 7)	Liabilities held for sale (Note 34)	Transfers and other	Balance at 31.12.2017
	Balance at 01.01.2017	Issues and disposals ⁽¹⁾	Redemptions/charge instalments paid	Interest payments	Accrual of interest	Foreign currency exchange ⁽²⁾	Change in fair value and others	Accrual of amortisable costs				
Financial leases	167,467	–	(26,853)	(4,100)	2,506	(11,590)	–	–	–	–	–	127,430
Debentures and bonds	24,216,780	5,656,673	(3,336,573)	–	–	(1,149,075)	(95,415)	53,762	1,070,943	(30,617)	(133,619)	26,252,859
Other financing transactions	6,213,210	7,930,778	(7,064,800)	–	–	(389,275)	30,534	10,690	2,788,035	–	299,672	9,818,844
Unpaid accrued	418,374	–	–	(1,093,571)	1,072,649	6,682	–	–	–	–	5,026	409,160
Derivatives on the company's own shares with a physical settlement (Note 21) ⁽³⁾	204,851	688,499	(539,400)	–	–	–	–	–	–	–	(271,745)	82,205
Total Bank borrowings	31,220,682	14,275,950	(10,967,626)	(1,097,671)	1,075,155	(1,543,258)	(64,881)	64,452	3,858,978	(30,617)	(100,666)	36,690,498
Derivative financial instruments associated with financing	(706,674)	49,722	85,059	120,364	(144,320)	224,434	(37,912)	–	37,224	–	(185,585)	(557,688)
Total	30,514,008	14,325,672	(10,882,567)	(977,307)	930,835	(1,318,824)	(102,793)	64,452	3,896,202	(30,617)	(286,251)	36,132,810

(1) Net emissions of expenses.

(2) Includes differences in exchange rates.

(3) In cash-flows from financing activities in the financial statements for the year ended on 31 December 2017, issues and disposals and reimbursements/instalments paid related to derivatives on treasury shares with physical settlement does not report issues and disposal changes of financial debt because its effect is included in treasury shares changes.

29. OTHER NON-CURRENT PAYABLES AND CURRENT LIABILITIES

The detail of “Non-current payables ” in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Long term deposits and guarantees (Note 14.c.)	157,912	134,781
Concessional guarantee of the sufficiency tariff in Brazil (Note 12)	–	68,933
Payables to group companies and associates	356	32,735
Others	847,527	500,820
Total	1,005,795	737,269

The detail of “Current payables ” in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Short-term deposits and guarantees (Note 14.c.)	167,507	135,340
Concessional guarantee of the sufficiency tariff in Brazil (Note 12)	–	97,475
Payables to group companies and associates	111,994	224,255
Short-term intangible trade	869,597	637,951
Staff pending remuneration	231,044	210,577
Others	485,805	486,178
Total	1,865,947	1,791,776

30. DEFERRED TAXES AND CORPORATE INCOME TAX

As in 2016, in 2017 IBERDROLA as the parent company of the Group 2/86, filed a consolidated annual tax return in Spain filed a consolidated annual tax return in Spain. The Group will continue to be taxed under this tax regime indefinitely for as long as the related requirements are met and the Group does not expressly waive application of the regime by filing the related taxpayer registration form.

Without prejudice to this special tax regime in Spain applicable to IBERDROLA and certain of its consolidated Spanish subsidiaries, other Spanish and foreign subsidiaries file individual or aggregated Income Tax returns, in accordance with the legislation applicable to them.

The difference between the tax charge allocated to 2017 and 2016 and the tax payable for those years, recorded under “Deferred tax assets” and “Deferred tax liabilities”, as appropriate, in the Consolidated statements of financial position at 31 December 2017 and 2016, arose as a result of the temporary differences relating to the difference between the carrying amount of certain assets and liabilities and their tax bases. The main differences are:

- Temporary differences generated from the measurement of available-for-sale investments, derivatives and assets that have been measured at their fair value in business combinations for which the difference between the tax base and the carrying amount is not deductible for tax purposes.

- Temporary differences arising from the application of profits from the free amortization or accelerated amortization compared to that recognised in the accounts.
- Temporary differences arising from the non-deductibility for tax purposes of certain liabilities, including those recognised in relation to pension liabilities and to employment regulation plans (Notes 4.o, 4.p and 24).
- Temporary differences associated with the tax treatment of the financial goodwill generated in the acquisition of securities relating to holdings in non-resident entities.

The breakdown between current and deferred Income Tax is as follows:

Thousand euros	31.12.2017	31.12.2016
Current taxes	799,440	603,501
Deferred taxes	(2,265,046)	301,118
Expense/(income) from continuing and discontinued activities (Note 34)	(1,465,606)	904,619

The detail of "Deferred tax assets" and "Deferred tax liabilities" in the Consolidated statement of financial position is as follows:

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Thousand euros	Balance at 01.01.2016	Modification of the consolidation perimeter	Translation differences	Credit (charge) to income statement	Credit (charge) to Unrealised gains/(losses) reserve	Credit (charge) to "Other reserves"	Balance at 31.12.2016	Modification of the consolidation perimeter (Note 7)	Differences in exchange rates	Credit (charge) to income statement	Credit (charge) to Unrealised gains/(losses) reserve	Credit (charge) to "Other reserves"	Balance at 31.12.2017
Deferred tax assets:													
Measurement of financial instruments Derivatives	584,421	–	(4,993)	(28,634)	(4,147)	–	546,647	384	(43,754)	31,866	(231,531)	–	303,612
Balance sheet revaluation 16/2012	1,712,477	–	–	(152,273)	–	–	1,560,204	–	–	(120,181)	–	–	1,440,023
Pensions and similar commitments	686,736	–	12,123	33,101	–	15,420	747,380	102,884	(178,588)	(35,283)	–	(121,449)	514,944
Allocation of non-deductible negative goodwill arising on consolidation	68,737	–	–	(1,856)	–	–	66,881	–	–	(1,856)	–	–	65,025
Provision for facility closure costs	56,064	–	356	437	–	–	56,857	–	(1,767)	19,347	–	–	74,437
Tax credits for losses and deductions	2,041,321	–	97,944	360,133	–	–	2,499,398	–	(242,949)	(587,448)	–	–	1,669,001
Other deferred tax assets	1,479,752	446	19,600	(19,011)	–	–	1,480,787	73,217	13,970	(252,643)	–	–	1,315,331
Total	6,629,508	446	125,030	191,897	(4,147)	15,420	6,958,154	176,485	(453,088)	(946,198)	(231,531)	(121,449)	5,382,373

Thousand euros	Balance at 01.01.2016	Modification of the consolidation perimeter	Translation differences	Credit (charge) to income statement	Credit (charge) to Unrealised gains/(losses) reserve	Balance at 31.12.2016	Modification of the consolidation perimeter (Note 7)	Differences in exchange rates	Credit (charge) to income statement	Credit (charge) to Unrealised gains/(losses) reserve	Balance at 31.12.2017
Deferred tax liabilities:											
Available-for-sale assets	–	–	–	–	–	–	–	–	–	306	306
Measurement of financial instruments Derivatives	543,812	–	(16,087)	16,887	10,937	555,549	–	(20,165)	(2,821)	(188,315)	344,248
Accelerated amortisation	6,016,951	–	183,652	528,145	–	6,728,748	–	(744,049)	(1,595,784)	–	4,388,915
Overprice in business combinations	4,560,656	76,894	84,761	107,233	–	4,829,544	432,330	(437,438)	(1,558,693)	–	3,265,743
Other deferred tax Liabilities	775,058	–	11,012	(159,250)	–	626,820	20,586	(34,253)	(53,946)	–	559,207
Total	11,896,477	76,894	263,338	493,015	10,937	12,740,661	452,916	(1,235,905)	(3,211,244)	(188,009)	8,558,419

At 31 December 2017 and 2016, there were no significant unrecognised deferred tax assets or other significant tax credits at the IBERDROLA Group companies.

Moreover, based on the information available at the year end, including the historic levels of profits and the IBERDROLA Group's results projections for the coming years, it is considered that sufficient positive taxable bases will be generated to allow the recovery of the deferred taxation assets booked at 31 December 2017.

Income Tax expense breakdown for 2017 and 2016 is calculated as follows:

Thousand euros	31.12.2017	31.12.2016
Profit for the year from continuing activities before tax	2,025,850	3,878,662
Profit for the year from discontinued activities before tax) (Note 34)	(321,490)	(131,201)
Consolidated profit before tax	1,704,360	3,747,461
Non-deductible expenses and non-computable income:	–	–
- from individual companies	(145,236)	(46,208)
- from consolidation adjustments	417,238	1,662
Profit of companies accounted for using the equity method	28,405	(48,723)
Adjusted accounting result	2,004,767	3,654,192
Gross tax calculated at the tax rate in force in each country (a)	645,715	1,030,738
Tax credits deductions due to reinvestment of extraordinary profits and other tax credits	(48,889)	(41,172)
Adjustment of prior years Income Tax expense (b)	(47,757)	(74,901)
Net movement in provisions for litigation, indemnity payments, similar costs and other provisions (c)	71,065	11,551
Adjustment of deferred tax assets and liabilities (d)	(2,065,500)	(82,682)
Taxes related to non-distributed earnings	(12,206)	56,264
Others	(8,034)	4,821
Income Tax from continuing operations	(1,397,127)	935,157
Income Tax from discontinued operations (Note 34)	(68,479)	(30,538)
Income Tax	(1,465,606)	904,619

- The different foreign companies of IBERDROLA Group calculate the Income Tax expense and the resulting quotas related to the taxes applicable in accordance with the legislation and on the basis of the tax rates in force in each country. Also, the subsidiaries subject to the Basque Country tax legislation apply the tax rate in force in each historical territory.
- In 2017 and 2016 the main amount EUR 55,390 and 54,795 thousand correspond to the obligation of the income and expense temporal imputation criteria, derived from the Supreme Courts' case law, related to the returns, in execution of sentence, of amounts related to taxes and other concepts.
- The amount registered in 2015 is mainly due to the reassessment made by Iberdrola Group, of the necessary provision to cover the potential risk derived from several issues after the favourable rulings in the period.
- The revenue recorded for this concept in 2016 mainly reflects the effect arising from the US Tax reform. On 22 December 2017 the US tax reform was passed. The new law establishes the following:
 - reduction of corporate income tax to 21%, effective as of 2018.
 - elimination of the Alternative Minimum Tax (AMT).
 - Limit of negative tax bases at 90% rate;

By virtue of the above, deferred tax assets and liabilities have been valued at the new tax rate. A debit of EUR 2,025,508 thousand has been recognised in heading "Income Tax" in the consolidated financial statements for 2017. Likewise, with regards to deferred tax assets previously charged to equity a charge of EUR 90,772 thousand has been recognised.

The income recorded for this concept in 2016 mainly reflects the effect arising from the recalculation of prepaid and deferred taxes of UK's Group companies due to rate reduction from 18% to 17% (EUR 96,894 thousand) and the negative effect from the application in Spain of the Royal Decree-law 3/2016, of 2 December, by which deferred tax assets have been regularized amounting to EUR 29,843 thousand. Likewise, during 2016 deferred tax assets amounting to EUR 38,083 thousand have been registered when its recovery has been confirmed.

In general terms, the IBERDROLA companies keep 2014 and subsequent fiscal years open to fiscal inspection in relation to the principal taxes in which they are subject to, with the exception to the Income Tax which is open for 2012 and subsequent fiscal years. Nevertheless, the aforementioned period may vary for those entities of the Group subject to other tax legislations.

On 11 March 2014, the State Tax Administration Agency initiated a general tax audit of the taxes of Fiscal Group 2/86. The years and taxes that are being inspected are the Income Tax for the years 2008 to 2011; the Value Added Tax of the years 2010 and 2011; withholdings on personal income taxes from May 2009 to December 2011 and non-resident withholdings for years 2010 and 2011.

On December of 2015, inspection minutes have been issued regarding Income tax for the 2008 to 2011 year-ends (specific to transfer pricing), and in accordance (with zero quota) with respect to withholding tax on Personal Income Tax, as well as withholding tax on investment income and on account of the imposition of non-residents.

Agreement and disagreement minutes were signed in the first half of 2016 in connection with Corporate Income Tax for the years 2008 to 2011 and in connection with Value-Added Tax for the years 2010 and 2011, and the settlement agreements confirming the disagreement minutes were received.

The major adjustments in the agreement minutes concern the inclusion of IBERDROLA DISTRIBUCIÓN in Tax Group 2/86 for Corporate Income Tax in respect of the years 2008 and 2009 following the Supreme Court Rulings of November 2014.

Minutes with agreements and conformity minutes were paid during the first six months of 2016, and did not have any material effects on equity in the Consolidated income statement, as provision had already been made for the liabilities in the financial statements of previous years.

The main adjustments in the settlement agreements arising from the disagreement minutes signed in the first half of 2016 are as follows:

- Measurement of the financial goodwill liable for fiscal amortisation due to the acquisition of SCOTTISH POWER.
- Elimination of the dividend exemption of SCOTTISH POWER as the inspectors understood this is incompatible with an adjustment in the value of the portfolio due to coverage of a net investment.
- Discrepancies in tax consolidation criteria.
- Observation of circumstances established in Article 15.1 of Spain's General Tax Law in a debtor-swap operation in a number of bond issues.

With respect to the minutes of disagreement signed, and its settlement agreements, the IBERDROLA Group considers that its actions concerning these issues are in accordance with reasonable interpretations of the regulations applicable, and has thus submitted economic-administrative claims in due time and format to the Central Economic Administrative Court against the settlement agreements confirming the minutes of disagreement, and has requested automatic suspension of execution of the settlements through the furnishing of the necessary bank guarantees.

On the date these Consolidated Financial Statements were drawn up, all claims are pending a decision by the Central Administrative Economic Court, as the Company has submitted to said Court the corresponding allegations of the principle claims.

The IBERDROLA Group's directors and, where appropriate, their tax consultants consider that the current inspection process will not give rise to additional liabilities of significance for the IBERDROLA Group at 31 December 2017.

In addition to the above mentioned actions, other inspections have taken place at different times, both from the same tax authorities and from other tax authorities, which have resulted in the initiation of inspection reports to several Group companies, some of which have been signed in disagreement and are appealed. The administrators of the IBERDROLA Group and its tax advisors estimate that the amounts resulting from such actions or resources will not produce additional liabilities of consideration with respect to those already recorded.

31. TAX RECEIVABLES AND PAYABLES

The breakdown of the headings "Income tax receivables/payables" and "Other tax receivables/payables" on the asset and liability sides, respectively, in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Public Administrations receivables		
Public Treasury, Corporate income tax receivables	546,304	503,403
Public Treasury, VAT refundable	193,359	79,505
Tax withholdings and prepayments	76,136	44,046
Public Treasury, other Receivables	49,087	19,828
Total	864,886	646,782
Public Administrations Payables		
Public Treasury, Corporate income tax Payables	259,633	237,123
Public Treasury, VAT payable	182,294	103,463
Public Treasury, withholdings payable	60,698	54,145
Public Treasury, other payables	717,298	736,408
Social Security Agencies, payables	28,636	20,477
Total	1,248,559	1,151,616

32. TRADE PAYABLES

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Suppliers	3,311,243	3,284,406
Service payables	1,696,247	1,799,671
Trade payables	211,197	223,011
Customer advances	88,864	183,546
Total	5,307,551	5,490,634

The majority of these accounts payable do not accrue interest.

33. INFORMATION ON AVERAGE PAYMENT PERIOD TO SUPPLIERS. THIRD ADDITIONAL PROVISION. "DUTY OF INFORMATION" OF LAW 15/2010, OF 5 JULY

The breakdown of the required information at 31 December 2017 and 2016 is the following:

	Number of days	
	2017	2016
Average payment period to suppliers.	16	19
Paid transactions ratio	16	19
Outstanding payment transactions ratio	29	24

Thousand euros	2017	2016
Total payments made	13,754,653	11,886,390
Total payments due	269,561	313,897

The information in the table above has been prepared in accordance with Law 15/2010 of 5 July, amending Law 3/2004 of 29 December, establishing measures to combat late payments in commercial operations and in accordance with the Resolution of 29 January 2016, from the Instituto de Contabilidad y Auditoría de Cuentas, on the information to be included in the notes to the financial statements in relation to deferred payments to suppliers in commercial transactions operations. The specifications with which such information has been prepared are the following:

- Ratio of paid operations: amount in days of the ratio between the sum of the amount of each of the operations paid and the number of paydays, and in the denominator, the total amount of payments made during the year.
- Ratio of outstanding payment operations: amount in days of the ratio between the sum of the amount of the outstanding payment transaction and the number of unpaid days, and in the denominator, the total amount of outstanding payments.
- Suppliers: trade payables generated from debts of goods or services with suppliers included in the current liabilities heading of the Balance sheet.
- Property, plant and equipment and other financial lease suppliers are not considered in the information scope.
- Taxes, levies, indemnifications and some other headings are not considered in the information scope since they are not commercial transactions.
- The table below shows information corresponding to Spanish companies included in the consolidated group once the credits and debits between the subsidiary companies are eliminated.

34. NON-CURRENT ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS

Discontinued operations

In 2017, the activities related to the provision of engineering and construction services were abandoned, meeting the requirements to be considered a discontinued activity (Note 2.c). Profit or loss after tax of the discontinued operations is included in sub-heading 'Net profit for the year from discontinued operations (net)' of the Consolidated income statement.

Thousand euros	31.12.2017	31.12.2016
Net revenue	233,719	456,234
Provisions	(470,647)	(475,433)
GROSS MARGIN	(236,928)	(19,199)
Staff costs	(117,715)	(150,248)
Capitalised Staff costs	75,251	75,639
Staff costs	(42,464)	(74,609)
External services	(34,836)	(35,661)
Other operating income	2,632	4,505
Net External services	(32,204)	(31,156)
Net Operating Expenses	(74,668)	(105,765)
Taxes	(585)	(974)
Gross operating profit (EBITDA)	(312,181)	(125,938)
Amortisations and provisions	165	(5,879)
Operating profit (EBIT)	(312,016)	(131,817)
Result of companies accounted for using the equity method - net of taxes	328	1,464
Financial revenue	16,654	19,176
Financial Expense	(26,364)	(19,462)
Financial result	(9,710)	(286)
Gains on disposal of non-current assets	25	113
Losses on disposal of non-current assets	(117)	(675)
Non-current asset profit/(loss)	(92)	(562)
PROFIT BEFORE TAX	(321,490)	(131,201)
Corporate tax	68,479	30,538
PROFIT FOR THE PERIOD FROM DISCONTINUED OPERATIONS (NET)	(253,011)	(100,663)

Below the summarised statement of cash flows corresponding to said discontinued operations is shown:

Thousand euros	31.12.2017	31.12.2016
Cash flows from operating activities	(426,860)	(73,070)
cash flows from investing activities	87,787	55,805
cash flows from financing activities	333,349	(74)
Net increase / (decrease) in cash and cash equivalents	(5,724)	(17,339)
Cash and cash equivalents at the beginning of the year	27,644	44,983
Cash and cash equivalents at the end of the year	21,920	27,644

Non-current assets held for sale

At the closing of 2017, the US and Canada gas business complied with the requirements set in IFRS 15: “Non-current assets held for sale and discontinued operations” for their recognition as such in the consolidated financial statements, as long as i) there was a sale plan at a reasonable cost compared to fair value of assets subject to the transaction and ii) the sale could be expected to be completed in less than a year.

The IBERDROLA Group has received binding offers for the sale of the above for a value below the book value of the assets and liabilities for sale. Therefore, a loss for impairment of intangible assets, property, plant and equipment and inventories has been recognised in the amount of EUR 743,571 thousand (Note 41). Before the decision to sell and the reception of the binding offers, the impairment of the assets was not required as long as its value in use was above its book value.

The IBERDROLA Group reports assets and liabilities linked to the gas business in the US and Canada for sale in the heading “Assets held for sale” and “Liabilities linked to assets held for sale” The breakdown of the headings above is as follows:

Thousand euros	Note	
ACTIVE		31.12.2017
Intangible assets.	9	82,661
Property, plant and equipment	11	17,370
Current Financial investments		7,213
Non-current assets		107,244
Inventories		73,358
Commercial debtors and other accounts receivable		115,652
Current Financial investments		48,819
Cash and cash equivalents		10,658
Current assets		248,487
Total Assets held for sale		355,731
LIABILITIES		31.12.2017
Deferred income	23	1,527
Provision for pensions and similar commitments and similar obligations	24	2,653
Financial Debt	28	6,066
Non-current liabilities		10,246
Financial Debt	28	24,551
Trade and other payables		99,747
Non-current liabilities		124,298
Total liabilities linked to assets held for sale		134,544

Following the closing of the year two agreements for the sale of trading and gas storage business were executed (Note 52).

35. NET REVENUE

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated- (Note 2.c)
Deregulated Business	19,484,837	18,723,372
Spain	12,079,307	11,880,533
United Kingdom	4,875,291	5,468,329
Mexico	2,314,967	1,494,954
Brazil	368,183	71,695
ROW	17,286	48,036
Eliminations	(170,197)	(240,175)
Renewable Business	2,585,282	2,399,633
Spain	790,153	777,243
United Kingdom	539,908	423,614
United States	971,106	963,972
Mexico	73,768	71,792
Brazil	84,386	39,112
ROW	125,961	123,900
Network Business	10,694,131	8,806,734
Spain	2,017,233	2,049,676
United Kingdom	1,222,028	1,319,093
United States	4,083,179	3,979,421
Brazil	3,371,691	1,458,544
Other business, Corporation and adjustments	(1,500,988)	(1,170,591)
Total	31,263,262	28,759,148

36. CONSTRUCTION CONTRACTS

At 31 December 2017 y 2016 the balances of the various instruments are as follows:

Thousand euros	Accumulated revenue recognised by reference to percentage of	Amount billed to clients since the beginning of the contract	Work in progress at 31 December	Advances received from clients at 31 December
2017	5,371,555	5,186,803	254,932	70,180
2016	5,747,300	5,537,079	293,789	83,568

The amount recognised in the financial statements for 2017 and 2016 for these contracts amounts to EUR 276,677 and 500,168 thousand respectively.

37. PROVISIONS

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated- (Note 2.c)
Deregulated Business	15,247,050	14,089,368
Spain	9,389,333	8,809,080
United Kingdom	4,079,234	4,468,779
Mexico	1,668,931	985,925
Brazil	279,001	65,273
ROW	458	463
Eliminations	(169,907)	(240,152)
Renewable Business	258,756	220,132
Spain	13,083	13,552
United Kingdom	46,797	38,466
United States	188,263	161,636
Mexico	2,576	2,919
Brazil	6,657	2,557
ROW	1,380	1,002
Network Business	3,907,433	2,646,188
Spain	14,354	21,496
United Kingdom	48,385	52,240
United States	1,329,213	1,442,312
Brazil	2,515,481	1,130,140
Other business, Corporation and adjustments	(1,513,785)	(1,131,961)
Total	17,899,454	15,823,727

38. STAFF COSTS

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated (Note 2.c)
Wages and salaries	1,926,519	1,741,299
Company social security costs	262,223	233,264
Additional provisions for pensions and similar obligations and defined contributions to the external pension plan (Notes 4.o and 24)	413,463	235,296
Remuneration stipulated in by-law 48.1 (Note 48)	17,000	17,000
Token payments Art. 48.4	3,398	3,761
Other social expenses	153,391	136,433
	2,775,994	2,367,053
Capitalised Staff costs		
Intangible assets (Note 9)	(42,299)	(31,073)
Property, plant and equipment (Note 4.d)	(558,874)	(525,156)
Nuclear fuel (Note 17)	(3,225)	(958)
	(604,398)	(557,187)
Total	2,171,596	1,809,866

The average number of IBERDROLA Group employees in 2017 and 2016 has increased to 28,750 and 26,411 employees, of which 6,711 and 6,148 are women, respectively.

The average number of employees in the consolidated group corresponds to all the employees in those consolidated companies that have been integrated using the global integration method, as well as the employees of the joint ventures determined based on the participation share in those ones.

39. OPERATING LEASES

The “External services” heading on the Income statements includes operating lease payments of EUR 148,810 thousand and EUR 146,659 thousand for 2017 and 2016, respectively. The breakdown of future minimum payments under non-cancellable operating leases outstanding at 31 December 2016 is as follows:

Thousand euros	
2018	120,969
2019	104,279
2020	102,099
2021	94,303
2022	83,279
From 2023 onwards	1,034,459
Total	1,539,388

The IBERDROLA Group's enters into lease agreements acting as lessor mainly for land, buildings and vehicles located at wind farms. The payments broken down in the table above corresponds to the remaining useful life of wind farms, as well as the payments resulting from the termination of the agreement at the end of the useful life.

The information is presented in deducted terms, using the incremental rate of the lessee's loans, and may differ from the impact on the financial liabilities for the first implementation of the IFRS 16: 'Leases' depending on the various alternative choices that the new regulation offers in both the transition and scope.

On the other hand, the IBERDROLA Group acts as lessor in certain operating leases consisting basically on the rental of investment property (Note 10) and the lease of fibre optics. The heading “Net revenue” in the Consolidated income statements in 2017 and 2016, includes EUR 47,885 thousand and EUR 60,782 thousand, respectively, related to this concept and the detail of the estimated future minimum proceeds under non-cancellable leases at 31 December 2017 is as follows:

Thousand euros	
2018	46,687
2019	30,257
2020	27,274
2021	25,104
2022	22,927
From 2023 onwards	109,395
Total	261,644

40. TAXES

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated (Note 2.c)
Deregulated Business	1,057,110	876,124
Spain	914,757	756,767
United Kingdom	135,051	114,321
Mexico	3,211	2,123
Brazil	84	8
Others	4,007	2,905
Renewable Business	159,980	142,342
Spain	96,130	79,581
United Kingdom	18,302	18,091
United States	39,655	40,075
Mexico	319	547
Brazil	1,971	124
ROW	3,603	3,924
Network Business	636,772	638,025
Spain	89,384	86,877
United Kingdom	101,948	103,170
United States	444,319	446,619
Brazil	1,121	1,359
Other business, Corporation and adjustments	20,641	(120,735)
Total	1,874,503	1,535,756

Law 15/2012 was published on 28 December 2012, regarding tax measures to ensure sustainability of the energy sector. The law introduced the following tax figures registered under "Taxes" of the Consolidated income statements of 2017 and 2016:

- A tax on the value of electricity output, entailing payment of 7% of the total amount to be received by the taxpayer for the production of electricity and incorporation thereof in the Spanish electricity system, measured at power station busbars, during the tax period. This tax gave rise to an expense of EUR 225,225 thousand and EUR 213,582 thousand in 2017 and 2016 respectively.
- A tax on spent nuclear fuel, amounting to in 2017 and 2016, whose expense has amounted to EUR 129,315 thousand and EUR 134,131 thousand, respectively.
- A royalty on the use of inland water affecting production of electricity that is levied on the economic value of hydroelectric power produced, with a rate of 22%. The corresponding expense in 2017 and 2016, amounting to EUR 82,365 thousand and EUR 132,162 thousand, respectively.
- A green cent tax levied against energy products used in electricity production, entailing a cost for the IBERDROLA Group of EUR 46,648 thousand and EUR 45,492 in 2017 and 2016, respectively. This payment was recognised under "Procurements" in the Consolidated income statement.

Additionally, the sub-heading 'Taxes' of the 2017 and 2016 Consolidated income statement includes EUR 165,264 and 174,499 thousand euros, respectively, as the best estimate available of the accrued expenses originated by Royal Decree-Law 6/2009 (Note 4.y).

41. AMORTISATIONS AND PROVISIONS

The breakdown of this heading in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated (Note 2.c)
Tangible assets depreciation allowances:		
Property, plant and equipment (Note 11)	2,636,990	2,635,586
Investment in real property (Note 10)	6,965	7,446
Intangible assets depreciation allowances (Note 9):	542,093	443,553
Allowances for impairments and write-offs of non-financial assets:		
Goodwill write off of Renewables in USA (Notes 9 and 13)	449,480	–
Reversal of impairment of intangible assets in Renewables in USA (Notes 9 and 13)	(42,959)	(68,182)
impairment of intangible assets in Gas in USA Canada (Notes 9 and 34)	68,715	–
impairment of PPE in Gas in USA Canada (Notes 11 and 34)	633,003	–
Other impairments in Gas in USA (Note 34)	41,853	–
Reversal of impairment in PPE (Note 11)	(24,357)	–
Other impairment in PPE (Note 11)	37,499	29,246
Changes in provisions	256,787	200,178
Total	4,606,069	3,247,827

42. GAINS AND LOSSES ON DISPOSAL OF NON-CURRENT ASSETS

The breakdown of this heading “Financial expense” in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated (Note 2.c)
Gain on the disposal of intangible assets and PPE	3,420	6,369
Gain on the disposal of equity investments	295,673	46,550
Total	299,093	52,919

The breakdown of this heading “Losses due to disposal of non-current assets” in the Consolidated statements of financial position is as follows:

Thousand euros	31.12.2017	31.12.2016
Loss on the disposal of intangible assets and PPE	2,611	2,755
Loss on the disposal of equity investments	17,428	1,456
Total	20,039	4,211

Year 2017

- As a consequence of the merger of the wind energy businesses SIEMENS and GAMESA (Note 14), there was a dilution in the percentage of shares held by the IBERDROLA Group, from 19.69% to 8.07%. The result obtained as a result of the aforementioned dilution of the operation reached EUR 250,695 thousand, which were registered under sub-heading 'Gains on disposal of non-current assets' in the 2017 Consolidated income statement .

- In April 2017, the IBERDROLA Group sold its shareholding in Amara, S.A.U. for an amount of EUR 8,000 thousand, which implied a gross capital loss of EUR 14,502 thousand and was registered under the sub-heading 'Losses on disposal of non-current assets' in the 2017 Consolidated income statement.
- In August 2017 the incorporation of ELEKTRO HOLDING in NEONERGIA was completed (Note 7). The result obtained as a result of the aforementioned dilution of the operation reached 44,012 thousand euros, which were registered under sub-heading 'Gains on disposal of non-current assets' in the 2017 Consolidated income statement.

Year 2016

- In the first half of 2016, the IBERDROLA Group sold in the USA its shareholding in Iroquois Gas Transmission System, L.P. (Minority interest in local gas grid) for an amount of EUR 48,599 thousand, which implied a gross capital profit of EUR 28,738 thousand and was registered under the sub-heading 'Gains on disposal of non-current assets' in the 2016 Consolidated income statement.
- In 1 June 2016, the IBERDROLA Group sold 50% stake in Oceanic Center, S.L. for an amount of EUR 61,500 thousand, which implied a gross capital profit of EUR 17,000 thousand and was registered under the sub-heading 'Gains on disposal of non-current assets' in the 2016 Consolidated income statement.

43. FINANCIAL REVENUE

The breakdown of this heading "Financial Revenue" in the Consolidated income statement is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated (Note 2.c)
Income from equity investments	2,082	4,063
Financial income related to assets at amortised cost:		
Other financial interests and income	223,238	130,729
Other interest and finance income due to credits to associated companies	96	27,474
Non-hedge derivatives and inefficiencies (Note 27)	122,244	168,332
Positive differences in foreign currency for financing activities	273,000	475,483
Other positive differences in foreign currency	164,808	123,124
Capitalised finance expense		
Intangible assets (Note 9)	21,506	15,500
Property, plant and equipment (Note 11)	112,536	93,770
Nuclear fuel (Note 17)	2,193	2,465
Real estate inventories (Note 18)	87	65
Total	921,790	1,041,005

The average capitalisation rates used in 2017 and 2016 for external financing of property, plant and equipment was 2.63% and 3.68%, respectively (Note 4.d).

44. FINANCIAL EXPENSE

The breakdown of this heading "Financial expense" in the Consolidated income statement is as follows:

Thousand euros	31.12.2017	31.12.2016 Restated (Note 2.c)
Financial expenses related to liabilities at amortised cost:		
Financial expenses and similar expenses	1,055,901	1,027,798
Other financial expenses and similar expenses	80,186	100,531
Equity instruments having the substance of a financial liability (Note 22)	6,230	8,821
Non-hedge derivatives and inefficiencies (Note 27)	127,358	105,759
Negative differences in foreign currency for financing activities	279,193	468,998
Other negative differences in foreign currency	178,212	134,343
Financial revaluation of other provisions (Note 25)	61,792	30,403
Financial revaluation of provisions for pensions and similar commitments (Note 24)	70,020	67,510
Total	1,858,892	1,944,163

45. CONTINGENT ASSETS AND LIABILITIES

The IBERDROLA Group companies are part of some legal and out-of-court disputes arising as part of their ordinary course of business (ranging from conflicts with suppliers, clients, administrative or tax authorities, individuals, environmental activists and employees).

The IBERDROLA Group's legal advisors believe that these proceedings will not have a material impact on its financial and equity position.

The most important proceedings in which IBERDROLA or its subsidiaries are involved at the date of formulation of these Consolidated financial statements are described below:

Contingent liabilities

- Contentious-administrative appeal No. 222/2013 imposed by IBERDROLA DISTRIBUCIÓN before the Court for Contentious Administrative Proceedings No. 6 of Murcia, against two rate settlements of the Lorca City Council for the granting of the activity licence for the Carril and Nogalte transformer substations, respectively, located in this municipality, for a total amount of EUR 6,360 thousand, plus interest. The judicial procedure is currently in the trial phase, pending the request for clarifications on the expert report designated by the court at the appearance that shall take place on 20 March 2018.
- On 16 June 2014, the CNMC began sanction proceedings against IBERDROLA GENERACIÓN ESPAÑA for alleged fraudulent procedures to alter the price of electricity at the Duero, Tajo and Sil hydroelectric power generation units in December 2013. The fine was announced on 30 November 2015, in the amount of EUR 25 million. IBERDROLA GENERACIÓN ESPAÑA submitted an appeal to the National Court's Contentious-Administrative Section, and this was admitted to proceedings, being also granted the suspension of the execution of the sanction. The IBERDROLA Group believes its action was proper and legal, and did not therefore make any provision for this during the year. The procedure is currently suspended due to prejudication issues.

- c) Claim filed by Banco Mare Nostrum (BMN) against IBERDROLA INMOBILIARIA in Madrid Court of First Instance No 14. Ordinary Proceedings No 496/2014, to which two other court proceedings, formerly conducted in another Madrid court and in a Murcia court, have been joined. This is a claim for a specified amount in which the claimant seeks a declaration that the deed of sale of 20% of the undivided joint title to the lots located at Cabo Cope is a nullity, an order that the deed be discharged by reason of supervening absence of its objects or frustration, with a refund of the price paid, the return of the commercial paper made over by BMN, and an award of damages. The preliminary hearing was held on 15 November 2017 without an agreement between the parties, on which the amount of the claim was definitively set at EUR 19,214 thousand. 30 May 2018 has been indicated for the trial date.

Contingent assets

- a) On 9 May 2016, IBERDROLA filed a claim against Bankia, S.A. (BANKIA) to recover damages sustained as a consequence of IBERDROLA's purchase of shares in the context of the bank's IPO in 2011. IBERDROLA's decision to subscribe for shares was taken in reliance on the information provided in the prospectus published for that purpose by BANKIA. The business and financial information contained in that prospectus has been shown to be severely inaccurate, incorrect and false, with material omissions; therefore, IBERDROLA made a clear mistake when placing orders to subscribe shares, which mistake is excusable and invalidates the transaction.

The overruling judgement was received on 23 March 2017. IBERDROLA presented its appeal on 24 April 2017, which shall be ruled by the Provincial Court of Madrid. BANKIA presented its written opposition to the appeal and challenge of the sentence on 31 May 2017. On 27 June 2017, IBERDROLA presented its written opposition to the challenge of the sentence made by BANKIA, having forwarded the documents to the Provincial Court of Madrid for its decision.

The value of IBERDROLA's claim comes to EUR 12,400 thousand in respect of losses sustained as a result of that investment.

- b) Ordinary Proceedings 62/2016 in Madrid Court of First Instance No 77, where IBERDROLA ESPAÑA applied for a declaration in its favour of ownership of lot number 1 of the Expropriation Procedure, located at Gallur street, Carabanchel district, carried out by the Madrid City Council. Iberdrola has applied for a declaration that it is the owner of the land, as against parties now disputing that ownership, on the basis of IBERDROLA ESPAÑA's title to the property. The benefit of securing this declaration would be that IBERDROLA ESPAÑA would then receive the fair value of the land as appraised in the course of the compulsory expropriation procedure; that amount has so far been paid into court until the dispute as to ownership is resolved. The action was brought on 30 December 2015 and the proceedings are now at the stage of service of claim and filing of the defence (18 defendants). The statement of defence has been served and the previous hearing is pending of fixing the date. This amount stands at EUR 6,708 thousand.

The IBERDROLA Group's appeals on regulatory issues were submitted in opposition to general dispositions of an indefinite amount, affecting the regulatory and remuneration framework of the companies. Therefore, they concern regulatory dispositions that were in force at the time of appeal.

IBERDROLA Group's assets are not at risk with respect to the appeals submitted against general energy stipulations because the economic effects of the stipulations challenged apply when they come into force. An estimate of the appeals submitted by third parties has a limited economic scope, as this would force amendments to the regulatory framework and possible refunds.

The following are the main appeals submitted by IBERDROLA Group against general regulatory provisions:

- a) IBERDROLA RENOVABLES ENERGÍA, S.A.U. (IRE) submitted an application for judicial review before the Supreme Court against the Royal Decree 413/2014, of 6 June, regulating electricity production from renewable energy sources, cogeneration and waste, and against the Ministerial Order IET/1045/2014, of 16 June, adopting the remuneration metrics for model facilities applicable to certain facilities for electricity production from renewable energy sources, cogeneration and waste. The separate challenges to each statutory instrument have been joined into a single set of proceedings because the "Metrics Order" was adopted by way of implementing the Royal Decree 413/2014, and the two instruments shape the new regulatory scenario that now governs facilities for producing electricity from renewable energy sources. On 1 July 2016, the Supreme Court dismissed the appeal, although there were three strongly worded dissenting opinions. The Court takes the view that the new remuneration framework does not constitute a prohibited retrospective exercise of power, because it is designed to take account of the reasonable return earned by the facility throughout its entire useful life, even where this approach involves reviewing past remuneration. Neither does the Court believe that there has been any violation of the principles of legal certainty and legitimate expectation, insofar as no one could have assumed that the former remuneration framework was immune to change.

An appeal having been lodged with the Constitutional Court, on 2 September 2016 the ancillary suit for the nullity of proceedings was formally filed with the Supreme Court. On 26 October 2016 IRE was served with notice of the dismissal of its ancillary suit formality of the proceedings. Appeals to the Constitutional Court were lodged on behalf of Energyworks Carballo and Energyworks Cartagena on 29 November and 2 December 2016, respectively. On 5 December 2016, an appeal to the Constitutional Court was filed on behalf of IRE. On 15 March 2017, the denial was notified for the appeal to the proceedings presented by IRE for lacking specific constitutional importance. The appeal was presented before the European Court of Human Rights in Strasbourg, which was rejected because of formal defects, although IRE returned to present it again.

- b) IBERDROLA DISTRIBUCIÓN has implemented various contentious-administrative resources against the regulatory ministerial orders of the electricity tolls corresponding to 2014, 2015 and 2016, which refer to the determination of the loss incentives for 2010 to 2013 from understanding that calculations were incorrectly made, negatively affecting the remuneration of electricity distribution activities in this respect. The aforementioned jurisdictional resources were substantiated before the Contentious Administrative Proceedings Division of the Supreme Court, having already issued a final favourable judgement in which it refers to the incentives in 2012, 2013 (3.1 and EUR 1.8 million, respectively). Both judgements upheld by the appeal are currently pending execution for having been ordered by the energy management. A new calculation of the aforementioned incentives will be issued, adjusted to the considerations contained in the judgement of 5 September and 4 December 2017, respectively.

The appeal lodged against the liquidations of the 2010, 2011 incentive for losses was rejected, although the official amendment of the order regulating these incentives (Order IET/107/2014, of the 2014 tolls) was brought before the Ministry of Energy, Tourism and Digital Agenda after section 8 therein was declared void in the two previously mentioned judgements, which contained the regulation of these incentives. The amount of the 2010, 2011 incentives rose to a total of EUR 6.5 million euros.

- c) The contentious-administrative appeal No. 356/2017 by Renovables Energía, S.A., to the National Court against Order ETU/130/2017, of 17 February updating the mechanism for financing certain electricity production facilities from renewable sources, cogeneration and waste, for the purposes of its application to the regulatory half-period starting on 1 January 2017. Complaint filed on 6 September 2017. The orders are in a conclusions period.

Among the regulatory litigation brought by third parties that may affect the remuneration and equity of the IBERDROLA Group there are no outstanding resources for its importance.

Regarding judicial proceedings dealing with tax matters the most significant litigations are as follows:

- a) Concerning the Extremadura "green tax", applications for judicial review have been submitted in respect of the settlements for the period 2006-2016 under the "Ley de la Asamblea de Extremadura 8/2005" of the Tax on Facilities Affecting the Environment in the Autonomous Community of Extremadura. The Constitutional Court upheld the unconstitutionality declared by the Supreme Court in a ruling handed down on 16 February 2015. Final judgments were issued in respect of IBERDROLA GENERACIÓN corresponding to the years 2006, 2007, 2008 and 2009. The Extremadura High Court agreed to submit a new issue of unconstitutionality to the Constitutional Court in the proceedings instigated against the settlement in respect of 2012 by IBERDROLA GENERACIÓN NUCLEAR. The High Court from Extremadura is issuing rulings to maintain suspension of processes as of 2010, until the Constitutional Court issues its own ruling.

Following these favourable rulings, IBERDROLA Group considers there is a contingent asset for the periods challenged that are pending a ruling. The Consolidated financial statement for 2017 does not include any income for these periods. The income would amount to EUR 450 million including late payment interest.

- b) In the matter of the wind power levy assessed by the devolved region of Castilla La Mancha, the High Court of Justice referred a prior issue for a preliminary ruling by the Court of Justice of the European Union and an issue of unconstitutionality to the Constitutional Court. The Constitutional Court refused leave to proceed to the issue of unconstitutionality. The ECJ issued a judgement on 20 September 2017, in which the right of the EU was not considered violated. The High Court of Justice of Castilla-La Mancha changed this judgement and term to lodge pleadings on the possible approach of the unconstitutional issues.

The most important proceedings in which IBERDROLA or its subsidiaries are involved at the date of formulation of these Consolidated financial statements are described below:

Contingent liabilities

- a) Arbitration proceedings in the International Chamber of Commerce instigated by the consortium (led by EDF) which purchased 30 wind farms owned by Iberdrola Renovables Energía, S.A. in France through its French subsidiary. The sale was concluded in May 2013. The claim is based on a purported breach by IBERDROLA of the representations and warranties set out in the contract as to compliance with maximum noise levels permitted by French law. In January 2016, the purchaser consumption submitted a request for arbitration. In July 2016, the parties agreed on the terms of reference of the arbitration and the procedural timetable (four months for filing the statement of claim, four months for filing the answer, three months for a counter-answer and three months for the final answer). We have already received the arbitration claim, which sets the amount sought to be recovered at EUR 52 million, subject to review (as against the originally claimed amount of EUR 78.4 million). The statement of claim cleaves to the line of reasoning presented from the outset: the alleged breach by IBERDROLA of the representations and warranties set out in the contract and breach of the noise levels permitted by French law.

On 1 March 2017, IBERDROLA presented its reply to the request for arbitration. On 17 May, the Arbitration Tribunal rejected the branching request made by the plaintiffs. On 1 June, the reply was presented. The consortium adjusted its claim to the amount of EUR 49.5 millions. IBERDROLA presented its rejoinder on 1 September. A delay was notified for the hearing of witnesses and experts, due to the unavailability of the witness of the plaintiffs. The Court issued a new procedural order on 2 October 2017, establishing the holding of the hearing for the week of 5 to 8 March 2018.

On 31 October 2017, the lawyers of the Consortium issued a letter to the Court, in which they requested the admission of 11 new noise studies (and their corresponding curtailment plans) connected to a new quantification of damage and currently quantified at EUR 42.2 million. On 10 November 2017, the allegations were presented. This past 20 November 2017, IBERDROLA was informed of the decision of the Arbitration Tribunal to permit the request of the counterparty to include the 11 new reports, giving us until 31 January 2018 to present our comments on this matter. The reports contain new wind information. Although they do not change the method, they reduce the claimed amount to EUR 42.2 million. IBERDROLA presenting the possibility of requesting an increase in the term granted to reply.

- b) The US Environmental Protection Agency has filed claims against various subsidiaries of AVANGRID for failing to comply with environmental issues. The IBERDROLA Group considers that the possibility of these claims being lost is remote and that the amount involved could not be significant. On the other hand, AVANGRID instigated legal proceedings against the former owners of certain sites in order to recover the costs of environmental restoration work it was forced to pay. The IBERDROLA Group did not recognise collection rights for this item, as the conditions of registration required by accounting regulations had not been met.
- c) The subcontractor of the component assembly of a project in the United States started an arbitration against the subsidiary in the United States, in which it makes a complaint for damages due to interferences and delays incurred by the Group. The group presented its reply to the claim, which includes the counter-claim for the delays incurred by the subcontractor in the execution of the works.

- d) The client of a project in Costa Rica presented a request for arbitration before the International Chamber of Commerce with headquarters in New York, issuing a complaint against IBERDROLA INGENIERÍA and its partner in this project for the damages allegedly incurred from the delay in the delivery of the works. The consortium in which IBERDROLA INGENIERÍA participates is issuing a complaint against the client for excusable delays and additional costs incurred from causes attributable to the client.
- e) There are several labour, civil and tax complaints filed in Brazil against several NEOENERGIA Group companies. The IBERDROLA Group considers that the risk assessment of the possible losses is made by the companies, based on the opinions of the administration and external legal advisors, making the corresponding provisions based on the likelihood of loss depending on the available evidence, legal hierarchy and most recent case-law.
- f) ELEKTRO Redes is a party to collection actions driven by state highway concessionaires and other parties involved to prevent the Company from freely acting for the installation of energy distribution infrastructure in intermediate and lateral strips of the highways, free of any charge. Based on this scenario, the company adopted competent legal measures against the Department of Highways of the State of São Paulo (DER) and its respective concessionaires. In the actions in which the matter is disputed, there are favourable and unfavourable decisions tried in different instances. Therefore, up until September 2016, the company held the provision established for this process. Considering the evolution of the case law on the matter, especially ADIn trial No. 2,418 by the STF, whose judgement was published in October 2016, and the favourable trials on merit by the Court of Justice of São Paulo in December 2016 for appeals recognising the unlawfulness of collection, as well as the possible prospects of success determined by the legal advisors of the case, the company made the reversal of the provision established for that purpose in 2016.
- g) In December 2016, ELEKTRO was given a tax assessment notice for 1,205 million Brazilian reals, issued by the federal tax body (*Receita Federal do Brasil*) for the collection of capital gains tax originating from the acquisition of ELEKTRO by IBERDROLA in 2011. ELEKTRO presented its administrative defence and the federal tax body sustained the allegations of the Company, deciding upon the complete cancellation of the tax assessment notice at the court of first instance. The process is pending an appeal trial at the Administrative Board of Tax Appeals (CARF), mandatory by virtue of the relevance of the disputed amount.
- h) With respect to the public proceedings that the Public Ministry of Labour lodged against ELEKTRO Redes requesting that it prohibit the subcontracting of the core activities of the company, these must be performed by employees directly contracted by the distributor, in which an unfavourable decision was made for ELEKTRO Redes in first and second instance, in addition to the appeal lodged before the High Labour Court. An appeal was subsequently lodged before the Federal Supreme Court which is pending a decision. The lawyers responsible for the matter believe that there are favourable arguments for the reversal of the decision.
- i) In December 2017, ELEKTRO was given a tax assessment notice under No. 16561-720169/2017-11 issued by the federal tax body for the collection of capital gains tax and CSLL referred to the exchange differences' amortization originating from the acquisition of ELEKTRO by IBERDROLA in 2011. The tax assessment notice is at the administrative court of first instance.

- j) Claim by the California Public Utilities Commission: In 2002, just after the energy crisis in the state of California, the California Public Utilities Commission and the California Electricity Oversight Board (CPUC and CEOP, respectively) submitted a claim to the FERC against a number of electricity producers, alleging that these companies had manipulated the market and that the prices set in energy purchase contracts were "unfair and unreasonable", and demanded modifications to the contracts.

FERC dismissed the claim and, following a review by the Californian courts, the Supreme Court ordered FERC to review the case, which had remained dormant since 2008.

In 2014, FERC reopened the case at the behest of the California Public Utilities Commission and appointed an investigating judge, who in April 2016 issued an initial ruling that dismissed any market manipulation by Avangrid Renewables, but considered that the prices in its energy purchase contract were excessive and to the detriment of end consumers. Damages were set at USD 259 million plus interest. This recommendation is not binding for FERC.

AVANGRID submitted its written plea at the end of May, and its written conclusions on 27 June 2016. The opinion of FERC's technical unit was favourable, and recommended the proceedings be suspended without sanctions. Following these proceedings, FERC is expected to issue a final ruling in the last quarter of the year, and its decision may be appealed in the courts.

The IBERDROLA Group expects that the proceedings will eventually be suspended without any sanction.

Contingent assets

- a) In August 2013, the subsidiary of AVANGRID, New York State Electric & Gas Corporation (NYSEG), sued two insurance companies, Century Indemnity and OneBeacon, that granted NYSEG an excess coverage of liabilities. NYSEG issued a complaint against the payment of cleaning costs associated with the pollution of 22 old gas plants. Based on the cleaning costs of USD 282 million, the part corresponding to the carriers shall be equal to or greater than approximately USD 89 million, excluding interest pending trial, although this amount may significantly vary based on evidence and legal circumstances determined during the case. Century Indemnity and One Beacon responded by admitting the issuance of excessive policies; however, they have contested the coverage and have provided documentation proving that they received notice of the claims in the 1990s. On 31 March 2017, the District Court granted motions completed by Century Indemnity and One Beacon, dismissing all the claims of NYSEG against both defendants claiming past-due notification. NYSEG completed a request with the District Court on 14 April 2017, requesting that it reconsider the verdict of the Court and that it is studying possible actions for a future appeal in case the reconsideration request is denied. Any recovery derived from this matter shall have a significant impact on NYSEG taxpayers.
- b) The subsidiary of IBERDROLA INGENIERÍA in Canada (IEPC) started an arbitration according to the Act on Arbitration of British Columbia before an arbitration court of three arbitrators, with headquarters in Vancouver (BC), against the client of two biomass projects in Canada for claims derived from the construction of the projects. The client also presented a claim against the IEPC for delivery delays of the plants. The arbitration hearing is to be held in June 2018.

- c) In September 2016, IBERDROLA INGENIERÍA initiated arbitration proceedings in the London Court of International Arbitration (LCIA), based in London, United Kingdom, to recover damages caused by the client's actions in a network and substation construction project in Kenya awarded to IBERDROLA INGENIERÍA. The client also filed a claim against the IEPC for delivery delays of the plants claiming several damages supposedly caused by the termination of the agreement between the parties. The hearing is scheduled for March 2018.
- d) The subsidiary of IBERDROLA INGENIERÍA in Canada initiated two arbitrations before the International Chamber of Commerce, at its headquarters in Paris, against the boiler supplier of the two biomass projects in Canada. One arbitration is or non-compliance with the supply contracts, issuing a complaint for damages and the other to issue a claim against the return of amounts paid to the supplier on the price of the supply contracts. The arbitrations are currently suspended given that the supplier is involved in insolvency proceedings in the United States.
- e) IBERDROLA INGENIERÍA initiated an arbitration before the International Chamber of Commerce, at its headquarters in Paris, in which it issued a complaint against the client of a project being executed in Germany for damages incurred by the decision of the client to restrict the work hours at the site. The process should be resolved throughout 2018.
- f) The subsidiary of IBERDROLA INGENIERÍA in the United States (IEPC) presented various claims against its client for a generation project being carried out in the United States. The claims are derived from several interferences and delays that IEPC is experiencing in the execution of this project.
- g) In 2017, NC Energia filed a request before the Delegate of the Large Tax Contributors' Office of the Receita Federal de Brasil in R  o de Janeiro to discuss the calculation base of the PIS/COFINS in relation to the years following Law n   12973/14 and exclude from the calculation base the value of ICMS and ISS following the legislation changes introduced by this law. There was a favourable ruling in first instance stages but Receita Federal filed an appeal.

The contingent assets and liabilities at 31 December 2016 are described in the Consolidated Financial statements of IBERDROLA of that year.

46. INTERESTS IN JOINT VENTURES

The detail (at 100%) of the most significant economic aggregates in 2017 and 2016 relating to the main joint ventures involving the IBERDROLA Group is as follows:

Thousand euros	Joint property of nuclear and thermal plants					A.I.E. Almaraz- Trillo	A.I.E. Ascó- Valdellós	West of Duddon Sands	Wikinger OSS	Torre Iberdrola
Year 2017	Almaraz	Trillo	Vandellós	Ascó	Aceca					
Segment	Deregulated					Renewables			Other businesses	
Intangible assets.	–	–	–	–	–	4,437	–	–	–	27
Property, plant and equipment										
Technical installations	751,698	1,042,424	1,038,075	674,207	–	–	–	1,478,192	155,274	–
Other fixed assets	377	4,511	14,435	–	1,811	2,283	–	–	–	192,514
Non-Current financial Assets	22,507	11,290	43,090	9,864	2,430	1,945	118,902	–	–	–
Current assets	703,117	386,376	410,124	359,494	732	53,103	159,062	5,476	–	1,581
Total assets	1,477,699	1,444,601	1,505,724	1,043,565	4,973	61,768	277,964	1,483,668	155,274	194,122
Non-Current Liabilities	331,443	462,493	499,855	225,358	–	40,277	128,831	–	–	1,437
Current Liabilities	1,021,982	957,884	916,211	756,556	4,289	21,491	129,901	37,264	–	1,209
Income	867,501	427,055	477,885	409,159	328	156,918	270,279	1,293	–	13,034
Expenses	765,143	412,696	422,650	360,119	559	156,918	287,994	33,732	–	10,571

Thousand euros	Joint property of nuclear and thermal plants					A.I.E. Almaraz- Trillo	A.I.E. Ascó- Valdellós	West of Duddon Sands	Wikinger OSS	Torre Iberdrola
Year 2016	Almaraz	Trillo	Vandellós	Ascó	Aceca					
Segment	Deregulated					Renewables			Other businesses	
Intangible assets.	–	–	–	–	–	4,524	–	–	–	21
Property, plant and equipment										
Technical installations	789,148	1,095,139	1,098,376	701,214	–	–	–	1,534,710	117,158	–
Other fixed assets	395	4,889	14,599	–	1,811	1,789	–	–	–	231,023
Non-Current financial Assets	22,710	11,290	44,311	9,864	2,430	2,087	143,569	–	–	–
Current assets	736,438	385,149	382,552	341,594	769	64,441	160,618	18,433	–	1,592
Total assets	1,548,691	1,496,467	1,539,838	1,052,672	5,010	72,841	304,187	1,553,143	117,158	232,636
Non-Current Liabilities	286,556	438,858	484,165	206,035	–	47,619	152,480	–	–	1,483
Current Liabilities	1,287,877	1,130,214	1,160,643	870,211	4,036	25,222	132,474	41,673	–	31,984
Income	600,645	330,146	285,468	306,241	1,489	165,476	292,017	7,965	–	12,564
Expenses	639,002	413,596	428,230	342,988	1,430	165,476	261,906	32,134	–	9,842

47. GUARANTEE COMMITMENTS TO THIRD PARTIES AND OTHER CONTINGENT LIABILITIES

IBERDROLA and its subsidiaries are required to provide the bank or corporate guarantees associated with the normal management of the Group's activities.

In this regard, the IBERDROLA Group guarantees the obligations undertaken in energy purchase agreements and grid access transactions in different energy markets and against the operators of different electricity systems (MEFF, OMEL, OMI Clear, National Grid, CFE, REE and EDP Distribución).

With regard to generation from renewable sources, the IBERDROLA Group has provided guarantees to third parties to cover the construction, bringing into service and dismantling of facilities, in addition to its responsibilities in long-term energy sales.

Furthermore, as part of its engineering business, the IBERDROLA Group guarantees not only the supply, but also the design, bringing into service and operation of turnkey construction projects sold to its customers.

In 2016, the signing of nonconformity has taken place regarding the corporate Income Tax for the years 2008 to 2011 and regarding the Value Added Tax, for years 2010 and 2011. IBERDROLA has filed the corresponding claims to the Economic Administrative Court against the liquidation agreements, which confirm the acts of nonconformity, requesting the automatic suspension of the execution of the settlements by means of the necessary bank guarantees (Note 30).

In addition, at 31 December 2017 and 2016, there were outstanding obligations resulting from bond issues in the United States amounting to EUR 1,701,555 and EUR 1,657,533 thousand that were secured by the items in the property, plant and equipment of the subgroup AVANGRID.

At 31 December 2017 and 2016 there were no outstanding obligations resulting from mortgage loans secured by items of the property, plant and equipment.

IBERDROLA considers that any additional liability other than those provisioned at 31 December 2017 and 2016, arising from the guarantees provided at that date, if any, would not be significant.

Moreover, the IBERDROLA Group in compliance with the contractual obligations associated with loans received from banks, had fully or partially pledged some of its subsidiaries shares at 31 December 2017 and 2016. The detail, by company, of the shares pledged is as follows:

Thousand euros	2017			2016		
Company	Carrying amount	Percentage of IBERDROLA Group's ownership	Carrying amount by percentage of IBERDROLA Group's	Carrying amount	Percentage of IBERDROLA Group's ownership	Carrying amount by percentage of IBERDROLA Group's
Renewable business - Spain						
Energía de Castilla y León, S.A.	–	–	–	7,755	85.50%	6,631
Energías Eólicas de Cuenca, S.A.	–	–	–	20,514	100.00%	20,514
Eólica 2000, S.L.	5,268	51.00%	2,687	4,985	51.00%	2,542
Eólica Campollano, S.A. ⁽¹⁾	27,090	25.00%	6,773	24,512	25.00%	6,128
Molinos de La Rioja, S.A. ⁽¹⁾	13,372	42.37%	5,666	11,467	42.37%	4,859
Molinos del Cidacos, S.A. ⁽¹⁾	38,305	31.78%	12,173	35,606	31.78%	11,316
Renewable business – USA						
Colorado Green Holdings, LLC	–	–	–	82,020	40.75%	33,423
Renewable business - Brazil						
Arizona 1 Energia Renovável, S.A.	12,795	52.45%	6,711	13,910	69.50%	9,667
Caetité 1 Energia Renovável, S.A.	21,512	52.45%	11,283	22,020	69.50%	15,304
Caetité 2 Energia Renovável, S.A.	26,374	52.45%	13,833	25,436	69.50%	17,678
Caetité 3 Energia Renovável, S.A.	20,015	52.45%	10,498	20,932	69.50%	14,548
Calango 1 Energia Renovável, S.A.	16,882	52.45%	8,855	17,560	69.50%	12,204
Calango 2 Energia Renovável, S.A.	13,611	52.45%	7,139	12,383	69.50%	8,606
Calango 3 Energia Renovável, S.A.	13,787	52.45%	7,231	14,254	69.50%	9,907
Calango 4 Energia Renovável, S.A.	14,878	52.45%	7,804	13,513	69.50%	9,392
Calango 5 Energia Renovável, S.A.	15,565	52.45%	8,164	15,482	69.50%	10,760
Calango 6 Energia Renovável, S.A.	43,590	52.45%	22,863	–	–	–
Canoas Energia Renovável, S.A.	42,184	52.45%	22,126	–	–	–
Energias Renováveis do Brasil, S.A.	133,891	52.45%	70,226	35,840	100.00%	35,840
Força Eólica do Brasil 1, S.A.	–	–	–	96,495	69.50%	67,064
Força Eólica do Brasil 2, S.A.	–	–	–	76,889	69.50%	53,438
FE Participações, S.A.	59,857	52.45%	31,395	–	–	–
Lagoa I, S.A.	50,428	52.45%	26,449	–	–	–
Lagoa II, S.A.	42,626	52.45%	22,357	–	–	–
Mel 2 Energia Renovável, S.A.	7,536	52.45%	3,953	8,271	69.50%	5,748
Santana 1, Energia Renovável, S.A.	47,585	52.45%	24,958	–	–	–
Santana 2, Energia Renovável, S.A.	37,796	52.45%	19,824	–	–	–
Deregulated business - Spain						
Tirme, S.A. ⁽¹⁾	24,860	20.00%	4,972	20,057	20.00%	4,011
Deregulated business - Brazil						
Baguari Geração de Energia Elétrica, S.A.	37,240	52.45%	19,532	36,950	39.00%	14,411
Bahia PCH I, S.A.	–	–	–	39,779	39.00%	15,514
Belo Monte Participações, S.A.	317,238	52.45%	166,391	314,407	39.00%	122,619
Companhia Hidrelétrica Teles Pires, S.A.	511,804	26.75%	136,908	618,428	19.89%	123,005
Energetica Aguas da Pedra, S.A. ⁽¹⁾	112,378	26.75%	30,061	127,360	19.89%	25,332
Energética Corumba III ⁽¹⁾	40,117	13.11%	5,259	–	–	–
Geração CIII, S.A.	55,890	52.45%	29,314	63,058	39.00%	24,593
Goiás Sul Geração de Energia, S.A.	–	–	–	62,750	39.00%	24,473
Rio PCH I, S.A.	–	–	–	38,111	27.30%	10,404
Norte Energia, S.A. ⁽¹⁾	2,939,875	5.25%	154,343	–	–	–
Teles Pires Participações, S.A. (1)	488,323	26.52%	129,503	–	–	–
Deregulated business - Mexico						
PIER II Quecholac Felipe Ángeles, S.A. de	20,083	51.00%	10,242	21,012	51.00%	10,716
Network business - Brazil						
Potiguar Sul Transmissão de Energia, S.A.	67,966	52.45%	35,648	–	–	–
Total	5,320,721		1,075,141	1,901,756		730,647

(1) Companies accounted for using the equity method.

48. REMUNERATION OF THE BOARD OF DIRECTORS

48.1 By-law stipulated remuneration for the year 2017

Article 48 of IBERDROLA's by-laws provides that the Company shall assign, as an expense, an amount equal to a maximum of 2% of the profit obtained in the year by the consolidated group for the following purposes:

- a) To remunerate directors, in accordance to both, the positions they have held and their executive functions, considering their dedication and attendance at meetings of corporate bodies.
- b) To set up a fund to meet the Company's obligations in pensions, life insurance premiums and payment of indemnities to current and former directors.

In particular, the board of directors will receive a remuneration which consists of an annual fixed assignment, assistance fees and appropriate hedge risk benefits (death or permanent disability).

Assignment of up to 2% may be accrued only if the previous year profit is sufficient to cover assignments to the legal reserves and any other obligatory charges, and if shareholders have been allotted a dividend equal to at least 4% of the share capital.

On the proposal of the Appointments and Remuneration Committee, the Board of Directors has decided to propose to the General Shareholders Meeting to assign by-law stipulated remuneration of EUR 17,000 thousand in 2017 and the same amount in 2015 and 2016.

These amounts have been registered under the "Staff costs" heading in the consolidated income statements (Note 38).

a) Fixed remuneration and attendance fees

The fixed annual remuneration and attendance premium received by board and committee members depends on the duties assigned to them in the Board of Directors and its commissions in 2017 and 2016. The detail of which is as follows:

Thousand euros	Fixed remuneration		Attendance premium	
	2017	2016	2017	2016
Chairman of the Board	567	567	4	4
Chairperson of Committees	440	440	4	4
Committee members	253	253	2	2
Board members	165	165	2	2

b) Remuneration of the executive directors for their executive duties

The Board of Directors decided to maintain in 2017 the chairman and chief executive officer's fixed remuneration for the executive duties in EUR 2,250 thousand. The Board of Directors also decided to maintain the limit of variable annual remuneration in EUR 3,250 thousand.

Moreover, the Board of Directors decided on a fix remuneration in 2017 of EUR 1,000 thousand for the former business chief executive officer and set a limit of variable annual remuneration of EUR 1,000 thousand.

c) Board member's remunerations paid and accrued

The detailed fixed remuneration accrued by the members of the Board of Directors, individually, during 2017 and 2016, respectively, is detailed as follows:

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Thousand euros	Salaries	Fixed remuneration ⁽¹⁾	Remuneration for belonging to Committees ⁽¹⁾	Attendance premium	Short-term variable remuneration	Retribution in kind	Total 2017	Total 2016
Chairman of the Board								
José Ignacio Sánchez Galán	2,250	567	–	92	3,185	55	6,149	6,219
Chairperson of Committees								
Inés Macho Stadler	–	165	275	74	–	3	517	509
Samantha Barber	–	165	275	72	–	2	514	502
María Helena Antolín Raybaud	–	165	275	42	–	5	487	490
Georgina Kessel Martínez	–	165	275	58	–	1	499	501
Committee members								
Iñigo Víctor de Oriol Ibarra	–	165	88	42	–	4	299	300
Braulio Medel Cámara	–	165	88	32	–	3	288	286
Angel Jesús Acebes Paniagua	–	165	88	58	–	2	313	311
Denise Mary Holt	–	165	88	38	–	1	292	290
José Walfredo Fernández	–	165	88	38	–	1	292	288
Manuel Moreu Munaiz	–	165	88	60	–	2	315	313
Xabier Sagredo Ormaza ⁽²⁾	–	165	88	38	–	2	293	205
Juan Manuel González Serna ⁽³⁾	–	124	66	20	–	–	210	–
Francisco Martínez Córcoles ⁽⁴⁾	750	124	–	12	–	19	905	–
Ceased members								
Xabier de Irala Estévez ⁽⁵⁾	–	–	–	–	–	–	–	81
Santiago Martínez Lage ⁽⁶⁾	–	41	22	12	–	2	77	285
José Luis San Pedro Guerenabarrena ⁽⁷⁾	–	41	22	12	–	1	76	296
Total	3,000	2,712	1,826	700	3,185	103	11,526	10,876

(1) Remuneration accrued in 2017. This amount is not satisfied until the approval of 2017 by-law stipulated remuneration by the General Shareholders Meeting 2018.

(2) Appointed member on 8 April 2016. Furthermore, on 26 April 2016 the appointment was approved as a member of the Audit and Risk Supervision Committee.

(3) Appointed member on 31 March 2017. On that same date, the Board of Directors approved the appointment as a member of the Audit and Risk Supervision Committee.

(4) Appointed member-business CEO on 31 March 2017. The remuneration received by Francisco Martínez Córcoles prior to his appointment as member-business CEO is included in Note 50 dedicated to senior directive's remuneration.

(5) Ceased as member of the Board of Directors at their meeting on 8 April 2016.

(6) Ceased as member of the Board of Directors at their meeting on 31 March 2017.

(7) Ceased as member of the Board of Directors at their meeting on 31 March 2017.

(8) Amount relates to variable remuneration received in the year, based on attainment of targets and personal performance in 2016.

Currently, all members of the Board of Directors of IBERDROLA, except for Francisco Martínez Córcoles, assume responsibility for any of the five committees of the Board.

d) Civil Liability Insurance

The fee paid to cover directors' Civil Liability Insurance amounts to EUR 71 thousand and EUR 62 thousand in 2017 and 2016, respectively.

e) Other concepts

The expenses of the Board of Directors related to external services and other items during 2017 and 2016 amounted to EUR 1,855 thousand and EUR 1,826 thousand, respectively.

In 2017 and 2016 rebates were received amounting to EUR 53 thousand and EUR 287 thousand, respectively, with respect to the adjustment of the pension insurance policies relating to former Members of the Board of Directors.

The undistributed by-law stipulated remuneration for 2017 amounting to EUR 3,600 thousand can be externalized to cover the obligations incurred by the Company to ensure them, in the event they should be materialized.

The Company does not have any commitment, neither contribution or defined benefit, to any retirement scheme or long term savings for any director.

At 31 December 2017 and 2016 there are no loan or advance granted by the IBERDROLA Group to the members of the Board of Directors of IBERDROLA.

48.2 Remuneration through the delivery of Company shares

Section 4 of Article 48 of IBERDROLA's by-laws stipulates that independently of the provisions of the foregoing paragraph, and subject always to the approval of the General Shareholders' Meeting, the compensation of directors may also consist of the delivery of shares or options thereon, as well as a payment which takes as its reference the value of the Company's shares.

Consequently, the remuneration through the delivery of Company's shares, or any other remuneration related to such shares is additional, compatible and independent of profit sharing, which is established in Section 1 article 48 of the by-laws of IBERDROLA.

The General Shareholders Meeting of 27 May 2011 and 28 March 2014 approved the Strategic Bonus 2011-2013 and the Strategic Bonus 2014-2016, respectively, as a long-term incentive tied to the IBERDROLA Group's performance in relation to certain metrics as described in Note 21.

Regarding the Strategic Bonus 2011-2013, during the first quarter of 2016 the third and last annual settlements were made. The Chairman and CEO received 536,359 IBERDROLA shares. The former Chief Operating Officer received 90,640 shares.

On 25 April 2017 the Board of Directors, on the recommendation of the Appointments and Remuneration Committee, decided to pay the 2014 -2016 Strategic Bonus on determining that of the objectives had been met in 93.20%. In the first half of 2017 the first of the three annual payments were made. The Chairman and CEO received 510,596 IBERDROLA shares. The shares thus granted to Francisco Martínez Córcoles, 120,931 shares, correspond to his performance prior to his appointment as member-business CEO.

48.3 Termination benefits

In the event of termination of a non-executive director prior to the end of the period for which he was appointed not due to non-compliance attributable to such director and not due exclusively to his own will, the Company will pay such director a termination benefit subject to the director's obligation during the remaining period of his term (with a maximum of two years) not to accept positions on the governing bodies of companies in the energy sector or competing companies and not to participate in the management or advisory of the same in any other form.

Termination benefits are equal to 90% of the fixed amount the director would have received for serving his or her remaining term as officer (maintaining any annual fixed amount receivable upon leaving the Board), that could not exceed an amount that is twice 90% of that annual fixed amount.

Since the end of the 90s, executive directors, as well as a group of managers, have the right to receive a termination benefit in the event of termination of the contractual relationship with the Company not due to non-compliance attributable to such director and not due exclusively to his own will. The amount of compensation for the chairman and chief executive officer is currently set at three annuities. The limit shall be two annuities for new contracts with executive directors and senior executives, since 2011.

In addition, executive director contracts contain a non-compete clause in respect of companies and activities of a similar nature, applicable throughout the director's relationship with the Company and for a maximum of two years subsequent to departure. As compensation for this commitment, the executive directors are entitled to receive a payment equal to the remuneration that would correspond to these periods.

48.4 By-law stipulated remuneration in 2018

At the proposal of the Remuneration Committee, the Board of Directors unanimously resolved to freeze, for the 2017 fiscal year, directors' compensation in the form of fixed annual remuneration based on position and meeting attendance fees, as it has done since 2008.

Moreover, the Board of Directors decided on a fix remuneration in 2018 of EUR 2,250 and EUR 1,000 thousand respectively for the former business chief executive officer and maintain the limit of variable annual remuneration of EUR 3,250 and 1,000 thousand respectively.

49. INFORMATION REGARDING COMPLIANCE WITH ARTICLE 229 OF THE SPANISH COMPANIES LAW

As established in article 229 of the Spanish Companies Law (Ley de Sociedades de Capital) introduced by the Royal Decree-law 1/2010 of 2 July 2010 and in the Law 31/2014, of 3 December 2014, modifying the Spanish Companies Law for the improvement of corporate governance, the conflicts of interest.

The president and CEO and the member-business CEO were absent during the deliberation of all the agreements related to his system of remuneration and assurance.

Finally, Mr. Sagredo Ormaza was absent during the deliberation of that agreements involving Kutxabank, S.A.

50. REMUNERATION OF SENIOR EXECUTIVES

Senior executives are those who answer directly to the Company's Board of Directors, chairman and chief executive officer and, in all cases, the Internal audit director, apart from any other director recognised as senior executive.

At 31 December 2017 and 2016, the Company had 5 and 6 senior executives respectively.

The staff costs relating to senior executives amounting to EUR 10,373 thousand and EUR 10,657 thousand in 2017 and 2016, respectively, are recognised under the "Staff costs" heading in the consolidated income statements of the mentioned years.

The remuneration and other compensation received by senior executives in 2017 and 2016 are detailed below:

Thousand euros	31.12.2017 ⁽¹⁾	31.12.2016 ⁽²⁾
Retribution in cash	4,227	5,447
Performance-based compensation	2,909	3,193
Retribution in kind	421	453
Payments to account not charged	36	58
Social Security	70	86
Promoter contribution pension plan / social prevention insurance	40	41
Complementary policy accrual	2,171	979
Complementary policy risk	499	400
Total	10,373	10,657

Number of shares	31.12.2017	31.12.2016
Share-based payment plan, <i>Strategic bonus</i>	261,106	364,173
Charged taxes and payments in cash <i>Strategic bonus</i> (thousand euros)	2,503	2,317

(1) Includes the proportional part of remuneration and other payments to the Business CEO until 31 March 2017, then appointed member-business CEO.

Includes the proportional part of remuneration and other payments, as well as the settlement of the *Strategic bonus 2014-2016* for the Director of Internal Audit, until the date of retirement.

Includes the proportional part of the Internal Audit Officer until the date of appointment, on 21 February 2017.

During the first semester of 2017, 261,106 shares corresponding to the Strategic Bonus 2014-2016, were delivered to senior management, as described in Note 21; thus, the members of senior management received IBERDROLA shares in equal amounts in 2017, 2018 and 2019.

- (2) Includes the proportional part of remuneration and other payments, as well as the settlement of the strategic bonus 2011-2013 for the General Secretary, until 9 January 2016.

Includes the proportional part for the Legal Services Director from 9 January 2016.

During the first semester of 2016, 364,173 shares corresponding to the Strategic Bonus 2011-2013, were delivered to senior management, as described in Note 21; thus, the members of senior management received IBERDROLA shares in equal amounts in 2014, 2015 and 2016.

A maximum of 1,000,000 shares in aggregate are to be delivered to senior executives under the 2017-2019 Strategic Bonus (Note 21), tied to their success in achievement of objectives. As of 31 December 2017, EUR 1,551 thousand have been provided for these commitments.

For senior executives, including executive directors, there are clauses providing guarantees or protection against different cases of contract termination. These contracts have been approved by the Board of Directors of IBERDROLA and are described in Note 48.

The amount of termination benefits is based on the length of service at the Company and the causes of cease, with a maximum payment of five annuities. Since 2011, for contracts with senior executives, the maximum will be two annuities.

The contracts for senior executives set in any case an obligation not to compete in relation to companies and activities similar in nature to those of IBERDROLA and the Group for a period not less than one year after its termination.

On the other hand, during 2017 and 2016 there were no other transactions with the executives outside the normal course of the business.

51. RELATED PARTY TRANSACTIONS AND BALANCES

The transactions detailed below are specific to the ordinary business activity and have been carried out on an arm's-length basis:

Transactions carried out by IBERDROLA with significant shareholders

The most noteworthy transactions in 2017 and 2016 are as follows:

	Significant shareholders ⁽¹⁾	
	2017	2016
Thousand euros	Qatar Investment Authority	Qatar Investment Authority
Other transactions		
Dividends and other distributed profit ⁽²⁾	18,948	21,571

In 2017 and 2016 there are no significant transactions by other IBERDROLA Group companies with major shareholders.

Other transactions within companies accounted for using the equity method

The breakdown of transactions with companies accounted for using the equity method which are related parties that were not eliminated in consolidation (Note 2.b) is as follows:

Thousand euros	2017						2016					
	Asset acquisition	Trade payables	Trade receivables	Sales and services provided	Procurements	Received services	Asset acquisition	Trade payables	Trade receivables	Sales and services provided	Procurements	Received services
SIEMENS-GAMESA	365,038	126,339	2,678	2,898	1,836	55,445	483,113	356,036	8,961	3,127	785	62,521
Amara, S.A.U.	–	27	–	666	30	3,611	11,635	4,737	–	2,169	362	13,798
East Anglia Offshore Wind, Ltd.	–	–	–	226	–	–	18,328	7,407	740	203	–	–
Societa Energie Rinnovabili, S.p.A.(Note 14.a)	–	–	–	–	–	–	–	–	–	774	1,923	–
Societa Energie Rinnovabili 1, S.p.A.(Note 14.a)	–	–	–	–	–	–	–	–	–	172	2,132	–
Nuclenor, S.A.	325	41,848	1,147	1,617	–	–	–	27,719	27	586	87	–
NGET/SPT Upgrades Ltd. (Note 14.a)	117,397	–	891	2,848	–	–	63,707	(285)	699	3,109	–	–
Bidelek Sareak, A.I.E	–	–	–	–	–	–	5,952	18,671	–	1,562	–	–
Termopernambuco, S.A.	–	–	–	–	–	–	–	–	7,324	21,715	–	–
Neoenergia, S.A.	–	–	–	–	–	–	–	665	266,274	205	–	–
Iberdrola Renovables de la Rioja, S.A.	–	–	–	517	2,811	–	–	774	54	535	–	8,017
Morecambe Wind, Ltd.	–	–	–	1,041	13,284	–	–	606	–	1,151	14,605	–
Companhia Hidrelétrica Teles Pires, S.A.	–	9,598	19	530	101,526	–	–	–	–	–	–	–
Norte Energia, S.A.	–	15,809	–	–	125,112	–	–	–	–	–	–	–
Other companies	13	46,648	15,669	16,794	5,548	1,603	22	39,383	30,337	15,801	10,861	–
Total	482,773	240,269	20,404	27,137	250,147	60,659	582,757	455,713	314,416	51,109	30,755	84,336

On 21 December 2011, IBERDROLA and Gamesa Eólica, S.L.U (a company belonging to the GAMESA Group) entered into a framework agreement for the supply and maintenance of wind turbines whereby:

- IBERDROLA undertakes to acquire from GAMESA a minimum amount of megawatts equal to 50% of the total fleet of onshore wind turbines acquired by IBERDROLA for its renewables business unit during the term of the framework agreement.
- This commitment will remain in effect from 1 January 2013 until 31 December 2022 or until the number of megawatts acquired by IBERDROLA from GAMESA under the framework agreement reaches 3,800, whichever occurs first.
- IBERDROLA and GAMESA will work closely together on new opportunities relating to the offshore wind power business.
- IBERDROLA and GAMESA will work together in the area of maintenance services to enable GAMESA to become the benchmark company in the maintenance of wind farms for IBERDROLA's entire scope of activity. In particular, the two companies agreed:
 - o Establish new areas of study and analysis in the provision of maintenance services by GAMESA to IBERDROLA and, in particular, in the provision of maintenance services in the United States, the sale and installation of reliability improvements in wind turbines, the extension of their useful life, and the conversion and upgrade of wind turbines.
 - o The extension of the current maintenance services, in the following terms and conditions:
 - Spare Parts and Repair Supply Contract (GPRSA): entered into effect from 1 January 2016 and will remain in effect during a period of five years. Supply and repair of spare parts, small and large, for the GAMESA technology fleet in Spain.
 - Energy Thrust technical improvement: On 1 October 2015 and 22 December 2016, IBERDROLA and GAMESA have signed two contracts under which IBERDROLA will incorporate in its G8X wind turbines the Energy Thrust technical improvement in 2,220 MW in Spain, Portugal, Italy, Romania, Greece and Cyprus, with the aim of increasing the average production of its wind turbines, as it enables that the turbines adapt perfectly to the specific conditions of the site, which improves the energy delivered to the net in all wind conditions and increase the efficiency and performance of the machines. These contracts are valid for five years.
 - Maintenance agreement in Spain and Portugal

Location	Farm	No. Turbines	MW	Family	Model	Start	End
Spain	Some	1,188		G4X	-	01/01/2015	01/01/2018 ⁽³⁾
Spain	Some	1,136		G5X	-	01/01/2015	01/01/2018 ⁽³⁾

Minimum number of wind turbines in maintenance(3)				
	Year 1	Year 2	Year 3	Year 4 (and expansion 1 and 2)
Risk Service scope ⁽¹⁾	2,168 MW (92 MW in Portugal)	1,800 MW	1,600 MW	1,400 MW
Scope AT+R ⁽²⁾	338 MW	Rest of wind farms	Rest of wind farms	Rest of wind farms

(1) Risk Service scope includes the preventive maintenance, as well as the Technical Assistance, for a fixed annual price per turbine.

(2) AT+R scope refers to the Technical Assistance and refill supplies (optional).

(3) Contract extended until 28 February 2018, when the contracts resulting from the bid awarded in January 2018 will become effective.

▪ Maintenance agreements in Romania, Mexico and Brazil

Location	Farm	No. Turbines	MW	Technology	Model	Start	End
Romania	Mihai Viteazu	40	80	G8X		31/01/2016	31/01/2019 ⁽¹⁾
Mexico ⁽³⁾	Some	246		G5X		01/11/2016	01/11/2018 ⁽²⁾
Brazil ⁽³⁾	Mel 2	10	20	G8X	G90	15/06/2016	15/06/2018
		10	20	G8X	G90	16/06/2018	(4)
	Arizona 1	14	28	G8X	G90	01/08/2018	
	Caetité 1	15	30	G8X	G90	01/01/2018	(4)
	Caetité 2	15	30	G8X	G90	01/01/2018	(4)
	Caetité 3	15	30	G8X	G90	01/01/2018	(4)
	Santana 1	15	30	G8X	G114	01/04/2019	(4)
	Santana 2	12	24	G8X	G114	01/04/2019	(4)
	Calango 1	15	30	G8X	G87	01/09/2018	(4)
	Calango 2	15	30	G8X	G87	01/09/2018	(4)
	Calango 3	15	30	G8X	G90	01/09/2018	(4)
	Calango 4	15	30	G8X	G90	01/09/2018	(4)
	Calango 5	15	30	G8X	G87	01/09/2018	(4)
	Calango 6	15	30	G8X	G114	01/04/2019	(4)

(1) Extendible at IBERDROLA's criteria for 2 consecutive additional periods of 6 months each.

(2) Extendible at IBERDROLA's criteria for 1 consecutive additional periods of 1 year.

(3) Together with Mel 2 and Arizona wind farms, including under the contract executed on 27 December 2017, Gamesa was awarded on the same bid the wind farms in Brazil and the maintenance of Pier II in Mexico when the guarantee runs up, expected throughout 2018.

(4) 3 year duration, extendible at IBERDROLA's criteria for 2 consecutive additional periods of 1 year each.

Transactions with directors and senior executives

	Significant shareholders ⁽¹⁾			
	2017		2016	
Thousand euros	Directors	Executives	Directors	Executives
Transaction type				
Expenses and income				
Received services ⁽¹⁾	–	–	648	–
Other transactions				
Dividends and other distributed profit ⁽²⁾	765	179	649	81

(1) The contracts to which this amount is related to 2016, were awarded respecting the provisions of the Procedure, regarding conflicts of interest and transactions related to directors, significant shareholders and senior managers. Those contracts gather the billing of the company Soil Tratamiento de Aguas Industriales S.L. company's billing was USD 722 thousand (about EUR 648 thousand), linked to the member of the Board Iñigo Víctor de Oriol Ibarra, contractor for the supply, transport, assembly and start-up of Cogeneración Ramos en México S.A.'s water treatment plant. There are no transactions in 2017.

(2) The amounts considered dividends and other distributed profit correspond to the free allocation rights arising from the scrip dividends agreed upon by the Shareholders at the General Meetings of 31 March 2017, 8 April 2016, and 27 March 2015, respectively have been sold to IBERDROLA at a guaranteed fixed price in accordance with the terms and conditions of the aforementioned increases.

52. SUBSEQUENT EVENTS AS OF 31 DECEMBER 2017

After 31 December 2017 the main events have been as follows:

Iberdrola dividendo flexible

On 9 January 2018, the facts in relation to the implementation of the second paid-up capital increase (*Iberdrola dividend flexible*) approved at the IBERDROLA General Shareholders' Meeting on 31 March 2017, under item 13 of the agenda, were determined and were as follows:

- The maximum number of shares to be issued under the capital increase is 137,337,282.
- The number of free allocation rights required to receive one new share is 46.
- The maximum nominal value of the capital increase amounts to EUR 103,002,962
- The acquisition price of the free allocation rights under the purchase commitment made by IBERDROLA is EUR 0.140.
- Gross dividend amount per share was EUR 0.140.

At the end of the trading period for free allocation rights:

- The holders of 699,283,602 free allocation rights have accepted the irrevocable commitment to purchase assumed by IBERDROLA. Accordingly, IBERDROLA will acquire such rights for a gross amount of EUR 97,900 thousand.

- During the period established for this purpose, the holders of 58,717,340 shares of the Company decided to receive interim dividends. Thus, the gross total of distributed interim dividends was EUR 8,220,428. As a result, these shareholders have expressly forgone 58,717,340 free allocation rights and therefore 1,276,464 new shares.
- The final number of new ordinary shares with a nominal value of EUR 0.75 to be issued will be 120,859,000, giving a nominal capital increase from this implementation of EUR 90,644 thousand. This will add 1.913% to IBERDROLA's pre-issue share capital.
- As a result, the share capital of Iberdrola following the capital increase amounts to EUR 4,828,780,500, represented by 6,438,374,000 ordinary shares of EUR 0.75 par value each, fully subscribed and paid.
- Subject to compliance with on legal requirements (and verification of compliance by the Spanish National Security Market Commission), the new shares are expected to be admitted for trading on the continuous market of the Madrid, Barcelona, Bilbao and Valencia stock exchanges on 6 February 2018. The ordinary trading of new shares is expected to start on 7 February 2018.

Transactions with treasury shares

From the 2017 year-end until 16 February 2018 23,420,543 treasury shares have been acquired and 866,659 shares have been delivered. As of 16 February 2018 Iberdrola, S.A. had EUR 98,264,033 in treasury shares.

Other transactions

Following the closing of the year, Avangrid Renewables Holdings, Inc., subsidiary of AVANGRID, has entered into the following agreements (Note 34):

- Final agreement for the sale of the gas trading business, operated under the name Tensor Energy Services, LLC, to CCI U.S Asset Holdings LLC, subsidiary of Castleton Commodities International, LLC. The transaction is subject to the acceptance of the usual terms and conditions and it is expected to be completed in March 2018, and
- Final agreement for the sale of Enstor Gas, LLC, operating the gas storage business unit, to Amphora Gas Storage USA, LLC, subsidiary of ArcLight Capital Partners, LLC. The transaction, subject to the acceptance of the usual closing terms and conditions, is expected to be completed during the the second quarter of 2018.

Banking Market

Significant transactions carried out by IBERDROLA after 31 December 2017 are as follows:

2017						
Lessor	Operation	Million of euros	Currency	Coupon	Extension	Maturity
Main new financing transactions						
Iberdrola S.A. ⁽¹⁾	Syndicated credit	2,979	EUR	-	option to extend it for 1 +1 year	5 years
	Syndicated credit	2,321	EUR	-	option to extend it for 1 +1 year	5 years
Iberdrola Finanzas	Private issuance	200	EUR	Euribor3m +0.35%	-	2 years
	Bond extension	200	EUR	1,621%	-	11.75 years
CELPE ⁽²⁾	Loan 4131	45	USD	-	-	3 years
CELPE	Credit	100	BRL			1 year
COELBA	Credit	100	BRL			1 year
COSERN	Credit	50	BRL	-	-	1 year
ELEKTRO	Credit	50	BRL			1 year
Main transaction for extending existing financing						
Iberdrola Financiación	Bilateral green loan	500	EUR	-	+6 months	18 months

(1) Reconfiguration operation that includes the extension of the due date of the existing EUR 4,187 million for 1 year and EUR 213 million for 2 years, both already existing, and a credit increase of EUR 900 million with the option of extension for 1+1 years.

(2) Currency swaps to company's functional currency.

The IBERDROLA Group has arranged derivatives for future financing for a nominal amount of EUR 1,180,000 thousand.

53. FEES FOR SERVICES PROVIDED BY AUDITORS

The fees resulted from the services provided in 2017 and 2016 by the statutory auditor are detailed in the chart below:

Thousand euros	TO IBERDROLA			To the rest of the Group Companies			Total		
	Main Auditor	Other auditors	Total	Main Auditor	Other auditors	Total	Main Auditor	Other auditors	Total
Year 2017									
Auditing services	3,744	-	3,744	21,266	371	21,637	25,010	371	25,381
Other provided services related to auditing	1,386	-	1,386	2,336	1,633	3,969	3,722	1,633	5,355
	5,130	-	5,130	23,602	2,004	25,606	28,732	2,004	30,736
Other professional services	-	-	-	-	481	481	-	481	481
Total	5,130	-	5,130	23,602	2,485	26,087	28,732	2,485	31,217

Thousand euros	TO IBERDROLA			To the rest of the Group Companies			Total		
	Main Auditor	Other auditors	Total	Main Auditor	Other auditors	Total	Main Auditor	Other auditors	Total
Year 2016									
Auditing services	2,553	–	2,553	21,082	61	21,143	23,635	61	23,696
Other provided services related to auditing	918	–	918	1,523	111	1,634	2,441	111	2,552
	3,471	–	3,471	22,605	172	22,777	26,076	172	26,248
Other professional services	–	3,204	3,204	60	5,220	5,280	60	8,424	8,484
Total	3,471	3,204	6,675	22,665	5,392	28,057	26,136	8,596	34,732

54. EARNINGS PER SHARE

The weighted average number of ordinary shares used in the calculation of the basic and diluted earnings per share at 31 December 2017 and 2016 (Note 4.z) is as follows:

	2017	2016 Restated (Note 2.c)
Average number of shares during the year	6,525,767,288	6,709,045,000
Average number of treasury shares held	(125,969,679)	(83,102,299)
Number of shares outstanding	6,399,797,609	6,625,942,701

The breakdown of the basic and diluted earnings per share at 31 December 2017 and 2016 is the following:

	2017	2016 Restated (Note 2.c)
Net profit from continuing operations (thousand euros)	3,057,005	2,805,646
Net profit from discontinuing operations (thousand euros)	(253,011)	(100,663)
Number of shares outstanding	6,399,797,609	6,625,942,701
Basic and diluted earnings per share (euros) from continuing operations	0.478	0.423
Basic and diluted earnings per share (euros) from discontinued operations	(0.040)	(0.015)

In the Consolidated financial statements of the IBERDROLA Group for the years ended 31 December 2017 and 2016, basic earnings per share coincide with diluted earnings per share, since there were no potential shares outstanding during these years that could be converted into ordinary shares.

As described in Note 21 and 52 of these Consolidated financial statements, in July 2017 and January 2018 two free capital increases took place in the context of the *Iberdrola dividendo flexible* programme. According to IAS 33: "Earning per share" these free capital increases have resulted in the correction of the earnings per share corresponding to the 2016 year end included in the Consolidated financial statements for that year, and they have been taken into account to calculate the 2017 year share basic and diluted earnings per share.

55. PREPARATION OF THE CONSOLIDATED FINANCIAL STATEMENTS

The Consolidated financial statements for the year ended on 31 December 2017 have been formally prepared by the directors of IBERDROLA on 20 February 2018.

56. EXPLANATION ADDED FOR TRANSLATION TO ENGLISH

These Consolidated financial statements are presented on the basis of IFRS, as adopted by the European Union. Certain accounting practices applied by the Group that conform to IFRS may not conform to other generally accepted accounting principles in other countries.

APPENDIX I

YEAR 2017 ADDITIONAL INFORMATION RELATED TO GROUP COMPANIES, JOINTLY-CONTROLLED COMPANIES AND ASSOCIATES OF THE IBERDROLA GROUP

Below is the detail of the proportion of direct or indirect ownership that Iberdrola, S.A. holds in its subsidiaries in its different businesses. The proportion of decision-making votes in the bodies of these companies controlled by IBERDROLA basically corresponds with the proportion of ownership.

(*) The consolidation method by company is detailed as follows:

G Full consolidation

E: Integration by equity method

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
<u>Deregulated Business</u>					
Spain					
Cobane, A.I.E.	Spain	Energy	100.00	100.00	G
Cogeneración Gequisa, S.A.	Spain	Energy	50.00	50.00	E
Enercrisa, S.A.	Spain	Energy	50.00	50.00	E
Energía Portátil Cogeneración, S.A.	Spain	Energy	50.00	50.00	E
Energyworks Aranda, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Carballo, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Cartagena, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Fonz, S.L.	Spain	Energy	100.00	100.00	G
Energyworks Milagros, S.L.	Spain	Energy	100.00	100.00	G
Energyworks Monzón, S.L.	Spain	Energy	100.00	100.00	G
Energyworks San Millán, S.L.	Spain	Energy	100.00	100.00	G
Energyworks Villarrobledo, S.L.	Spain	Energy	99.00	99.00	G
Energyworks Vit-Vall, S.L.	Spain	Energy	99.00	99.00	G
Fudepor, S.L.	Spain	Energy	50.00	50.00	E
Fuerzas Eléctricas de Navarra, S.A.	Spain	Energy	100.00	100.00	G
Hidroeléctrica Ibérica, S.L.U.	Spain	Energy	100.00	100.00	G
Iberdrola Clientes, S.A.U.	Spain	Retailer	100.00	100.00	G
Iberdrola Cogeneración, S.L.U.	Spain	Holding	100.00	100.00	G
Iberdrola Comercialización de Último Recurso, S.A.U.	Spain	Retailer	100.00	100.00	G
Iberdrola Generación España, S.A.U.	Spain	Energy	100.00	100.00	G
Iberdrola Generación Nuclear, S.A.U.	Spain	Energy	100.00	100.00	G
Iberdrola Generación, S.A.U.	Spain	Energy	100.00	100.00	G
Iberdrola Operación y Mantenimiento, S.A.U.	Spain	Services	100.00	100.00	G
Iberdrola Servicios Energéticos, S.A.U.	Spain	Services	100.00	100.00	G
Iberduero, S.L.U.	Spain	Energy	100.00	100.00	G
Intermalta Energía, S.A.	Spain	Energy	50.00	50.00	E
Nuclenor, S.A.	Spain	Energy	50.00	50.00	E
Peninsular Cogeneración, S.A.	Spain	Energy	50.00	50.00	E
Productos y Servicios de Confort, S.A.	Spain	Services	100.00	100.00	G
Subgrupo Tirme ⁽²⁾	Spain	Energy	20.00	20.00	E
Tarragona Power, S.L.U.	Spain	Energy	100.00	100.00	G
Tecnatom, S.A. ⁽⁵⁾	Spain	Services	30.00	30.00	-
Iberdrola Clientes Portugal, Unipessoal Ltda.	Portugal	Retailer	100.00	100.00	G
Ibertâmega – Sistema Electroprodutor Do Tâmega, S.A.	Portugal	Energy	100.00	-	G
Iberdrola Suporte Projecto Tamega, Unipessoal Lda. (Formerly Iberdrola Engenharia e Construção Portugal, Unipessoal Lda.)	Portugal	Energy	100.00	100.00	G
United Kinadom					

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Manweb Energy Consultants, Ltd.	United Kingdom	Energy	100.00	100.00	G
Scottish Power Generation Holdings Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower (DCL), Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower (SCPL), Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Energy Management (Agency), Ltd.	United Kingdom	Services	100.00	100.00	G
ScottishPower Energy Management, Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Energy Retail, Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Generation, Ltd.	United Kingdom	Energy	100.00	100.00	G
SMW, Ltd.	United Kingdom	Other	100.00	100.00	G
SP Dataserve, Ltd.	United Kingdom	Debt management	100.00	100.00	G
SP Gas Transportation Cockenzie, Ltd.	United Kingdom	Inactive	100.00	100.00	G
SP Gas Transportation Hatfield, Ltd.	United Kingdom	Inactive	100.00	100.00	G
SP Smart Meter Assets, Ltd.	United Kingdom	Energy	100.00	-	G
Rest of Europe					
Iberdrola Energy Deutschland, GmbH.	Germany	Services	100.00	100.00	G
Iberdrola Energie France, S.A.S.	France	Services	100.00	100.00	G
Iberdrola Clienti Italia, S.R.L. (formerly Iberdrola Energía Italia, S.R.L.)	Italy	Services	100.00	100.00	G
United States					
Caledonia Energy Partners, LLC	USA	Energy	81.50	81.50	G
E.O. Resources, LLC	USA	Energy	81.50	81.50	G
Enstor Energy Services, LLC	USA	Energy	81.50	81.50	G
Enstor Gas, LLC	USA	Holding	81.50	81.50	G
Enstor Grama Ridge Storage and Transportation, LLC	USA	Energy	81.50	81.50	G
Enstor Houston Hub Storage and Transportation, Ltd.	USA	Energy	81.50	81.50	G
Enstor Inc.	USA	Holding	81.50	81.50	G
Enstor Katy Storage and Transportation, LLC	USA	Energy	81.50	81.50	G
Enstor Louisiana, LLC	USA	Energy	81.50	81.50	G
Enstor Operating Company, LLC	USA	Holding	81.50	81.50	G
Enstor Sundance Storage and Transportation, LLC	USA	Energy	81.50	81.50	G
Enstor Waha Storage and Transportation, LLC	USA	Energy	81.50	81.50	G
Freebird Assets Inc.	USA	Holding	81.50	81.50	G
Freebird Gas Storage, LLC	USA	Energy	81.50	81.50	G
Gemini Capital, LLC	USA	Energy	81.50	81.50	G
Mexico					
Hidro I, S.L.U.	Spain	Holding	100.00	100.00	G
Cinergy, S.R.L. de C.V.	Mexico	Services	100.00	100.00	G
Electricidad de Veracruz, S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
Enertek, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Iberdrola Clientes, S.A. de C.V.	Mexico	Retailer	100.00	100.00	G
Iberdrola Cogeneración Altamira, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Cogeneración Bajío, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Cogeneración Ramos, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Energía Altamira de Servicios, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Iberdrola Energía Altamira, S.A. de C.V.	Mexico	Energy	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Iberdrola Energía Baja California, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Energía del Golfo, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Energía Escobedo, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Energía La Laguna, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Iberdrola Energía Monterrey, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Iberdrola Energía Noroeste, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Energía Tamazunchale, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Iberdrola Energía Topolobampo, S.A. de C.V.	Mexico	Energy	100.00	-	G
Iberdrola Generación, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Iberdrola Generación México, S.A. de C.V.	Mexico	Holding	100.00	100.00	G
Iberdrola México, S.A. de C.V.	Mexico	Holding	100.00	100.00	G
Iberdrola Servicios Corporativos, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Administrative services Tamazunchale, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Servicios de Operación La Laguna, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Industrial and administrative services del Noreste, S.R.L. de C.V.	Mexico	Gas	51.12	51.12	G
Brazil					
Baguari Geração de Energia Elétrica, S.A.	Brazil	Energy	52.45	39.00	G
Bahia PCH II, S.A. Bahía Pequeña C. Hidroeléctrica	Brazil	Energy	52.45	39.00	-
Bahia PCH III, S.A. Bahía Geração de Energia	Brazil	Energy	52.45	39.00	-
Belo Monte Participações, S.A.	Brazil	Energy	52.45	39.00	G
Companhia Hidrelétrica Teles Pires, S.A.	Brazil	Energy	26.75	19.89	E
Elektro Comercializadora de Energia Ltda.	Brazil	Retailer	52.45	100.00	G
Energetica Aguas da Pedra, S.A.	Brazil	Energy	26.75	19.89	E
Energética Corumba III, S.A. ⁽⁴⁾	Brazil	Energy	13.11	9.75	E
Geração Ceu Azul, S.A.	Brazil	Energy	52.45	39.00	G
Geração CIII, S.A.	Brazil	Energy	52.45	39.00	G
Itapebí Geração de Energia, S.A.	Brazil	Energy	52.45	39.00	G
Meridiano 1 Energia renovavel, S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Meridiano 2 Energia renovavel, S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Meridiano 3 Energia renovavel, S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Meridiano 4 Energia renovavel, S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Meridiano 5 Energia renovavel, S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Meridiano 6 Energia renovavel, S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
NC Energia, S.A.	Brazil	Energy	52.45	39.00	G
Neoenergia Operação e Manutenção, S.A.	Brazil	Services	52.45	39.00	G
Norte Energia, S.A. ⁽⁴⁾	Brazil	Energy	5.25	3.90	E
PCH Alto do Rio Grande, S.A.	Brazil	Energy	52.45	39.00	G
Sever RJ Participacoes S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Soumaya RJ Participacoes S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Tacca RJ Participacoes S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Teles Pires Participações, S.A.	Brazil	Holding	26.52	19.72	E
Termopernambuco, S.A.	Brazil	Energy	52.45	39.00	G
Titanum RJ Participacoes S.A. ⁽⁵⁾	Brazil	Energy	52.45	39.00	-
Canada					
Iberdrola Canadá Energy Services, Ltd.	Canada	Gas	100.00	100.00	G
Renewable Business					
Spain					
Anselmo León Hidráulica, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Biocantaber, S.L.	Spain	Energy	50.00	50.00	E
Bionor Eólica, S.A.	Spain	Energy	57.00	57.00	G
Biovent Energía, S.A.	Spain	Energy	95.00	95.00	G
Cantaber Generación Eólica, S.L.	Spain	Energy	69.01	69.01	G
Ciener, S.A.U.	Spain	Holding	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Desarrollo de Energías Renovables de La Rioja, S.A. ⁽²⁾	Spain	Energy	40.51	40.51	E
Ecobarcial, S.A. ⁽²⁾	Spain	Energy	43.78	43.78	E
Electra de Malvana, S.A. ⁽²⁾	Spain	Energy	48.00	48.00	E
Electra Sierra de los Castillos, S.L.	Spain	Energy	97.00	97.00	G
Electra Sierra de San Pedro, S.A.	Spain	Energy	80.00	80.00	G
Eléctricas de la Alcarria, S.L.	Spain	Energy	90.00	90.00	G
Eme Hueneja Cuatro, S.L.	Spain	Energy	100.00	100.00	G
Energía de Castilla y León, S.A.	Spain	Energy	85.50	85.50	G
Energías Ecológicas de Tenerife, S.A. ⁽³⁾	Spain	Energy	50.00	50.00	G
Energías Eólicas de Cuenca, S.A.U.	Spain	Energy	100.00	100.00	G
Energías Renovables de la Región de Murcia, S.A.U.	Spain	Energy	100.00	100.00	G
Eólica Campollano, S.A. ⁽²⁾	Spain	Energy	25.00	25.00	E
Eólica 2000, S.L.	Spain	Holding	51.00	51.00	G
Eólicas de Euskadi, S.A.U.	Spain	Energy	100.00	100.00	G
Iberdrola Energía Solar de Puertollano, S.A.	Spain	Energy	90.00	90.00	G
Iberdrola Eólica Marina, S.A.U.	Spain	Energy	100.00	-	G
Iberdrola Renewables Solutions, S.A.U.	Spain	Energy	100.00	100.00	G
Iberdrola Renovables Galicia, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Renovables Andalucía, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Renovables Aragón, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Renovables Canarias, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Renovables Castilla – La Mancha, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Renovables Castilla y León, S.A.	Spain	Holding	95.00	95.00	G
Iberdrola Renovables Energía, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Renovables La Rioja, S.A. ⁽²⁾	Spain	Holding	63.55	63.55	E
Ibernova Promociones, S.A.U.	Spain	Holding	100.00	100.00	G
Iberjalón, S.A.	Spain	Energy	80.00	80.00	G
Minicentrales del Tajo, S.A.	Spain	Energy	66.58	66.58	G
Molinos de La Rioja, S.A. ⁽²⁾	Spain	Energy	42.37	42.37	E
Molinos del Cidacos, S.A. ⁽²⁾	Spain	Energy	31.78	31.78	E
Parque Eólico Cruz del Carrutero, S.L.	Spain	Energy	76.00	76.00	G
Peache Energías Renovables, S.A.	Spain	Energy	95.00	95.00	G
Producciones Energéticas Asturianas, S.L.	Spain	Energy	80.00	80.00	G
Producciones Energéticas de Castilla y León, S.A. ⁽²⁾	Spain	Energy	85.50	85.50	E
Renovables de la Ribera, S.L. ⁽⁵⁾	Spain	Energy	50.00	50.00	-
Sistemas Energéticos Altamira, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos Chandrexa, S.A.	Spain	Energy	96.07	96.07	G
Sistemas Energéticos del Moncayo, S.A.	Spain	Energy	75.00	75.00	G
Sistemas Energéticos La Gomera, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos La Higuera, S.A.	Spain	Energy	55.00	55.00	G
Sistemas Energéticos de la Linera, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos La Muela, S.A.	Spain	Energy	80.00	80.00	G
Sistemas Energéticos Mas Garullo, S.A.	Spain	Energy	78.00	78.00	G
Sistemas Energéticos Nacimiento, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos Tacica de Plata, S.A.U.	Spain	Energy	100.00	100.00	G
Sistemas Energéticos Torralba, S.A.	Spain	Energy	60.00	60.00	G
Sistemas Energetics Savalla del Comtat, S.A.U.	Spain	Energy	100.00	100.00	G
Sociedad Gestora de Parques Eólicos de Andalucía, S.A.	Spain	Energy	63.91	63.91	G
Sotavento Galicia, S.A. ⁽⁴⁾	Spain	Energy	8.00	8.00	E
United Kingdom					
Celtpower, Ltd.	United Kingdom	Energy	50.00	50.00	E
Coldham Windfarm, Ltd.	United Kingdom	Energy	80.00	80.00	G
East Anglia Offshore Wind, Ltd.	United Kingdom	Energy	50.00	50.00	E
East Anglia One, Ltd.	United Kingdom	Energy	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
East Anglia Three, Ltd.	United Kingdom	Energy	100.00	100.00	G
East Anglia One North Ltd.	United Kingdom	Energy	100.00	-	G
East Anglia Two Ltd.	United Kingdom	Energy	100.00	-	G
Morecambe Wind, Ltd.	United Kingdom	Energy	50.00	50.00	E
ScottishPower Renewable Energy, Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower Renewables (WODS), Ltd.	United Kingdom	Energy	100.00	100.00	G
ScottishPower Renewables UK, Ltd.	United Kingdom	Energy	100.00	100.00	G
United States					
Aeolus Wind Power II, LLC ⁽⁶⁾	USA	Holding	61.13	61.13	G
Aeolus Wind Power III, LLC	USA	Holding	81.50	61.13	G
Aeolus Wind Power IV, LLC ⁽⁶⁾	USA	Holding	61.13	61.13	G
Atlantic Renewable Energy Corporation	USA	Holding	81.50	81.50	G
Atlantic Renewable Projects II, LLC	USA	Holding	81.50	61.13	G
Atlantic Renewable Projects, LLC ⁽⁶⁾	USA	Holding	61.13	61.13	G
Atlantic Wind, LLC	USA	Holding	81.50	81.50	G
Aurora Solar, LLC	USA	Energy	81.50	81.50	G
Avangrid Arizona Renewables, LLC	USA	Energy	81.50	81.50	G
Avangrid Logistic Services, LLC	USA	Energy	81.50	81.50	G
Avangrid Renewables Holdings, Inc.	USA	Holding	81.50	81.50	G
Avangrid Renewables, LLC	USA	Holding	81.50	81.50	G
Avangrid Texas Renewables, LLC	USA	Energy	81.50	81.50	G
Avangrid Vineyard Wind, LLC	USA	Holding	81.50	-	G
Bakeoven Wind, LLC	USA	Energy	81.50	81.50	G
Barton Windpower, LLC	USA	Energy	81.50	81.50	G
Big Horn II Wind Project, LLC	USA	Energy	81.50	81.50	G
Big Horn Wind Project, LLC	USA	Energy	81.50	61.13	G
Blue Creek Wind Farm, LLC	USA	Energy	81.50	81.50	G
Buffalo Ridge I, LLC	USA	Energy	81.50	81.50	G
Buffalo Ridge II, LLC	USA	Energy	81.50	81.50	G
Casselman Wind Power, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Coyote Ridge Wind, LLC	USA	Energy	81.50	-	G
Deerfield Wind, LLC	USA	Energy	81.50	81.50	G
Desert Wind Farm, LLC	USA	Energy	81.50	81.50	G
Dillon Wind, LLC	USA	Energy	81.50	81.50	G
El Cabo Wind, LLC	USA	Energy	80.69	81.50	G
El Cabo Wind Holdings	USA	Holding	80.69	81.50	G
El Cabo Partners, LLC	USA	Energy	81.50	-	G
Elk River Wind Farm, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Elm Creek Wind II, LLC	USA	Energy	81.50	81.50	G
Elm Creek Wind, LLC	USA	Energy	81.50	81.50	G
Farmers City Wind, LLC	USA	Energy	81.50	81.50	G
Flat Rock Windpower II, LLC	USA	Energy	40.75	30.56	E
Flat Rock Windpower, LLC ⁽⁶⁾	USA	Energy	30.56	30.56	E
Flying Cloud Power Partners, LLC	USA	Energy	81.50	81.50	G
Golden Hills Wind Farm, LLC	USA	Energy	81.50	-	G
Goodland Wind, LLC	USA	Energy	81.50	81.50	G
Groton Wind, LLC	USA	Energy	81.50	81.50	G
Hardscrabble Wind Power, LLC	USA	Energy	81.50	81.50	G
Hay Canyon Wind, LLC	USA	Energy	81.50	81.50	G
Hazelwood Australia, Inc. ⁽⁵⁾	USA	Holding	81.50	81.50	-
Hazelwood Ventures, Inc. ⁽⁵⁾	USA	Holding	81.50	81.50	-
Heartland Wind, LLC	USA	Energy	81.50	81.50	G
Helix Wind Power Facility, LLC	USA	Energy	81.50	81.50	G
Juniper Canyon Wind Power II, LLC	USA	Energy	81.50	81.50	G
Juniper Canyon Wind Power, LLC	USA	Energy	81.50	81.50	G
Kitty Hawk Wind, LLC	USA	Energy	81.50	-	G
Klamath Energy, LLC	USA	Energy	81.50	81.50	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Klamath Generation, LLC	USA	Energy	81.50	81.50	G
Klondike Wind Power II, LLC	USA	Energy	81.50	81.50	G
Klondike Wind Power III, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Klondike Wind Power, LLC	USA	Energy	81.50	81.50	G
Lakeview Cogeneration, LLC	USA	Energy	81.50	81.50	G
Leaning Juniper Wind Power II, LLC	USA	Energy	81.50	81.50	G
Leipsic Wind, LLC	USA	Energy	81.50	81.50	G
Lempster Wind, LLC	USA	Energy	81.50	81.50	G
Locust Ridge II, LLC	USA	Energy	81.50	81.50	G
Locust Ridge Wind Farms, LLC ⁽³⁾	USA	Energy	37.74	37.74	G
Loma Vista, LLC	USA	Energy	81.50	81.50	G
Manzana Power Services, Inc.	USA	Services	81.50	81.50	G
Manzana Wind, LLC	USA	Energy	81.50	81.50	G
Midland Wind, LLC	USA	Energy	81.50	81.50	G
Minndakota Wind, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Mohawk Solar, LLC	USA	Energy	81.50	-	G
Montague Wind Power Facility, LLC	USA	Energy	81.50	81.50	G
Moraine Wind II, LLC	USA	Energy	81.50	81.50	G
Moraine Wind, LLC	USA	Energy	81.50	81.50	G
Mount Pleasant Wind, LLC	USA	Energy	81.50	81.50	G
Mountain View Power Partners III, LLC	USA	Energy	81.50	81.50	G
New England Wind, LLC	USA	Energy	81.50	81.50	G
New Harvest Wind Project, LLC	USA	Energy	81.50	81.50	G
Northern Iowa WindPower II, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Otter Creek Wind Farm, LLC	USA	Energy	81.50	81.50	G
Pacific Harbor Capital, Inc.	USA	Other	81.50	81.50	G
Pacific Solar Investments, Inc.	USA	Energy	81.50	81.50	G
Pacific Wind Development, LLC	USA	Energy	81.50	81.50	G
Pebble Springs Wind, LLC	USA	Energy	81.50	81.50	G
Phoenix Wind Power, LLC	USA	Energy	81.50	81.50	G
PPM Colorado Wind Ventures, Inc.	USA	Holding	81.50	81.50	G
PPM Roaring Brook, LLC	USA	Energy	81.50	81.50	G
PPM Technical Services, Inc.	USA	Services	81.50	81.50	G
PPM Wind Energy, LLC	USA	Holding	81.50	81.50	G
Providence Heights Wind, LLC	USA	Energy	81.50	81.50	G
Rugby Wind, LLC	USA	Energy	81.50	81.50	G
San Luis Solar, LLC	USA	Energy	81.50	81.50	G
ScottishPower Financial Services, Inc.	USA	Holding	81.50	81.50	G
ScottishPower Group Holdings Company	USA	Holding	81.50	81.50	G
ScottishPower International Group Holdings Company	USA	Holding	81.50	81.50	-
Shiloh I Wind Project, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Solar Star Oregon II, LLC	USA	Energy	81.50	-	G
South Chestnut, LLC	USA	Energy	81.50	81.50	G
Start Point Wind Project, LLC	USA	Energy	81.50	81.50	G
Streator Cayuga Ridge Wind Power, LLC	USA	Energy	81.50	81.50	G
Streator Deer Run Wind Farmer, LLC	USA	Energy	81.50	81.50	G
Tatanka Ridge Wind. LLC (antes Buffalo Ridge III, LLC)	USA	Energy	81.50	81.50	G
Trimont Wind I, LLC ⁽⁶⁾	USA	Energy	61.13	61.13	G
Tule Wind, LLC	USA	Energy	81.50	81.50	G
Twin Buttes Wind, LLC	USA	Energy	81.50	61.13	G
Twin Buttes Wind II, LLC	USA	Energy	81.50	81.50	G
Vineyard Wind, LLC	USA	Energy	40.75	-	E
West Valley Leasing Company, LLC	USA	Gas	81.50	81.50	-
Winnebago Windpower II, LLC	USA	Energy	81.50	81.50	G
Winnebago Windpower, LLC	USA	Energy	81.50	81.50	G
Wyeast Solar, LLC	USA	Energy	81.50	-	G
Mexico					
BII NEE Stipa Energía Eólica, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Corporativo Iberdrola Renovables México, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Energías Renovables Venta III, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Eólica Dos Arbolitos S.A.P.I. de C.V.	Mexico	Energy	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Iberdrola Energía Norte, S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
Iberdrola Renovables Centro, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Renovables del Bajío, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Impulsora de Generación Fotovoltaica de México, S.A. de C.V. (antes Iberdrola Renovables del Irapuato, S.A. de C.V.)	Mexico	Energy	100.00	100.00	G
Infraestructuras de Generación Eléctrica, S.A. de C.V. (antes Iberdrola Renovables del Zacatecas, S.A. de C.V.)	Mexico	Energy	100.00	100.00	G
Iberdrola Renovables México, S.A. de C.V.	Mexico	Holding	100.00	100.00	G
Iberdrola Renovables Noroeste, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Iberdrola Renovables Norte, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Parque de Generación Renovable, S.A. de C.V.	Mexico	Energy	100.00	-	G
Parque energías Renovables de México, S.A. de C.V.	Mexico	Energy	100.00	-	G
Parque Industrial de Energía Renovables, S.A. de C.V.	Mexico	Energy	51.00	51.00	G
Parques Ecológicos de México, S.A. de C.V.	Mexico	Energy	99.99	99.99	G
Pier II Quecholac Felipe Ángeles, S.A. de C.V.	Mexico	Energy	51.00	51.00	G
Pier IV, S.A. de C.V.	Mexico	Energy	51.00	51.00	G
Proyecto Alternativa Energética de México, S.A. de C.V.	Mexico	Energy	100.00	100.00	G
Servicios de Operación Eoloelectrica de México, S.A. de C.V.	Mexico	Services	100.00	100.00	G
Brazil					
Arizona 1 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Caetité 1 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Caetité 2 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Caetité 3 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Calango 1 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Calango 2 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Calango 3 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Calango 4 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Calango 5 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Calango 6 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Canoas Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Elektro Renováveis do Brasil, S.A.	Brazil	Energy	52.45	100.00	G
Energias Renováveis do Brasil, S.A.	Brazil	Energy	52.45	100.00	G
FE Participações, S.A.	Brazil	Energy	52.45	69.50	G
Força Eolica do Brasil 1, S.A.	Brazil	Energy	52.45	69.50	G
Força Eolica do Brasil 2, S.A.	Brazil	Energy	52.45	69.50	G
Força Eolica do Brasil, S.A.	Brazil	Energy	52.45	69.50	G
Lagoa I, S.A.	Brazil	Energy	52.45	69.50	G
Lagoa II, S.A.	Brazil	Energy	52.45	69.50	G
Mel 2 Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Santana 1, Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
Santana 2, Energia Renovável, S.A.	Brazil	Energy	52.45	69.50	G
ROW					
Baltic Eagle, GmbH.	Germany	Energy	100.00	-	G
Iberdrola Renovables Offshore Deutschland, GmbH.	Germany	Energy	100.00	100.00	G
Iberdrola Renovables Deutschland, GmbH.	Germany	Energy	100.00	100.00	G
ScottishPower Hazelwood, Pty. Ltd.	Australia	Holding	100.00	100.00	-
Iberdrola Renewables Bulgaria, EOOD.	Bulgaria	Energy	100.00	100.00	G
Iberdrola Renewables Canadá, Ltd.	Canada	Holding	100.00	100.00	G
Rokas Aeoliki Cyprus, Ltd.	Cyprus	Energy	74.82	74.82	G
Ailes Marine, S.A.S.	France	Energy	70.00	70.00	G
Iberdrola Renovables France, S.A.S.	France	Energy	100.00	100.00	G
C. Rokas Industrial Commercial Company, S.A.	Greece	Holding	99.76	99.76	G
PPC Renewables Rokas, S.A.	Greece	Energy	50.88	50.88	G
Rokas Aeoliki Peloponnisos II, S.A.	Greece	Energy	99.76	99.76	G
Rokas Aeoliki Thraki III, S.A.	Greece	Energy	99.61	99.61	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Rokas Construction, S.A.	Greece	Energy	99.76	99.76	G
Rokas Hydroelectric, S.A.	Greece	Energy	99.76	99.76	G
Iberdrola Renovables Magyarország, KFT.	Hungary	Holding	100.00	75.00	G
Iberdrola Renovables Italia, S.p.A.	Italy	Holding	100.00	100.00	G
Società Energie Rinnovabili 2, S.p.A. ⁽²⁾	Italy	Energy	50.00	50.00	E
Energi Energia Eolica, S.A.	Portugal	Energy	100.00	100.00	G
Iberdrola Renewables Portugal, S.A.	Portugal	Holding	100.00	100.00	G
Parque Eólico da Serra do Alvao, S.A.	Portugal	Energy	100.00	100.00	G
Eolica Dobrogea One, S.R.L.	Romania	Energy	100.00	100.00	G
Iberdrola Renewables Romania, S.R.L.	Romania	Holding	100.00	100.00	G
Iberdrola Renewables South Africa (PTY), Ltd.	South Africa	Energy	100.00	-	G
Innovation					
Algaenergy, S.A. ⁽⁵⁾	Spain	Energy	17.81	17.81	-
Arborea Intellbird, S.L. ^{(2) (4)}	Spain	Services	18.89	18.89	E
Atten2 Advanced Monitoring Technologies, S.L. ⁽²⁾	Spain	Services	21.22	21.22	E
GDES Technology for services, S.L. ⁽²⁾	Spain	Services	40.00	40.00	E
Iberdrola Servicios de Innovación, S.L.	Spain	Services	100.00	100.00	G
Inversiones Financieras Perseo, S.L.	Spain	Holding	100.00	100.00	G
Oceantec Energías Marinas, S.L. ⁽²⁾	Spain	Energy	44.39	44.39	E
Iberdrola QSTP, LLC	Qatar	Energy	100.00	100.00	G
Network Business					
Spain					
Anselmo León Distribución, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Anselmo León, S.A.U. ⁽¹⁾	Spain	Holding	100.00	100.00	E
Distribuidora de Energía Eléctrica Enrique García Serrano, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Distribuidora Eléctrica Navasfrías, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Eléctrica Conquense Distribución, S.A.	Spain	Energy	53.59	53.59	G
Eléctrica Conquense, S.A.	Spain	Holding	53.59	53.59	G
Electro-Distribuidora Castellano-Leonesa, S.A. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Empresa Eléctrica del Cabriel, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Herederos María Alonso Calzada – Venta de Baños, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
San Cipriano de Rueda Distribución, S.L. ⁽¹⁾	Spain	Energy	100.00	100.00	E
Iberdrola Distribución Eléctrica, S.A.U.	Spain	Energy	100.00	100.00	G
Iberdrola Infraestructuras y Servicios de Redes, S.A.	Spain	Services	100.00	100.00	G
Iberdrola Redes España, S.A.U.	Spain	Holding	100.00	100.00	G
Sociedad Distribuidora de Electricidad de Elorrio, S.A. ⁽¹⁾	Spain	Energy	97.95	97.95	E
United Kingdom					
Manweb Services, Ltd.	United Kingdom	Energy	100.00	100.00	G
NGET/SPT Upgrades, Ltd.	United Kingdom	Energy	50.00	50.00	E
Scottish Power Energy Networks Holdings, Ltd.	United Kingdom	Holding	100.00	100.00	G
SP Distribution, Plc.	United Kingdom	Energy	100.00	100.00	G
SP Gas, Ltd.	United Kingdom	Inactive	100.00	100.00	G
SP Manweb, Plc.	United Kingdom	Energy	100.00	100.00	G
SP Network Connections, Ltd.	United Kingdom	General use connections	100.00	100.00	G
SP Power Systems, Ltd.	United Kingdom	Asset management services	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
SP Transmission, Plc.	United Kingdom	Energy	100.00	100.00	G
United States					
Avangrid, Inc.	USA	Holding	81.50	81.50	G
Avangrid Enterprises, Inc.	USA	Holding	81.50	81.50	G
Avangrid Management Company, LLC	USA	Holding	81.50	81.50	G
Avangrid Service Company	USA	Services	81.50	81.50	G
Avangrid New York TransCo, LLC	USA	Holding	81.50	81.50	G
Avangrid Networks, Inc.	USA	Holding	81.50	81.50	G
Avangrid Solutions, Inc.	USA	Marketing	81.50	81.50	G
Berkshire Energy Resources	USA	Holding	81.50	81.50	G
Cayuga Energy, Inc.	USA	Energy	81.50	81.50	G
Central Maine Power Company	USA	Electricity	81.50	81.50	G
Chester SVC Partnership ⁽³⁾	USA	Electricity	40.75	40.75	G
CMP Group, Inc.	USA	Holding	81.50	81.50	G
CNE Energy Services Group, LLC	USA	Services	81.50	81.50	G
CNE Peaking, LLC	USA	Services	81.50	81.50	G
Connecticut Energy Corporation	USA	Holding	81.50	81.50	G
Connecticut Natural Gas Corporation	USA	Gas	81.50	81.50	G
CTG Resources, Inc.	USA	Holding	81.50	81.50	G
GCE Holding, LLC	USA	Holding	40.75	40.75	-
GenConn Devon, LLC	USA	Generation	40.75	40.75	-
GenConn Energy, LLC	USA	Generation	40.75	40.75	-
GenConn Middletown, LLC	USA	Generation	40.75	40.75	-
Maine Electric Power Company, Inc.	USA	Energy	63.80	63.80	G
Maine Natural Gas Corporation	USA	Gas	81.50	81.50	G
Maine Yankee Atomic Power Company ⁽⁵⁾	USA	Electricity	30.97	30.97	-
MaineCom Services	USA	Telecommunications	81.50	81.50	G
New York State Electric & Gas Corporation	USA	Electricity and Gas	81.50	81.50	G
NORVARCO	USA	Holding	81.50	81.50	G
Nth Power Technologies Fund I, LP. ⁽⁵⁾	USA	Other	21.92	21.92	-
RGS Energy Group, Inc.	USA	Holding	81.50	81.50	G
Rochester Gas and Electric Corporation	USA	Electricity and Gas	81.50	81.50	G
South Glens Falls Energy, LLC ⁽⁵⁾	USA	Energy	69.28	69.28	-
TEN Transmission Company	USA	Gas	81.50	81.50	G
The Berkshire Gas Company	USA	Gas	81.50	81.50	G
The Southern Connecticut Gas Company (SCG)	USA	Gas	81.50	81.50	G
The Union Water Power Company	USA	Services	81.50	81.50	G
The United Illuminating Company	USA	Energy	81.50	81.50	G
Thermal Energies, Inc. ⁽⁵⁾	USA	Inactive	81.50	81.50	-
Total Peaking Services, LLC	USA	Services	81.50	81.50	G
UIL Distributed Resources	USA	Services	81.50	81.50	G
UIL Group, LLC	USA	Holding	81.50	81.50	G
UIL Holdings Corporation	USA	Holding	81.50	81.50	G
United Capital Investments	USA	Inactive	81.50	81.50	G
United Resources, Inc.	USA	Holding	81.50	81.50	G
WGP Acquisition, LLC ⁽⁵⁾	USA	Inactive	81.50	81.50	-
Xcelcom Inc.	USA	Inactive	81.50	81.50	G
Xcel Services, Inc. ⁽⁵⁾	USA	Inactive	81.50	81.50	-
Brazil					
Afluenta Transmissao de Energia Elétrica, S.A.	Brazil	Energy	54.57	42.76	G
Companhia de Eletricidade do Estado do Bahia, S.A.	Brazil	Energy	50.53	37.57	G
Companhia Energética de Pernambuco, S.A.	Brazil	Energy	47.02	34.96	G
Companhia Energetica do Rio Grande do Norte, S.A.	Brazil	Energy	47.98	35.67	G
EKTT 12-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Inactive	52.45	-	G
EKTT 13-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Inactive	52.45	-	G
EKTT 14-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Inactive	52.45	-	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
EKTT 15-A Serviços de Transmissão de Energia Elétrica SPE S/A	Brazil	Inactive	52.45	-	G
Elektro Operação e Manutenção, Ltda.	Brazil	Services	52.45	99.99	G
Elektro Redes, S.A.	Brazil	Energy	52.28	99.68	G
Lanmóvil Amara Celular da Bahia Ltd. (Lanmara) ⁽¹⁾	Brazil	Retail/Wholesale	65.00	65.00	-
Neoenergia Investimentos, S.A.	Brazil	Services	52.45	39.00	G
Neoenergia Servicios, Ltd.	Brazil	Services	52.45	39.00	G
Neoenergia, S.A.	Brazil	Holding	52.45	39.00	G
Potiguar Sul Transmissao de Energia, S.A.	Brazil	Energy	52.45	39.00	G
S.E. Narandiba, S.A.	Brazil	Energy	52.45	39.00	G
Garter Properties, Inc.	British Virgin Islands.	Inactive	52.45	39.00	G
Other businesses					
Engineering					
Adicora Servicios de Ingeniería, S.L.U.	Spain	Engineering	100.00	100.00	G
Empresarios Agrupados Internacional, S.A. ⁽²⁾	Spain	Engineering	25.46	25.46	E
Empresarios Agrupados, A.I.E. ⁽²⁾	Spain	Engineering	25.46	25.46	E
Ghesa Ingeniería y Tecnología, S.A. ⁽²⁾	Spain	Engineering	42.15	41.18	E
Iberdrola Ingeniería de Explotación, S.A.U.	Spain	Engineering	100.00	100.00	G
Iberdrola Ingeniería y Construcción, S.A.U.	Spain	Engineering	100.00	100.00	G
Ingeniería, Estudios y Construcciones, S.A.	Spain	Engineering	100.00	100.00	G
Iberdrola Engineering and Construction Saudi Arabia, LLC	Saudi Arabia	Engineering	100.00	100.00	G
Iberdrola Construção e Serviços, Ltd.	Brazil	Engineering	100.00	100.00	G
Iberdrola Energy Projects Canada Corporation	Canada	Engineering	100.00	100.00	G
Iberdrola Ingeniería y Construcción Costa Rica, S.A.	Costa Rica	Engineering	100.00	100.00	G
Iberdrola Energy Project, Inc.	USA	Engineering	100.00	100.00	G
Iberinco Hellas Techniki kai Kataskevastiki EPE	Greece	Engineering	100.00	100.00	G
Iberdrola Ingegneria e Costruzioni Italia, SRL.	Italy	Engineering	100.00	100.00	G
Enermón S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
Iberdrola Ingeniería y Construcción México, S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
Iberservicios, S.A. de C.V.	Mexico	Engineering	100.00	100.00	G
Iberdrola Engineering and Construction Poland, SP. Z.O.O.	Poland	Engineering	100.00	100.00	G
Iberdrola Engineering and Construction Networks, Ltd.	United Kingdom	Engineering	100.00	100.00	G
Iberdrola Engineering and Construction UK, Ltd.	United Kingdom	Engineering	100.00	100.00	G
Iberdrola Engineering and Construction Ro, SRL.	Romania	Engineering	100.00	100.00	G
Iberdrola Inzhiniring I Stroiteistvo, LLC	Russia	Engineering	100.00	100.00	G
Iberdrola Engineering and Construction South Africa	South Africa	Engineering	100.00	100.00	G
Iberdrola Ingeniería y Construcción. Venezuela, S.A.	Venezuela	Engineering	99.81	99.81	G
Real Estate					
Arrendamiento de Viviendas Protegidas Siglo XXI, S.L.	Spain	Real estate	100.00	100.00	G
Camarate Golf, S.A. ⁽²⁾	Spain	Real estate	26.00	26.00	E
Fiuna, S.A.	Spain	Real estate	100.00	100.00	G
Iberdrola Inmobiliaria Patrimonio, S.A.U.	Spain	Real estate	100.00	100.00	G
Iberdrola Inmobiliaria, S.A.	Spain	Real estate	100.00	100.00	G
Promotora la Castellana de Burgos, S.A.	Spain	Real estate	100.00	100.00	G
Urbanizadora Marina de Cope, S.L.	Spain	Real estate	80.00	80.00	G
Iberdrola Inmobiliaria Real State Investment, EOOD	Bulgary	Real estate	100.00	100.00	G

Company	Registered office	Activity	Percentage of direct or indirect stake		Method (*)
			31.12.2017	31.12.2016	
Desarrollos Inmobiliarias Laguna del Mar, S.A. de C.V.	Mexico	Real estate	100.00	100.00	G
Promociones La Malinche, S.A. de C.V.	Mexico	Real estate	50.00	50.00	E
Other businesses					
Subgrupo Corporación IBV Participaciones Empresariales	Spain	Inactive	50.00	50.00	E
Siemens Gamesa Renewable Energy, S.A. (previously Gamesa Corporación Tecnológica, S.A.) ⁽⁴⁾	Spain	Holding	8.07	19.69	E
Iberdrola Inversiones 2010, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Participaciones, S.A.U.	Spain	Holding	100.00	100.00	G
Investigación y Desarrollo de Equipos Avanzados, S.A.U. ⁽¹⁾	Spain	Services	100.00	100.00	E
Corporation					
CarteraPark, S.A.U. ⁽⁵⁾	Spain	Inactive	100.00	100.00	-
Iberdrola Corporación, S.A. ⁽⁵⁾	Spain	Inactive	100.00	100.00	-
Iberdrola España, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Energía, S.A.U.	Spain	Holding	100.00	100.00	G
Iberdrola Financiación, S.A.U.	Spain	Financial	100.00	100.00	G
Iberdrola Finanzas, S.A.U.	Spain	Financial	100.00	100.00	G
Iberdrola International, B.V.	Holland	Financial	100.00	100.00	G
Iberdrola Finance Ireland, DAC	Ireland	Financial	100.00	100.00	G
Iberdrola Re, S.A.	Luxembourg	Insurance	100.00	100.00	G
Demon Internet, Ltd. ⁽⁵⁾	United Kingdom	Inactive	100.00	100.00	-
Manweb Nominees, Ltd. ⁽⁵⁾	United Kingdom	Inactive	100.00	100.00	-
Manweb Share Scheme Trustees, Ltd. ⁽⁵⁾	United Kingdom	Inactive	100.00	100.00	-
Scottish Power UK Holdings, Ltd.	United Kingdom	Holding	100.00	100.00	G
Scottish Power UK, Plc	United Kingdom	Holding	100.00	100.00	G
Scottish Power, Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower Investments, Ltd.	United Kingdom	Holding	100.00	100.00	G
ScottishPower Overseas Holdings, Ltd.	United Kingdom	Holding	100.00	100.00	G
SPW Investments Ltd.	United Kingdom	Holding	100.00	100.00	G

JOINT OPERATIONS OF THE GROUP STRUCTURED THROUGH AN INDEPENDENT VEHICLE FOR THE YEARS 2016 AND 2017

Company	Registered office	Activity	Percentage of direct or indirect stake	
			31.12.2017	31.12.2016
<u>Deregulated Business</u>				
Asociación Nuclear Ascó – Vandellós, A.I.E.	Spain	Energy	14.59	14.59
Centrales Nucleares Almaraz – Trillo, A.I.E.	Spain	Energy	51.44	51.44
<u>Renewable Business</u>				
Infraestructuras de Medinaceli, S.L.	Spain	Energy	39.69	39.69
Sistema Eléctrico de Conexión Hueneja, S.L.	Spain	Energy	47.36	47.36
Colorado Green Holdings, LLC	USA	Energy	40.75	40.75
Colorado Wind Ventures, LLC	USA	Holding	40.75	40.75
<u>Other businesses</u>				
Torre Iberdrola, A.I.E.	Spain	Real estate	68.10	68.10

GROUP COMPANIES AT 31 DECEMBER 2015 WHICH HAVE LEFT THE PERIMETER IN 2017 AS A RESULT OF DISPOSAL, MERGER OR LIQUIDATION

Company	Registered office	Activity	Percentage of direct or indirect stake	
			31.12.2017	31.12.2016
<u>Deregulated Business</u>				
S.E.D.A. Cogeneración, S.A.	Spain	Energy	-	50.00
Scotash, Ltd.	United Kingdom	Other	-	50.00
ScottishPower (DCOL), Ltd.	United Kingdom	Inactive	-	100.00
Iberdrola Energie Romania, S.R.L.	Romania	Energy	-	100.00
<u>Renewable Business</u>				
Rokas Aeoliki Achladotopos, S.A.	Greece	Energy	-	99.63
Rokas Aeoliki Macedonia I, Ltd.	Greece	Energy	-	99.76
Rokas Aeoliki Macedonia II, Ltd.	Greece	Energy	-	99.76
Rokas Aeoliki Peloponnisos I, Ltd.	Greece	Energy	-	99.76
Rokas Aeoliki Vorios Ellas I, Ltd.	Greece	Energy	-	99.76
Rokas Aeoliki Vorios Ellas II, Ltd.	Greece	Energy	-	99.76
Rokas Aeolos, Ltd.	Greece	Energy	-	99.76
Rokas Energy, S.A.	Greece	Energy	-	99.72
Eólica Lucana, S.R.L.	Italy	Energy	-	100.00
Uppm-Rokas Cranes, S.I.A	Latvia	Energy	-	49.88
<u>Network Business</u>				
Bidelek Sareak, A.I.E.	Spain	Other	-	54.00
Iberdrola Distribución de Gas, S.A.U.	Spain	Inactive	-	100.00
Afluyente Geração de Energia Elétrica, S.A.	Brazil	Energy	-	42.76
Bahia PCH I, S.A.	Brazil	Energy	-	39.00
Capuava Energy, Ltda.	Brazil	Energy	-	39.00
Elektro Holding, S.A.	Brazil	Holding	-	100.00
Energyworks do Brasil, Ltda.	Brazil	Energy	-	39.00
Goiás Sul Geração de Energia, S.A.	Brazil	Energy	-	39.00
Rio PCH I, S.A.	Brazil	Energy	-	27.30
<u>Other businesses</u>				
Amara, S.A.U.	Spain	Services and goods	-	100.00
Keytech Sistemas Integrales, S.A.	Spain	Security systems	-	37.00
Amara Brasil, Ltd.	Brazil	Services	-	100.00
Ergytech Inc.	USA	Purchases agent	-	100.00
Amergy Mexicana, S.A. de C.V.	Mexico	Retail/Wholesale	-	100.00
Amergy Servicios de México S.A. de C.V.	Mexico	Services	-	99.00
<u>Corporation</u>				
Iberdrola Corporate Services, Inc.	USA	Services	-	100.00
Iberdrola Portugal Electricidade e Gas, S.A.	Portugal	Energy	-	100.00
Clubcall Telephone Services, Ltd.	United Kingdom	Inactive	-	100.00
Clubline Services, Ltd.	United Kingdom	Inactive	-	100.00
Manweb Pensions Trustee, Ltd.	United Kingdom	Inactive	-	100.00

Company	Registered office	Activity	Percentage of direct or indirect stake	
			31.12.2017	31.12.2016
Teledata (Holdings), Ltd.	United Kingdom	Inactive	-	100.00
Teledata (Outsourcing), Ltd.	United Kingdom	Inactive	-	100.00
Teledata Scotland, Ltd.	United Kingdom	Inactive	-	100.00
The CallCentre Service Limited	United Kingdom	Other	-	100.00
The Information Service, Ltd.	United Kingdom	Inactive	-	100.00

- (1) Companies that are controlled by the Group but due to their immateriality have been integrated using the equity method. At 31 December 2017, the total aggregate assets value and the profit for the year corresponding to these companies amounts to EUR 29,357 thousand and EUR 4,446 thousand, respectively. On 31 December 2016, the aggregate total assets and results of the corresponding period of such companies amounted to EUR 87,244 thousand and EUR 6,587 thousand, respectively.
- (2) Companies considered joint ventures, accounted for the equity method, where shareholders agreements just grant the right to the net assets of the business.
- (3) Companies, where despite holding a percentage of voting rights less than 51%, the Group holds the control through shareholders agreements.
- (4) Companies where the Group has significant influence despite holding a percentage of voting rights less than 20%, since it is represented theses companies' Board of Directors.
- (5) Companies where the Group holds the control, joint control or significant influence, but given its limited relevance, they have not been included in the consolidation scope.
- (6) The ownership percentage in these companies corresponds to voting rights.

APPENDIX II

INDUSTRY REGULATION AND FUNCTIONING OF THE ELECTRICITY AND GAS SYSTEM

Both IBERDROLA and some of the fully or proportionately consolidated subsidiaries engage in electricity business activities in Spain and abroad (see the Appendix to these Consolidated financial statements) that are heavily affected by the respective regulatory frameworks. Below there is a description of the main regulations affecting the IBERDROLA Group.

1. European Union

In the member states of the European Union in which IBERDROLA is present, particularly in the UK and Spain, it should comply with EU regulations.

The aim of the European legislation is the implementations of the single gas and electricity markets in order to facilitate the exchange of energy flows and allow any consumer in the European Union to deal freely with any supplier in the EU. In this respect, there are two types of legislation: the directives, which set out common criteria to be observed in internal markets and which the member states should transpose into national legislation; and the Regulations, which establish norms for the supranational issues, especially those related to the transit of gas and electricity, and are applicable directly.

Another set of regulations that indirectly affects the energy sector are those arising from the energy and climate policy agreed in 2007. It involves the triple objective of reducing emissions of greenhouse gases (GHGs) by 20%, setting a quota of renewable energy of 20% and a target for reducing consumption by 20% vs. "Business as Usual" case, all by 2020. To meet these objectives by 2020 there have been four documents accompanying the legislation: the reform of the Emissions Trading System, EU (EU-ETS), the national targets for emissions from non-EU ETS, and the national objectives on renewable energy.

Since 2009, the EU institutions and Member States have worked to implement the regulation approved in that year related to, on one hand, the internal gas and electricity markets and, on the other hand, to promote renewable energy and to combat climate change. This regulation will be reviewed from 2016 to 2020.

The regulation resulting from these agreements is still pending of development. The legislation on infrastructures is also relevant. The European Union has powers with regards to trans-European networks, specifically those of energy. During the last few years, various regulations and programmes have been created to promote a greater connectivity among the Member States. Specifically, programmes like the Trans-European Energy Networks (TEN-E), the European Energy Programme for Recovery (EEPR) and the Connecting Europe Facility (CEF). Lastly, in December 2014, the European Council approved the creation of a Strategic Investment Plan for the European Union, to mobilize EUR 315,000 million in 2015 – 2017. It will be structured as a European Fund for Strategic Investments allocated to investments in infrastructure, including energy and renewable energy networks. In January 2015, the European Commission submitted the proposal of a Regulation on the European Fund for Strategic Investments to create the required legal framework. On 27 May 2015, an agreement was reached between the Council, the Parliament and the European Commission on the proposed Regulation.

In October 2014, the European Council agreed new targets for 2030: a 40% reduction in GHGs compared to 1990, a share of 27% for renewable energy and a reduction in consumption, also of 27% (to be potentially upgraded to 30% following new proposals as explained below regarding the Clean Energy for all Europeans package). It also agreed to ensure that in 2020 the electricity exchange capacity among countries was at least 10% of the installed capacity.

On 25 February 2015, the European Commission launched a framework strategy for a resilient Energy Union with a Forward-Looking Climate Change Policy, that includes fifteen action points to be implemented during the mandate of the current European Commission (2014-2019), including, among others, setting out the goals of an energy union and the steps the Commission will take to achieve it, a new legislation to redesign and reform the electricity market, ensure the supply for electricity and gas, EU funding for energy efficiency, a new renewables energy package and a structural reform of EU-ETS, facilitating the compliance of 2030 Targets set by the European Council in October 2014. Since November 2015, the EC presents on annual basis the advanced achieved and the steps to be undertaken in the following years.

On 15 July 2015, the European Commission (EC) has published a package of documents that anticipated legislative action in the field of energy markets and emissions trading. Through the Communication on Market Design, the EC analysed the functioning of the EU electricity markets, arose key proposals for improvement and opened the discussion on capacity mechanisms. The Communication on retail market ("New Deal" for customers) made proposals to fully liberalise retail markets and facilitate more interaction with customers. It also attached a document on "best practices" in self-consumption.

Regarding the emissions trading, in July 2015 the EC sent its legislative proposal to reform the ETS Directive to the European Parliament and the Council. In November 2017, the EC, the European Parliament and Council reached an agreement to reform said Directive, which will become valid once approved by Parliament's Plenary Session and its publication in the OJEU in 2018. The reform's most relevant features are:

- The reductions applied annually to the stock of rights auctioned is increased from 1.74% to 2.2% from 2021 on (the so-called linear reduction factor). This parameter is associated with the mechanism's "aim", upon expecting that a gradual reduction of rights auctioned implies less total emissions from the sectors involved in emissions trading.
- The rate of withdrawal of allowances of the Market Stability Reserve (MSR) is fixed at 24% from 2019 to 2023, and 12% for subsequent years. Beginning in 2019, an amount of allowances corresponding to 12 % of the number of allowances in circulation should be deducted each year from the auction volumes and placed in the Reserve. If the total number of allowances in the market is less than 400 million, then the MSR releases 100 million into the market. No obstante, los derechos que se encuentren en la reserva en 2023 quedarán cancelados, evitando así que retornen al mercado.

This mechanism is intended to stabilize the EU ETS (EU Emissions Trading System) and strengthen the carbon price signal reducing gradually the surplus allowances. The MSR is included in the EU ETS review currently in discussion.

- Conversely, the procedures for allocation of allowances to sectors subject to the risk of carbon leakage are amended.
- Lastly, support for modernizing the electric sector in countries with lower GDP is provided but cannot target coal (a point of contention in the negotiations)

On 30 November 2016 the EC has published the package Clean Energy for all Europeans, containing the legislative proposals to complete the implementation of the energy internal market and to achieve the environmental 2030 Targets, materialising the ideas drafted in July 2015 communications. November 2016 package involves the wholesale and retail markets and the frameworks for renewable energy sources and energy efficiency. Other documents of interest are also included such as the application of capacity mechanisms in different countries (among them Spain) as well as an Energy Prices and Costs study. This report concludes that the "taxes and other" item has increased the most in electricity bills in recent years, exceeding 50% in 2016 for consumers in 4 countries, among them Spain.

The full package represents over 70 documents of which 8 are legislative proposals of high impact on energy markets that are being discussed by the European Parliament and Council. Practical implementation to market operation is expected to take in place by 2020.

In November 2017, the EC published in its Clean Mobility Package, which outlines measures to reduce transport sector emissions in 2020-2030, and adapt Europe's industry to comply with the Paris Agreements without losing global market share. This package of proposals is now being processed in the European Councils and Parliaments.

The Clean Mobility Package consists mainly of:

- New emissions standard: vehicles sold between 2025 and 2030 must emit 15%-30% less than those sold in 2021. For this, annual goals will be established annually per manufacturer, and incentives will be granted to those with a lower percent than what is established for zero-emission and low-emission vehicles (<50gCO₂/km principally plug-in hybrids)
- Clean Vehicle Directive: promotes the acquisition and leasing of vehicles for public administration. Each State will include a goal for 2025 – 2030 (Spain: 1/light vehicles, 33% set for entire period; 2/heavy vehicles, trucks 10%-14% and buses 50%-75%).
- Communication regarding action plans to promote the use of alternative fuels (electricity, LNG, biogas, etc.): for the purpose of evaluating the investment needs (from EUR 16,000 to 22,000 million in recharge and supply infrastructures) and proposes a strategy to adapt specific States' regulation. The EC will provide EUR 800 million to finance the projects.

2. Other EU regulation

The following regulations of significance to the energy sector were approved in 2015 and 2016:

- In January, the OJEU published Delegated Regulation 2016/89 amending Regulation 347/2013, concerning the Union's list of projects of common interest. It is an update of the first list of Projects of Common Interest of 2013. This list is updated every year by the European Commission on 18 November 2015, at the time of the State of the Energy Union Report.
- Paris Agreement: On 11 April, Decision (EU) 2016/590 of the Council was published, regarding the signing, on behalf of the European Union, of the Paris Agreement approved by virtue of the United Nations Framework Convention on Climate Change. The signing took place in New York on 22 April 2016. The Agreement came into force on 5 October 2016 and was ratified in December 2017 by 171 of the 195 signing countries.
- On 17 November 2016, the OJEU published the Regulation 2016/1952/EU on European statistics on natural gas and electricity prices and it repeals the Directive 2008/92/EC. This legislation establishes a harmonised framework to elaborate and disclose the statistics on gas and electricity prices, both for residential customers and for companies. The new rules allow more transparent understanding of the different price components, splitting energy, networks and "taxes and other". This last component reflects, inter alia the VAT, other taxes and support to policies through customer charges, particularly the support to renewable energies. EC's Energy Costs and Prices Study included in the "Clean Energy Package" is based on this statistic methodology.
- On 19 December 2016, the OJEU published the Directive (EU) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC. This new Directive establishes stricter emission limits for each Member State in the period 2020 – 2030 for five pollutants: sulphur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC) and ammonia (NH₃). Levels for 2020 are equivalent to the adopted by the UE in previous regulations but levels for 2030 are significantly reinforced. The Directive shall be transposed to local regulation by 30 June 2018. Each Member State shall develop a national air pollution control programme by 2019 to ensure the compliance of the targets of this Directive regarding transport, agriculture and energy sectors.
- On 17 August 2017, the Official Journal of the European Union (OJEU) published Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions for large combustion plants (> 50 MW). Member States must adapt to these new limits on acid gas emissions [nitrogen oxides (NO_x), sulphur dioxide (SO₂), small particulates and, for the first time, mercury] by 2021.
- The new Regulation 2017/1938 on the Security Supply of Gas repealing Regulation 994/2010 was published on 28 October 2017 in the Official Journal of the European Union. The Regulation's general purpose is to reinforce the European Union's energy security, reduce foreign dependence and enable it to confront possible gas supply crises with more speed and efficiency. Main novelties:
 - o Principle of solidarity: In the event of a serious gas crisis that puts the supply at risk, the Member States will help their neighbouring states to ensure the supply of gas to homes and necessary social services.

- Reinforcement of regional cooperation: Common security risks of one Regional Group's supply will be jointly assessed and preventive and common emergencies measures will be agreed on.
- Reinforcement of system security tools: Preventive action plans and mandatory regional emergency plans are established, along with regional risk analysis, which will be prepared jointly by all Member States that belong to the same risk group.
- Transparency of risks: To facilitate better supervision of the contracts' risks and clauses, the gas companies must notify the long term contracts that are relevant to the security of the supply (those that represent 28% of the annual gas consumption in the Member State).

The approval of this Regulation together with the above of the Decision regarding intergovernmental agreements (published 2 May 2017 in the OJEU) culminates the reform of the European gas security regulations.

- On 26 June 2017, the EC published Directives regarding environmental and social information, complementary to Directive 95/2014 requirements regarding non-financial information. Said Directive is applicable to firms with more than 500 employees, to report information relevant to environmental, social, and labour policies and risks, human rights issues, anti-corruption efforts and gender policies. These Directives include a voluntary guide to help firms complete the required information. They do not add an administrative fee. They include best practices and among others, experience in monitoring Sustainable Development Objectives and the Paris Agreement.
- Electricity balance sheet: EC Regulation 2195/2017 was published on 28 November 2017, establishing a directive on the electricity balance sheet including the common principles for the contracting and settlement of reserves for the containment and recovery of the frequency and replacement reserves, as well as a common method for the activation of said reserves. This applies to all transmission and interconnections networks of the European Union, except for island transmission networks that are not connected to other transmission networks through interconnections.
- Grid code for emergencies and service restoration: The Grid Code published on 28 November, establishes a) the management by the Transmission Network Managers on the states of emergency, power outage and restoration; b) the coordination of the operation of the system throughout the entire Union in a state of emergency, power outage and restoration; c) the simulations and tests to guarantee a reliable, effective and fast restoration of the interconnected transmission networks to their normal state after a state of emergency or power outage.
- Aid to renewables: EC Decision SA.40348 (2015/NN) was published in December 2017, authorising the Spanish system for aid to renewables. The EC has come to the conclusion that the Spanish system of aid to electricity production from renewable energy sources, cogeneration of high efficiency heat, electricity and wastes is in accordance with the state aid standards of the European Union.

3. Industry regulation in Spain

The National Commission for Market and Competition (CNMC) is as a public body attached to the Ministry of Energy, Tourism and Digital Agenda and is subjected to parliamentary scrutiny. It has the functions of market regulation and supervision.

- **Industry regulation and functioning of the electric system in Spain**

The electric sector is regulated by the Electric Industry Law 24/2013, of 26 December 2013.

1. Activity separation

It establishes the legal and accounting separation of regulated activities (economic and technical management of the system, transmission and distribution) and deregulated activities (generation, wholesale and retail or other activities unrelated to electricity or activities abroad). However, a group of companies can carry out incompatible activities provided that these are performed by different companies within it and meet independence criteria.

2. Generation activities:

Generation activity is carried out in free market competition, subject to a schedule of approvals, with its remuneration established in the market:

- The daily hour price for energy is established in the wholesale market by marginalist criteria; the dispatch determined by the lowest price until the demand is satisfied. Intra-day markets are also established to adjust the position with regard to the daily schedule. Conversely, certain production plants obtain additional remuneration to provide additional necessary services to guarantee supply.
- Additionally, Order ITC 3127/2011 regulating payments for capacity, which consist of an investment incentive, an environmental incentive and an availability service is established. Facing 2018, the EU/1133/2017 Order amends the incentive to the availability of the generation centres, limiting payment to the first 6 months and excluding hydraulic centres.
- Royal Decree 413/2014 on electricity generation by means of renewable, cogeneration and waste facilities establishes the remuneration scheme for existing and new facilities. For facilities prior to July 2013, the remuneration system consists of the sum of:
 - o Investment remuneration (EUR/MW) to cover, where applicable, the investment costs that cannot be recovered from the sale of electricity in market, defined on the basis of the average yield on 10 year government bonds plus a differential, initially fixed at 300 basis points for the first regulatory period ending on 31 December 2019 (that is, 7.398% before taxes).
 - o Operation remuneration (EUR/MWh) to cover, where applicable, the difference between the operating costs and income obtained in the electric market. The return on operation in circumstances where the operating cost of a technology is dependent on fuel prices may be changed at least once a year. The last Order published regarding to update this operational costs is the Order IET/1046/2017.

The remuneration will be on the basis of six-year periods and some of them may be revised every three years.

On the other hand, the Order IET/1045/2014 established a classification of standard facilities in terms of the technology, installed capacity or any another characteristic already in place for the application of this remunerative scheme. These have been revised by Order ETU/130/2017 for the period 2017-2019.

The remuneration for renewable facilities, cogeneration and waste will be set by a competitive tendering process. Thus, in 2017 the following renewable capacity tenders have taken place:

- The first through Royal Decree 359/2017, which stipulates a call for the granting of the specific remuneration regime to new biomass-based electricity production plants within the peninsular power system and to wind technology farms up to a maximum of 3,000 MW. The allocation procedure and the remuneration parameters are set out in the Ministerial Order IET/315/2017, of 6 April. The auction was called by the State Secretariat for Energy's resolution of 10 April 2017.

Said auction took place on 17 May, resulting in a 3,000 MW award for wind, with the specification that the auction carries the maximum discount, thus no bidder will receive additional remuneration with the current market prices. Only in the case of going below a determined limit would they receive additional remuneration to the market.

- The second through Royal Decree 650/2017, which stipulates a call for the granting of the specific remuneration regime to new wind and photovoltaic electricity production plants within the peninsular power system up to a maximum of 3,000 MW. The allocation procedure and the remuneration parameters are set out in the Ministerial Order IET/615/2017, of 28 June. The auction was called by the State Secretariat for Energy's resolution of 30 June 2017. The allocation procedure and the remuneration parameters are set out in the Ministerial Order IET/615/2017, of 28 June. The auction was called by the State Secretariat for Energy's resolution of 30 June 2017.

Said auction took place on 26 July, resulting in a 3,909 MW award for photovoltaics and 1,128 MW award for wind, with the same specification that the auction carries the maximum discount, thus no bidder will receive additional remuneration with the current market prices, unless the latter go below a determined limit.

3. Agents that guarantee the proper functioning of the market

- System Operator (SO): Red Eléctrica de España, S.A. carries on the transmission management and system operation activities. As system operator, it is responsible for managing the adjustment markets to guarantee a balance between energy demand and generation.
- Market Operator (MO): Iberian Market Operator (OMI) is responsible for the operation of MIBEL manages Portuguese and Spanish daily, intra-day and forward markets in Spain and Portugal.

4. Transmission and Distribution

The Electric Industry Law [LSE] establishes that distribution and transmission are regulated activities that are classified as low-risk, whose remuneration is determined by six-year regulatory periods.

- It introduces the concept of "efficient and well-managed company, and the financial remuneration rate will be based on ten year government bonds plus an appropriate spread for a low risk activity.

- It sets the collection of the remuneration generated by new facilities that entered into operation in the year n starts in the year n+2.

On 30 December 2013 two royal decrees regulating the new remuneration methodology of the transmission (Royal Decree 1047/2013) and distribution (Royal Decree 1048/2013) activities were published, following the regulatory and tax measures that started in the second half of 2013.

The methodology set out in the Royal Decree 1048/2013 is based on new standard investment and operation costs.

It also includes changes in the existing incentives; in quality (it may fluctuate between +2% and -3% of the company's remuneration) and losses (it may fluctuate between +1% and -2%). A new incentive regarding fight against fraud has been created, which may reach 1.5% of the company's remuneration.

The remuneration system culminates with Orders IET/2659/2015 and IET/2660/2015 determine the type of facilities and unit values to consider when calculating the remuneration for 2016 onwards.

Order 2017 ETU/1976/2016 of 23 December for tolls, keeps the remuneration values for distribution published for 2016 (EUR 5,175 million for the sector and EUR 1,655.5 million for IBERDROLA) and for transmission (EUR 1,709 million for the sector), without calculating the amount corresponding to 2017, which must be performed considering the new investments and amendment of λ parameter, which affects the valuation of the assets. The Ministry of Energy, Tourism and Digital Agenda has opened a hearing process to review the remuneration of the 2016 distribution.

5. Access tolls

Access tolls are defined as the consideration consumers will pay for use of the networks and other unrelated supply costs included in the invoice, designated as charges. Access tariffs are uniform across the country and are collected by the distributors, which act as the collector agents of the electric system.

Currently, the government establishes these access tolls for each year that consumers must pay in each voltage level, in absence of regulatory implementation that outlines an allocation methodology and calculates the tolls per network use as well as unrelated supply charges.

The Royal Decree-law 14/2010, of 23 December 2010, developed by Royal Decree 1544/2011, of 31 October 2011, extended the application of access tolls to electricity producers and established that an access toll of EUR 0.5 per MWh fed into the grid.

The Order IET/1976/2016, of 23 December, establishes the access tolls for 2017.

The Order IET/1282/2017, of 22 December, establishes the access tolls for 2018. This Order:

- It freezes all the tolls and current capacity payments.
- It provisionally maintains the transmission and distribution remuneration, until the orders with definitive values for 2018 are published.

- It establishes the possibility of allocating part of the historical surplus so that there are no maladjustments in 2017 and 2018 (up to EUR 200 million in 2017 and EUR 500 million in total).
- The 2017 receivable income is considered to be the balances of the accounts allocated to quality improvement, service and clearing vegetation plans, for the amount of EUR 54 million.
- It modifies the aspects related to social bonus eligibility criteria and access procedure, for pensioners and large families.
- It makes the gas meter replacement plan more flexible in granting exceptions: The distributors can remain at up to 2% of non-replaced gas meters starting January 2019.
- It establishes the provision remuneration of the OS and OM, recognising 9 and 5 million additional euros, respectively, for the adaptation of systems to the European market, which increases the prices to be paid by generators and retailers.

6. Retail activity

From 1 July 2009 consumers may freely contract their supply of electricity with a trader of their choice.

The government, however, maintains a Voluntary Price for the Small Consumer (VPSC), a regulated tariff for consumers that have a contracted power rating less than 10kW, and for those that do not meet the requirements to sign up for it but who temporarily do not have a valid contract with a free market operator.

Royal Decree 216/2014, of 28 March establishes the legal regimen for contracting the VPSC and methodology for calculating it, such as sum of energy cost, access tolls and charges, and commercial margin. In addition, as established by Law 3/2014, it provides the option for consumers to contracting an electricity price fixed for a year with the reference trader.

On 25 November 2016, arising from the judgment issued by the Supreme Court on 3 November 2015. Cancelling the commercial fix margin used to establish the PVPC, the Royal Decree 469/2016 was published. It modified the Royal Decree 216/2014. Now the commercial margin is based on the costs of three most efficient reference traders plus remuneration for the year of activity (1.05% on the energy price) and excludes face-to-face channel.

On 24 December, a Ministerial Order was published with the concrete values, both for the past (from 1 April 2014) and the future (until 2018), establishing a fixed and variable term for the allocation of the Reference Trader's margin.

The reference traders will regularize the past through a customer rebilling in 2017.

7. Social tariff

The Social tariff was created in 2009 as a measure to protect vulnerable customers. It offers a discount on the regulated rate for certain groups.

On 24 December, the Royal Decree-law 7/2016, which regulates the mechanism for financing the cost of Social tariff and other measures to protect vulnerable electricity consumers, was published. It was subsequently developed by Royal Decree 897/2017, which governs who qualifies as vulnerable consumer, the social tariff and other protections measures for home electricity consumers, and by Order ETU/943/2017.

Three categories of vulnerable consumers were defined based on criteria entailing income, number of minors in the household and other conditions, and a VPSC discount applied to their bill up to an annual consumption limit.

- Vulnerable consumer: 25% discount on PVPC.
- Severe vulnerable consumer: 40% discount on PVPC.
- Consumer at social exclusion risk: 100% discount on PVPC. They must be helped by social services, who will cover at least 50% of their bill at PVPC.

The rate subsidy is financed by all matrices of the business activity Groups according to the method for calculating the percentages for distribution and the procedure for settling the quantities to finance, according to the legislation in force. In 2017 IBERDROLA is responsible for 35.5%.

The procedures to suspend supply in the event of non-payment is also reviewed in this legislation. Information requirements are added for all retailers, payment terms and suspension of supply for non-payment in the free and regulated market is equalised, with special consideration to consumers in social exclusion risk, whose service is deemed essential and therefore cannot be suspended.

8. Load Manager

The Royal Decree-law 6/2010 introduced the load manager as another agent in the electrical system.

The Royal Decree 647/2011 regulates the functions of load managers, defined as “companies that, as consumers, are authorised to resell electricity for power recharging services. Load managers are the only subjects with wholesale customer character under the terms provided for the applicable community regulations.” The Royal Decree 647/2011 sets forth the requirements and obligations of load managers. It also created a new super off-peak tariff applicable to contracts of up to 15 kW, thereby creating a third hour period (from 1 a.m. to 7 a.m.) aimed at encouraging the charging of electric vehicles in this period.

There is currently a public hearing on a proposal to amend Royal Decree 647/2011, whose purpose is to simplify the load managers' requirements, promoting the installation of charging points for electric vehicles, especially in the tertiary sector (hotels, malls, etc.)

9. Self-consumption

Self-consumption is regulated for the first time in the Electric Industry Law 24/2013 and defined as the electric energy provided by generation facilities associated with a consumer.

In accordance with said Law, self-consumers must pay the same access tariff for the consumed energy as other customers (from the network or from your own installation). Also, they must register themselves on the self-consumption facilities registry.

Later, the Royal Decree-law 9/2015 of 10 July modified Law 24/2013 to establish the possibility of setting exemptions for small power self-consumers (up to 10 kW). They are exempt from the payment of fees and costs. This measure is exceptional and it will be implemented as long as the safety and economic and financial sustainability of the system is ensured.

Finally, the Royal Decree 900/2015 of 10 October regulated the administrative, technical and financial conditions of the self-consumption modalities.

- Supply with self-consumption: a consumer in a single electricity supply point or installation, with an internal network of one or more facilities to generate electricity for self-consumption. In this case, the consumer is a single subject. The contracted power shall not exceed 100 kW and discharges of energy to the grid do not receive monetary compensation.
- Production with self-consumption: a consumer in an electricity supply point or installation associated with one or several production facilities duly registered in the administrative record of energy production facilities. In this case there are two subjects - the consumer and the producer.

Regarding the economic regime, and until charges associated with system costs are approved, the self-consumer must pay a fixed charge and a variable charge applicable to the self-consumed energy. However, those consumers who fall into the supply with self-consumption modality and have contracted power less than or equal to 10 kW will be exempt from the temporary charge for the self-consumed energy, the insulated electrical systems (Canarian Island, Ceuta, Melilla, Ibiza and Formentera), and cogeneration until 31 December 2019. Self-consumers also pay network tolls for the use of the network, like other consumers.

10. Interruptibility

The interruptibility service for a consumer consists in the reduction of its contracted capacity in response to a reduction order from the system operator following a need that may arise in the electricity system in accordance with certain technical, security and financial criteria.

- Technical criteria: As a rapid response mechanism in emergency situations in the operation of the system.
- Economic criteria: In situations where the application of the service has a lower cost than that of the adjustment services of the system.

To execute the option, the system operator will send a power reduction order to the service providers who will reduce their active power demanded until the committed residual power values are fulfilled.

The allocation of the interruptibility service will be carried out through an auction procedure managed by the system operator, as established in the Order IET/2013/2013. Finally, the resolution published on 12 August 2016 approves the rules of the competitive procedure of auctions for the allocation of the service of interruptibility. It also approves the model of adhesion to the legal framework established for participation in the auctions.

11. Emission allowances

Directive 2003/87/CE places the obligation to deliver an emission allowance for each ton of CO₂ emitted by a plant, and the cap is reduced over time so that total emissions fall. In 2020, emissions from sectors covered by the EU ETS will be 21% lower than in 2005.

Emission allowances may be acquired by companies through:

- Issuances in capital markets: European Energy Exchange-EEX and Futures Europe – ICE
- In some cases, free temporary allocation where the amount of allowances is determined on the European Union level

Since 2013, IBERDROLA has no longer had the right to receive any free allocation.

A surplus of emission allowances has built up in the ETS since 2009, largely due to the economic crisis (which has reduced emissions more than anticipated) and high imports of international credits. This has led to lower carbon prices and thus a weaker incentive to reduce emissions. The European Commission (EC) is addressing this through short- and long-term measures. As a short-term measure the European Commission postponed in February 2014 the auctioning of 900 million allowances until 2019-2020 (“backloading”).

As a long-term solution, changes will be introduced to reform the ETS by establishing an MSR as of 2018, operating from 1 January 2019. The reserve will address the current surplus of allowances and improve the system’s resilience to major shocks by adjusting the supply of allowances to be auctioned. It will operate entirely according to pre-defined rules. The ‘backloading’ was also amended by MSR Decision, passed in October 2015: backloaded allowances will not return to the market in 2019-20, instead they will be introduced in MSR.

On the other hand, Spain ratified in January 2017 the Paris Agreements, thus reinforcing its commitment to the fight against climate change and the decarbonisation of its economy.

12. Tariffs balance

The difference between collection of tariffs and access tolls set by the Government and real costs related to the same, produced a revenue shortfall between 2000 and 2013, which was financed by the electric companies. Recovery of this shortfall is deferred through annuities incorporated in the annual tariff.

As measures adopted since 2009 proved to be insufficient throughout 2013, the Government carried out a process of regulatory and tax reform for the electricity sector. As a step prior to this reform, the Law 15/2012 established new tax measures and the Royal Decree-law 9/2013, was approved, adopting urgent measures to guarantee the financial stability of the electric system and modified the methodology for the calculation of the remuneration of the transmission and distribution activities, special regime and capacity payments, among other measures.

Finally, Law 24/2013 is governed by the principle of economic and financial sustainability of the electricity system, meaning that any regulatory measure which causes an increase in costs or a reduction in income for the electricity system should incorporate an equivalent reduction of other cost items or an equivalent increase in income that ensures the equilibrium of the system. Thus, the possibility of new deficits accumulating, as have occurred in the past, is ruled out.

This principle is reinforced with the obligation to automatically review the tolls and fees if the temporary imbalances between revenues and costs of the electricity system exceed the limits from 2014 onwards 2% of the income estimated for the system in a given year.

The part of the imbalance that, without exceeding such limits, is not compensated by increases in tolls and fees will be financed by the parties to the settlement system in proportion to the remuneration that corresponds to them for their activities. The amounts thus contributed will be returned in the corresponding settlements during the following five years together with an interest rate equivalent to the market rate.

The excess income that could arise will be used to compensate imbalances from previous years and, in 2017, by virtue of the Central State Budgets 2017, to compensate companies for the litigation resulting from the electricity regulation. Specifically, on 30 October the companies were paid EUR 316 million as a refund for the 2015 and 2016 Social tariff including interests, of which IBERDROLA has received EUR 121 million as long as there are debts pending from previous years, the access tolls and fees may not be revised downward.

The Royal Decree 680/2014, of 1 August, regulates the procedure of budgeting, recognition, settlement and control of the surcharges on the production of electric power in the isolated electricity systems of the non-peninsular territories charged to the Central State Budgets, thus developing the provisions of Law 24/2013, which established that from 1 January 2014, 50% of these surcharges would be financed against the Central State Budgets.

Final settlements for 2014, 2015 and 2016 were closed with an excess of EUR 550, 469 and 421 million, respectively. This accumulated excess of EUR 1,124 million, deducting the return of the Social tariff, will be paid into an account held by the CNMC.

13. Energy efficiency

In this sense, the European Union has set itself the target of achieving a 20% improvement in energy efficiency by 2020.

Law 18/2014, of 15 October, approving measures for growth, competitiveness and efficiency, contains a set of mechanisms designed to achieve the energy saving targets established in the Energy Efficiency Directive. To this end, it created the National Energy Efficiency Fund, managed by the Institute for the Diversification and Saving of Energy (Instituto para la Diversificación y Ahorro de la Energía) and financed by an annual contribution from all suppliers of gas and electricity, wholesalers of oil products and of liquid petroleum gases, according to their sales.

Law 8/2015, of 21 May, modified Law 18/2014 and established that the obliged entities must make an annual contribution from 2016 onwards to the National Energy Efficiency Fund in four instalments: on 31 March, 30 June, 30 September and 31 December of each year. Order ETU/258/2017, of 24 de March, establishes the 2017 contributions to the National Energy Efficiency Fund.

- **Industry regulation and functioning of the gas system in Spain**

The natural gas sector in Spain has undergone significant changes in its structure and operation in the last ten years, from a monopoly to a fully open market, driven mainly by the deregulation measures about natural gas intern market in European directives (2009/73/EC Directive is currently in force) aimed at opening up markets and creating a single European gas market.

These liberalised principles have been incorporated and developed in Spanish law through the Hydrocarbon Industry Law 34/1998, which began the deregulation process and, more recently, through the Law 12/2007 and the Royal Decree-law 13/2012 which completed this process.

The Hydrocarbon Industry Law of 1998 laid the foundations for the new gas system, particularly with regard to the separation of activities (regulated and deregulated), the introduction of third-party access to the regulated network, the abolition of the former concessions for piped gas supply and their conversion into regulated administrative permits, and the establishment of a timetable for progressive market deregulation.

In line with these principles, the gas system has been structured around two types of activities: regulated activities (regasification, basic storage, transmission and distribution) and deregulated activities (trading and supply).

The Hydrocarbon Industry Law 34/1998 provided for the legal separation of deregulated and regulated activities and the segregation for accounting purposes of the various regulated activities. In addition, with the publication of Law 12/2007, Spain moved a step closer to achieving functional separation between network activities and deregulated activities and between network activities and technical system management. In 2012, the Royal Decree-law 13/2012 was approved, transposing Directive 2009/73/EC, and establishing further measures of separation in management of the transmission network.

Although the Hydrocarbon Industry Law established the general principles of the new Spanish gas system, the sector's deregulation did not come into practice until 2001, after the publication of the Royal Decree-law 6/2000, on urgent measures to intensify competition in the goods and services markets, and the Royal Decree 949/2001, regulating third party access to gas facilities and establishing an integrated economic system for the natural gas sector.

The first of these decrees enacted certain elements of the Hydrocarbon Industry Law with the aim of fostering measures that would facilitate the elimination of entry barriers for new supply companies. In particular, it created the technical system manager (ENAGAS, S.A.), provided for a 25% gas release under the contract for natural gas brought from Algeria through the Maghreb pipeline, and brought forward the timetable for deregulation.

The second, the Royal Decree 949/2001, established firstly the specific terms and conditions for third-party network access and, a remuneration system for regulated activities and a cost-based system of tariffs, tolls and fees structured according to pressure levels and consumption bands.

The remuneration assigned to each company as well as the tariffs, tolls and fees are updated periodically by ministerial orders and resolutions.

The economic system also established a settlement procedure that would allow for redistribution of revenues collected in the form of tariffs, tolls and fees between the various regulated activities in accordance with the remuneration method established. The body responsible for effecting this redistribution is the Ministry of Energy, Tourism and Digital Agenda.

Other issues related to the regulation of the transmission, distribution and supply businesses, the administrative authorisation procedures for natural gas facilities and the regulation of certain aspects of the supply business are dealt with in the Royal Decree 1434/2002.

As for the technical operation of the system, the operating regulations are established in the Order ITC 3126/2005 enacting the gas system technical management rules. Inter alia, these regulations established that each operator is individually responsible for maintaining its liquidity and enacts specific protocols for the conduct of the technical system manager in exceptional operating circumstances.

Despite the sector's progressive deregulation, prevailing regulation upholds the state's obligation to ensure the safety and continuity of supply. To this end, the Royal Decree 1766/2007 stipulates that direct market suppliers and consumers must maintain minimum security stocks equivalent to 20 days' consumption. In addition, it limits the maximum percentage of gas supplies that may be sourced from a single country to 50%.

Additionally, the resolution approving the Gas Winter Plan was published. Retailers are required to maintain an "internal reserve" (November-March) as required in LNG, equal to 3.5 days of the contracted input capacity to the transmission and distribution network. This reserve may only be moved in the event of a cold snap or significant electricity demand, prior to authorisation by the GTS.

The state also maintains responsibility for obligatory planning work for certain infrastructures (for example, gas pipelines forming the core transmission network, the secondary transmission network, determining the total liquid natural gas regasification capacity necessary to supply the system and core natural gas storage facilities). For all other infrastructures, the state's planning work is indicative only. In 2012, the Royal Decree-law 13/2012 enacted a series of measures to halt the construction of new infrastructure in a context of falling demand for gas.

As mentioned above, in Spain the deregulation process was completed with Law 12/2007 transposing Directive 2003/55/CE. The two key changes enacted by this law were the elimination of regulated supply and the functional separation between network activities and deregulated activities.

In the Spanish electric system, the market deregulation process was completed on 1 July 2008 with the elimination of regulated supply for customers and the creation of last-resort supply. Currently, low-pressure customers with annual consumption of less than 50,000 kWh who do not choose another supply option shall be supplied by a last-resort supplier at a price calculated automatically. This additional rate is called the last resort tariff.

Law 18/2014, on measures for growth, competitiveness and efficiency, previously the Royal Decree-law 8/2014 established the principle of economic and financial sustainability for the gas system. This principle is reinforced with the obligation to automatically review tolls and fees if the annual imbalance between revenues and costs of the gas system exceeds the following limits:

- 10% of the income receivable for the year; or
- 15% of the sum of the annual imbalance plus annual payments recognised and pending amortisation.

The part of the imbalance that, without exceeding the above limits, is not compensated by the increase in tolls and fees, will be financed by the parties to the settlement system in proportion to their remuneration. The amounts contributed will be returned in the following five years and will earn an interest rate equivalent to the market rate.

The deficit accumulated as at 31 December 2014 will be financed by the owners of the facilities during a period of 15 years.

On the other hand, the remuneration of the regulated activities will be based on the costs necessary for an efficient and well-managed company to carry out the relevant activity, following the principle of performing the relevant activity at the lowest cost for the gas system. In addition, the remuneration of regulated activities will be on the basis of six-year regulatory periods. The first regulatory period ends on 31 December 2020. Every three years adjustments may be made to the remuneration parameters within the gas system in the event that there are significant changes in revenues or costs.

The remuneration system for distribution is based on the remuneration of the previous year, adjusted for changes in productivity and new customers.

The remuneration system for transmission, storage facilities and regasification is based on the net value of the associated assets. In addition, the associated operating and maintenance costs and premiums for continuity of service are also factored in to calculate the remuneration system.

The Hydrocarbon Industry Law has been modified by Law 8/2015, 21 May 2015. The main aspects introduced by Law 8/2015 regarding the gas system are:

- The creation of an organised wholesale gas market.
- The designation of the operator of the regulated gas market.
- Some measures relating to minimum security stock levels are adopted.
- CORES (Corporación de Reservas Estratégicas de Productos Petrolíferos) is enabled to constitute, maintain or manage natural gas and liquefied natural gas strategic stocks.
- With respect to the Efficiency Fund (Fondo Nacional de Eficiencia Energética) the law permits the refund of contributions when necessary (in case of mistake, for example).
- A new fiscal regime is established, benefiting the landowners and regions (Comunidades Autónomas) where the activities of exploration, investigation and production with conventional and non-conventional (including fracking) techniques are developed.
- Inspections may be carried out by any natural gas installation company (not only distribution companies).

Finally, the Royal Decree 984/2015 of 30 October 2015 regulated the organised wholesale gas market and the third party access to the facilities of the natural gas system. This market will initially include the negotiation of short-term standardised products by an electronic platform managed by the Market Operator (MIBGAS - OMEL). In addition, this market will centralise the hiring capacity through an electronic platform managed by the Technical System Operator (ENAGAS), with standardised products and auction procedures.

Lastly, the Council of Ministers approved the agreement that establishes the conditions for the provision of the mandatory market maker service by the controlling operators of the natural gas market. Natural gas retailers that hold a dominant operator position or form part of a business group that holds it, are required to present natural gas purchase and sale offers of a determined volume in the organised gas market (MIBGAS). This requirement is established for four years, unless the liquidity is satisfied before.

At the end of 2017, the Resolution was published establishing the conditions for the provision of the mandatory market maker service by the controlling operators of the natural gas market (Endesa and GNF). They are obligated to maintain a minimum volume of purchase and sale offers up to a maximum annual volume of 5.68% of its volume from supplying gas to Spain. The separation of prices between the purchase and sales offers must be equal to or less than 0.50 euros per MWh.

- **Alternative energies for transport**

The Royal Decree 639/2016, of 9 December, establishes a framework of measures for the implementation of an infrastructure for alternative fuels. This is the transposition of the Directive, which requires each State to set specific objectives and measures to foster infrastructures that allow the deployment of alternative mobility to oil. It contemplates the use of electricity for transportation by road and the supply in ports and airports. It also contemplates the use of natural gas (CNG or LNG) in transport by road or ports.

4. Industry regulation in the UK

The principal laws that govern Scottish Power Ltd.'s (hereinafter, *SCOTTISH POWER*) activities are the Electricity Act 1989 (*Electricity Act*) and the Gas Act 1986 (*Gas Act*), as substantially amended and supplemented by numerous subsequent enactments, including the Gas Act 1995, the Utilities Act 2000, the Energy Act 2004, the Energy Act 2008, the Energy Act 2010, the Energy Act 2011, the Energy Act 2013, the Energy Act 2016 and various EU Directives (subject to any changes arising from the UK's forthcoming exit from the EU). These specific energy laws are implemented by UK and EU legislation relating to competition and consumer protection.

1. The Regulatory Authorities

The principal regulatory authority for utilities is the Gas and Electricity Markets Authority (*GEMA*), comprising a chairman and other members appointed by the Secretary of State for Business, Energy and Industrial Strategy (BEIS). GEMA is supported by the Office of Gas and Electricity Markets (*OFGEM*). The main instrument of regulation used by GEMA is the licensing regime which in most cases requires the various aspects of the energy industry to be carried out under a licence to which standard conditions apply. In addition, there are a number of statutory obligations, known as relevant requirements, which are enforced by GEMA as if they were licence conditions.

GEMA's principal objective is to promote the interests of present and future consumers and promote effective competition. Under the Energy Act 2010, the interests of such consumers must be taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity to them.

In furthering this objective GEMA must ensure that all reasonable demands for electricity and gas are met, ensure that licence holders are able to finance the activities they are obliged to undertake, and contribute to the achievement of sustainable development. Further provisions concerning the duties of GEMA have been made by the Energy Act 2013, but the provisions in question are yet to be implemented.

GEMA's functions include the granting of licences (and their revocation in certain limited circumstances), the making of changes to licence conditions (including the operation of price controls for the monopoly network functions), the review of industry code modifications, operating schemes for promoting renewable electricity and energy efficiency, and the enforcement of the industry's obligations.

GEMA has the power to impose monetary penalties for past and ongoing breaches of licence conditions and relevant requirements and it can order that redress is provided to consumers. Fines and redress orders for a particular breach can in aggregate be up to 10% of the licensee's applicable turnover.

The principal Regulatory Authority for competition matters is the Competition and Markets Authority (CMA). They can undertake general market investigations and, working concurrently with GEMA, can investigate potential breaches of competition law in the utility field. Consumer protection matters are enforced by the CMA, OFGEM and Local Authority Trading Standards departments.

2. Licences

Companies within the SCOTTISH POWER Group hold licences for various functions including:

- the supply of electricity;
- the generation of electricity;
- the distribution of electricity in the South Scotland area, in the Merseyside and North of Wales area;
- the supply of gas;
- the shipping of gas (that is, arranging for the insertion, the transmission, and the removal of it from the public network); and
- the transportation of gas to certain specific sites (such as proposed new gas fired power stations).

The third package of European Union Directives on Electricity (2009/72/EC) established additional restrictions to the ownership of transmission companies. On 19 June 2012, Scottish Power Transmission Limited (SPTL) was certified by OFGEM, in accordance with the Directive's Article 9, with the European Commission approval, on the basis that SPTL's arrangements guarantee more efficient independence than the ITO provisions under the Directive's Chapter V. As a result, the provisions relating ownership separation do not apply to SPTL.

The conditions of licences regulate such matters as:

- for network licences: the quality of service and the charges that can be made.
- for supply to domestic consumers: consumer protection provisions including rules on standards of conduct, provision of information, debt and disconnection, cost reflective pricing, in relation to payment methods, information supply to customers and on treating customers fairly.

- for most types of licence: rules requiring adherence to industry codes that set down the detailed technical rules for operating the industry, and providing for OFGEM to determine whether proposed changes to the codes should go ahead.

The Gas Act 1995 and Utilities Act 2000 introduced standard licence conditions to ensure that all holders of a particular licence type are subject to the same conditions. Under the Electricity and Gas Regulations 2011 (Internal Markets), modifications of individual or standard licencing terms no longer require the holders' consent. However, affected licence holders and other parties can appeal to the CMA on both procedure and substance, except where legislation allows the Secretary of State to modify licence conditions for certain specified purposes (typically the delivery of industry wide reforms). In most cases, these powers are time limited. Changes to licence conditions can also currently be made without the right of appeal in pursuance of a European Union obligation, using powers in the European Communities Act 1972.

A market investigation was initiated on 26 June 2014 by GEMA. The report concluded that competition in the wholesale gas and electricity markets works well and that the presence of vertically integrated firms does not have a detrimental impact on competition. No strong case was found for returning to the old "pool" system for the Wholesale Electric Market.

However, a number of adverse effects on competition were identified in the retail market, some due to ill-conceived regulation, but mainly focussed on the 'weak customer response' from the ~70% of customers who are on standard variable tariffs (SVT) and who lose out through lack of engagement in the market. Most of the CMA's remedies are focussed on increasing competition in the SVT segment, including creating a database of disengaged customers which could be used by rival suppliers for marketing, and a programme of trials to develop more effective customer prompts. However, in the case of customers with prepayment meters the CMA decided to impose a transitional safeguard tariff cap, to be set above the "efficient" level of pricing, with the aim of mitigating the damage to competition that might otherwise arise. Other remedies include location-dependent charging for transmission losses, changes to industry settlement processes and code governance, and recommendations to the Government on a number of subjects including GEMA's duties.

The CMA made a number of orders in December 2016 to implement relevant remedies, ahead of its statutory deadline of 23 December to complete implementation. It will remain involved to monitor the implementation and effectiveness of remedies.

Government policy changed during the second half of 2016 and in 2017 to a view that the CMA remedies did not go far enough to protect customers on SVTs. On 12 October 2017 the Government published for pre-legislative scrutiny a draft Bill which would require Ofgem to cap prices on SVT and other default tariffs. The scrutiny is being undertaken by the House of Commons BEIS Select Committee and is expected to last until at least January 2018 after which the Bill is expected to be introduced into the legislative process. The cap is unlikely to come into effect before 2019.

3. EU Regulation on Energy Market Integrity and Transparency (REMIT)

GEMA also enforces REMIT in the United Kingdom. It has the power to levy unlimited fines for breaches and since 13 April 2015 can initiate criminal prosecutions for breach of the market manipulation element of REMIT against both companies and the individual employees involved. In the case of individuals, the penalty can include imprisonment for up to two years.

4. Price controls

Prices for the sale of electricity and gas by utilities to the great majority of final consumers are not currently controlled in Great Britain, though any price variation by payment method must be cost reflective. Other retail rules in place include information requirements, requirements for notifying customers of lower tariffs, and standards of conduct for customer treatment.

As a result of a remedy imposed by the CMA, prices for supply to customers with prepayment meters (PPMs) are however subject to a transitional safeguard cap applying between 1 April 2017 and 31 December 2020. In the light of wider concerns about over-charging SVT customers, Ofgem has undertaken a statutory consultation on a new licence condition which would extend the CMA's PPM cap to customers on the Warm Home Discount (WHD). This cap is expected to start in February 2018 and end no later than 31 December 2019. Together these caps cover around [25%] of the market. Ofgem has indicated an intention to extend this latter cap to further vulnerable customers in later 2018. As noted above, the Government is consulting on draft legislation that would create a price cap for all customers on SVT or default tariffs; this would effectively govern the market as a whole.

All the major suppliers must offer special discounts for certain disadvantaged customers under the WHD programme. The total cost of discounts of the Warm Home Discount programme for SCOTTISH POWER in 2016-2017 was about GBP 6.40 per customer (counting gas and electricity separately) and, like any other costs, suppliers are free to pass on the cost to their tariffs. Where tariffs are capped, this cost is taken into account.

Similarly, there are currently no controls other than those established in the Competition Act 1998 and the Transmission Constraint Licence Condition (TCLC), on prices charged to commercial customers or on other prices in the wholesale electricity and gas markets.

TCLC prohibits electricity generators from making excessive profits resulting from actions in balance markets. OFGEM has published guidelines on the interpretation and application of the TCLC. The condition was renewed and made permanent on 16 July 2017; some elements were removed to address potential overlap with REMIT.

OFGEM has implemented electricity market liquidity obligations for large integrated retail and generation businesses, including SCOTTISH POWER. These include obligations to facilitate trading with smaller companies and also an obligation to create market in a number of wholesale products during two specified "windows" in each business day. Although the prices of bids and offers are not regulated, the licence condition limits the spread between them. There are rules designed to give some protection to obligated licensees in fast or volatile markets. To date, we have incurred some limited costs in complying with this obligation.

The networks are considered to be a natural monopoly. Therefore, their revenues have been controlled and this is now achieved through the new RIIO framework (Revenue = Incentives + Innovation + Outputs). This framework includes a greater emphasis on outputs and innovation, as well as on the role that network companies can play in developing a sustainable energy sector. It involves setting a revenue profile for an eight year period (with the opportunity for Ofgem to propose a limited revision every four years) which would deliver a target return on investments based on the regulator's assessment of the costs of an efficient network operator and the likely capital programme (aided by a business plan submitted by the Company). The formula also includes various incentives and takes account of inflation. The formula uses a Market Indicator for setting the debt cost, and phases in (for electricity) an asset depreciation period of 45 years, replacing the 20 year period used previously.

In the transmission business, SPTL's new RIOT1 framework became effective from April 2013. In distribution, the new RIIO-ED1 for the Scottish Power network in the South of Scotland and in the Manweb area came into force on 1 April 2015. Following an appeal made to the CMA by British Gas Trading Ltd, a small adjustment was made, which affected the prices set for 2016/17 and later years.

OFGEM is reviewing the RIIO framework ahead of the second round of controls, which will start with RIIO-T2 in April 2021. Ofgem has also signalled that large, new and separable transmission projects may be tendered or made subject to a bespoke (lower) rate of return.

5. Other issues

Other key elements of the regulatory regime in the United Kingdom include:

The Renewables Obligation (RO)

For some time, the United Kingdom Government has intended to source at least 30% of electricity from renewable sources by 2020. To this end, the RO Orders (which apply separately to different parts of the United Kingdom within a unified scheme) place obligations on suppliers of electricity to source an increasing proportion of their electricity from renewable sources (based on the expected level of renewable energy production in each year plus a 10 percent spread in order to prevent certificate prices from falling sharply). Suppliers meet their obligations by presenting sufficient Renewables Obligation Certificates (ROCs) or by paying an equivalent amount into a fund.

The proceeds of the fund are paid back to those suppliers that have presented ROCs in proportion to the number of ROCs presented. Since April 2009, the RO has been banded so that differing technologies receive different levels of support depending on the expected costs.

The RO is closed for new projects no later than 31 March 2017 and Government has implemented the Contract for Difference (CFDs) mechanism that was part of Electricity Market Reform (EMR). For solar photovoltaic generation plants above 5MW, the RO closed in April 2015. The RO closed in March 2016 for solar photovoltaic plants at 5 MW or below and in May 2016 for onshore wind, in both cases subject to grace periods. The wind farms in Scottish Power's onshore renewables pipeline that received planning permission in time to qualify for the relevant grace period, will be eligible to accredit under the RO. The RO remains in place for facilities entering the scheme before the relevant closure date; payments will continue until 31 March 2027 for projects that started generation before 1 April 2009 and for 20 years after entry into the RO for later dated projects. The Energy Act 2013 foresees changing from the RO to a premium payment on substantially similar terms.

Electricity Market Reform (EMR)

The principal elements of the United Kingdom Government's EMR programme are:

- a new incentive scheme, based on CFDs to support low carbon generation; and
- a Capacity Market to support security of supply (market-wide auction mechanism).

The first Allocation Round took place on 4 February 2015 in two “pots”; one for established technologies (mainly onshore wind and solar) and a second one for less established technologies (mainly offshore wind). Scottish Power’s 714 MW East Anglia ONE offshore Wind Farm achieved a contract in the auction at a price of GBP 119 per MWh. The second round concluded on 11 September 2017 and procured some 3.2GW of offshore wind, mostly at a clearing price of £57.50 per MWh. Government has now announced a further CFD Allocation Round for less established technologies which is due to commence in 2019. A budget allocation of GBP 557 million (2011/12 prices) has been made in aggregate for allocation rounds between now and about 2025; given the prices being discovered in the auctions, this is likely to be sufficient for a very large offshore wind programme.

Annual Capacity Market auctions took place in December 2014, 2015 and 2016, for capacity delivery in winter 2018, 2019 and 2020, respectively. The auction for delivery in winter 2021 is expected to take place in February 2018. A T-1 top-up auction for delivery in winter 2018 is expected to take place in January 2018.

EU-ETS and United Kingdom Carbon Price Support

As in all EU Member States, generators in the United Kingdom participate in the EU-ETS. This is expected to remain the case for 2018 despite Brexit, but the position for 2019 and later years is not currently defined. Since 2013, the Government is required to auction all allocations to the power sector. Since 2013, the Government is required to auction all allocations to the power sector.

The Climate Change Act 2008 set out a trajectory towards reducing CO2 emissions from 1990 levels by at least 80% by 2050, with interim reduction targets. The Carbon Price Support mechanism is a United Kingdom tax imposed on fossil fuels used for electricity generation at differential rates which simulate a charge on the CO2 emissions. In recent years, this charge has been set at GBP 18 per tonne CO2. The Government announced in Budget 2017 that it will set the charge so that the sum of the charge and any applicable carbon trading cost remains broadly constant until unabated coal fired generation is no longer used.

The Energy Companies Obligation (ECO)

Energy suppliers who supply over 250,000 domestic customers are required to achieve energy efficiency improvements or heating cost reductions by domestic customers. As with any other cost, the costs of making those improvements can be incorporated by suppliers into tariffs, subject to the need to remain competitive in the market. These costs will need to be taken into account in any price caps that may be proposed. The current transitional ECO scheme started in April 2017 with an indicative industry wide cost of GBP 640 million a year. A new scheme is due to start in April 2018 or soon after with the same indicative cost, but final details are yet to be confirmed.

Coal plants closure

In November 2015, the then Secretary of State Amber Rudd announced plans to consult on requirements for all coal power stations without CCS to close by 2025 (subject to any security of supply issues). In late 2016 the Government published a consultation on possible regulatory options to facilitate this. In January 2018 the Government confirmed its intention of eliminating coal generation from the system in 2025. The impact of any such measures on ScottishPower is limited due to the closure of Longannet.

Pollution Control

The Integrated Pollution Prevention and Control (IPPC), the Large Combustion Plant Directive (LCPD) and the Industrial Emissions Directive (IED) cover the regulatory regime for controlling the pollution from certain industrial activities, including thermal combustion generation, and impose limits on various categories of emissions. In particular, the LCPD limits the emission of sulphur dioxide (SO₂), oxides of nitrogen (NO_x) and particles from power plants, whereby operators of such plants have the option of meeting those requirements or accepting a limited hour derogation prior to their closure by the end of 2015. The IED puts in place a similar regime for 2016 and beyond, with more stringent standards. The IED is transposed into United Kingdom's law through the Pollution Prevention and Control (Scotland) Regulations 2012 and amendments to the Environmental Permitting (England and Wales) Regulations 2010. These controls are enforced by the Environment Agency or, in Scotland, the Scottish Environmental Protection Agency.

The Medium Combustion Plants Directive places emission limits on smaller generating and other combustion plants. As part of the implementation of this, Defra is expected to impose NO_x limits on diesel generators, which could reduce the air quality implications of allowing such plants to participate in the capacity mechanism.

5. Industry regulation in USA

1. Electricity and natural gas distribution

Some of the most important specific regulatory processes that affect AVANGRID Networks, Inc. (hereinafter, AVANGRID NETWORKS) include the New York rate settlement for NYSEG and RG&E, the Connecticut United Illuminating distribution rate case decision, the Maine and Connecticut transmission Federal Energy Regulatory Commission (FERC) Return on Equity (ROE) case and the Reforming Energy Vision (REV) process of New York.

The revenues of AVANGRID NETWORKS are essentially regulated, being based on tariffs established in accordance with administrative procedures set by the various regulatory bodies. The tariffs applied to regulated activities in the United States are approved by the regulatory commissions of the different States and are based on the cost of providing service. The revenues of each regulated utility are set to be sufficient to cover all its operating costs, including energy costs, finance costs and the costs of equity (the last one reflects the Company's capital ratio and the reasonable return on equity).

Energy costs that are set on the New York and New England wholesale markets are passed on to consumers. The difference between energy costs that are budgeted for and those that are actually incurred by the utilities is offset by applying compensation procedures that result in either immediate or deferred tariff adjustments. These procedures apply to other costs, which are in most cases exceptional (effects of extreme weather conditions, environmental factors, regulatory and accounting changes, treatment of vulnerable customers, etc.) that are offset in the tariff process. Any delivery profit from New York and Connecticut that allows a service company exceeds its profitability objectives (usually due to a better than expected cost efficiency), is shared among the service company and its clients, resulting in a decrease in the future tariff.

Each of the eight supply companies in AVANGRID NETWORKS, must comply with regulatory procedures that differ in form but in all cases conform to the basic framework outlined above. As a general rule, tariff reviews cover various years (three in New York and Connecticut) and provide reasonable returns on equity, protection and automatic adjustments for exceptional costs incurred and efficiency incentives.

2. New York

New York State Electric & Gas Corporation (NYSEG) and Rochester Gas and Electric Corporation (RG&E) Tariff Plans:

- 2015 NY Rate Filings

On 20 May 2015, NYSEG and RG&E filed electric and gas rate cases with the NYPSC. The companies are requesting rate increases for NYSEG Electric, NYSEG Gas and RG&E Gas, while for RG&E Electric are requesting rate decreases.

On 19 February 2016, the NYSEG, RG&E and other signatory parties filed a Joint Proposal, or the Proposal, with the NYPSC for a three-year rate plan commencing on 1 May 2016. The Proposal balances the varied interests of the signatory parties including but not limited to maintaining the companies' credit quality and mitigating the rate impacts to customers. The Proposal reflects many customer attributes including: acceleration of the companies' natural gas leak prone main replacement programs and enhanced electric vegetation management to provide continued safe and reliable service. The delivery rate increase can be summarized as follows:

Utility	01 May 2016		01 May 2017		01 May 2018	
	Rate Increase (Millions USD)	Delivery Rate Increase (%)	Rate Increase (Millions USD)	Delivery Rate Increase (%)	Rate Increase (Millions USD)	Delivery Rate Increase (%)
NYSEG Electric	29.6	4.10	29.9	4.10	30.3	4.10
NYSEG Gas	13.1	7.30	13.9	7.30	14.8	7.30
RGE Electric	3.0	0.70	21.6	5.00	25.9	5.70
RGE Gas	8.8	5.20	7.7	4.40	9.5	5.20

The allowed rate of return on common equity for NYSEG Electric and NYSEG Gas is 9%. The equity ratio for both Electric and Gas is 48%. The Proposal includes an Earnings Sharing Mechanism (ESM) applicable. The customer share of earnings would increase at higher earnings levels, with customers receiving 50%, 75% and 90% of earnings over 9.5%, 10% and 10.5% of ROE, respectively, in the first year. Earnings thresholds would increase in subsequent years.

The Proposal reflects the recovery of deferred NYSEG Electric storm costs of approximately USD 262 million, of which USD 123 million will be amortized over 10 years and the remaining USD 139 million will be amortized over five years. The Proposal also continues reserve accounting for qualifying Major Storms (USD 21.4 million annually). Incremental maintenance costs incurred to restore service in qualifying divisions will be chargeable to the Major Storm Reserve provided that they meet certain thresholds.

The Proposal maintains current electric reliability performance measures (and associated potential negative revenue adjustments for failing to meet established performance levels) which include the system average interruption frequency index and the customer average interruption duration index. The Proposal also modifies certain gas safety performance measures at the company, including those relating to the replacement of main leak prone, leak backlog management, emergency response, and damage prevention.

The Proposal establishes threshold performance levels for designated aspects of customer service quality and continues and expands bill reduction and arrears forgiveness Low Income Programs at increased funding levels. The Proposal provides for the implementation of NYSEG's Energy Smart Community ("ESC") Project in the Ithaca region which will serve as a test-bed for implementation and deployment of Reforming the Energy Vision (REV) initiatives. The ESC Project will be supported by NYSEG's planned rollout of Distribution Automation and Advanced Metering Infrastructure (AMI) to customers on circuits in the Ithaca region. REV-related incremental costs and fees will be included in the Rate Adjustment Mechanism (RAM) to the extent cost recovery is not provided for elsewhere. Under the Proposal, we will implement a RAM, which will be applicable to all customers, to return or collect RAM eligible deferrals and costs, including: (1) property taxes; (2) Major Storm deferral balances; (3) gas leak prone pipe replacement; (4) REV costs and fees which are not covered by other recovery mechanisms; and (5) Electric Pole Attachment revenues.

The Proposal provides for partial or full reconciliation of certain expenses including, but not limited to: pensions, other postretirement benefits; property taxes; variable rate debt and new fixed rate debt; gas research and development; environmental remediation costs; Major Storms; nuclear electric insurance limited credits; economic development; and Low Income Programs. The Proposal also includes a downward-only Net Plant reconciliation. In addition, the Proposal includes downward-only reconciliations for the costs of: electric distribution and gas vegetation management; pipeline integrity; and incremental maintenance. The Proposal provides that we continue the electric RDMs on a total revenue per class basis and the gas RDMs on a revenue per customer basis.

A hearing on the Proposal was held on 7 April 2016 and a NYPSC order adopting the Proposal was issued on 15 June 2016, with retroactive application beginning on 1 May 2016. The Commission also provided for additional modifications including a timeline for developing the Earnings Adjustment Mechanism described in the Commission's REV Track 2 Order.

• Reforming the Energy Vision

Reforming the Energy Vision: In April 2014, the NYPSC commenced a proceeding titled Reforming the Energy Vision (REV), which is an initiative to reform New York State's energy industry and regulatory practices. Track 1 deals with market design and platform technology and Track 2 deals with the regulatory reform. REV's objectives include the promotion of more efficient use of energy, increasing the utilization of renewable energy resources such as wind and solar power (in support of New York State's renewable energy goals) and a wider deployment of "distributed" energy resources, such as micro-grids, in-situ power supplies, and storage.

REV is also intended to promote greater use of advanced energy management products to enhance demand elasticity and efficiencies. Track 1 of this initiative involves a collaborative process to examine the role of distribution utilities in enabling market based deployment of distributed energy resources to promote load management and greater system efficiency, including peak load reductions. We are participating in the initiative with other New York utilities and are providing our unique perspective. The NYPSC has issued a 2015 order in Track 1, which acknowledges the utilities' role as a Distribution System Platform (DSP) provider, and requires the utilities to file an initial Distribution System Implementation Plan (DSIP) by June 30, 2016. The DSIP was filed on 30 June 2016 and included information regarding the proposed deployment of Automated Metering Infrastructure (AMI). A supplemental DSIP filing is due to be filed November 1, 2016. Various proceedings have also been initiated by the NYPSC which are REV related, and each proceeding has its own schedule. These proceedings include the Clean Energy Fund, Demand Response Tariffs, Net Energy Metering/Value of Distributed Energy Resources and Community Choice Aggregation.

Track 2 of the REV initiative is also underway, and through a NYPSC Staff Whitepaper review process, is examining potential changes in current regulatory, tariff, market design and incentive structures which could better align utility interests with achieving New York state and NYPSC's policy objectives. New York utilities will also be addressing related regulatory issues in their individual rate cases. A Track 2 Order was issued in May, 2016. The Track 2 Order includes requirements for all electric utilities to file: a system efficiency proposal, an interconnect survey process and proposed Earnings Adjustment Mechanism (EAM), a progress report on aggregated data reporting, an aggregated data privacy policy statement, revisions to their standby service tariffs, a review of their standby rate allocations and proposed revisions, one or more Smart Home Rate demonstration proposals, and revisions to voluntary time of use rates, as well as to propose EAMs for Energy Efficiency and Customer Engagement. Additionally, the order requires electric utilities to participate in a scorecard metric collaborative and a stakeholder process to develop Clean Energy Standard EAM(s).

On 1 December 2016, NYSEG and RG&E filed their proposed Earnings Adjustment Mechanism (EAM) in compliance with the Commission's REV Track 2 Order and the NYSEG and RG&E Rate Plan Order. Although collaborative sessions have been held in the first and second quarters of 2017, the companies cannot forecast the result of the proceeding.

On 20 December 2016, NYSEG and RG&E filed a petition for the full deployment of Automated Metering Infrastructure (AMI) with the Commission. The AMI petition requests authorization to implement full-scale AMI at NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas. Approximately 1.8 million electric AMI meters and gas modules will be deployed. The Companies also requested to implement a surcharge to recover the investment until such values can be included in base delivery rates in their next rate cases. The Companies expect the Commission to address its petition in 2018.

- **Reliability Support Service Agreement in the Ginna Nuclear Power Plant**

Ginna Nuclear Power Plant, LLC (GNPP), which is a subsidiary of Constellation Energy Nuclear Group, LLC (CENG), owns and operates the R.E. Ginna Nuclear Power Plant, a 581 MW single-unit pressurized water reactor located in Ontario, New York. In May 2014, the New York Independent System Operator (NYISO) produced a reliability study, confirming that the Ginna Facility needs to remain in operation to avoid bulk transmission and non-bulk local distribution system reliability violations in 2015 and 2018.

On 11 July 2014, GNPP filed a petition requesting that the NYPSC initiates a proceeding to examine a proposal for the continued operation of the Ginna Facility. Ginna asserted that in the two preceding calendar years, 2012 and 2013, it had sustained cumulative losses at the Facility of nearly USD 100 million (including the allocation of CENG corporate overhead) and that CENG had not been compensated for any operational risk or an appropriate return on its investment over this period. Based on the results of the 2014 Reliability Study, GNPP requested that: Based on the results of the 2014 Reliability Study, GNPP requested that: 1) the NYPSC determines that the continued operation of the Ginna Facility is required to preserve system reliability; and 2) the NYPSC issues an order directing RG&E to negotiate and file a Reliability Support Services Agreement (RSSA) for the continued operation of the Ginna Facility.

In November 2014, the NYPSC ruled that GNPP had demonstrated that the Ginna nuclear plant was necessary to maintain the system's reliability and that its actions regarding the relevant retirement notice requirements were satisfactory. The NYPSC also accepted the findings of the 2014 reliability study and stated that it established "the reliability need for continued operation of the Ginna Facility that is the essential prerequisite to negotiating an RSSA." As such, the NYPSC ordered RG&E and GNPP to negotiate an RSSA.

On 13 February 2015, RG&E submitted to the NYPSC RSSA between RG&E and GNPP. RG&E requested that the NYPSC accepted the RSSA and approve cost recovery by RG&E from its customers of all amounts payable to GNPP under the RSSA utilizing the cost recovery surcharge mechanism.

On 21 October 2015, RG&E, GNPP, New York Public Service Commission, Utility Intervention Unit and Multiple Intervenors filed a Joint Proposal with the NYPSC for approval of the RSSA, as modified. The Joint Proposal provides a term of the RSSA from 1 April 2015 through 31 March 2017. RG&E shall make monthly payments to Ginna in the amount of USD 15.4 million. RG&E will be entitled to 70% of revenues from Ginna's sales into the NYISO energy and capacity markets, while Ginna will be entitled to 30% of such revenues. The signatory parties recommend that the NYPSC authorize RG&E to implement a rate surcharge effective 1 January 2016 to recover amounts paid to Ginna pursuant to the RSSA. RG&E's payment obligation to Ginna shall not begin until the rate surcharge is in effect and FERC has issued an order authorizing the FERC Settlement agreement in the Settlement Docket. RG&E will use deferred rate credit amounts (regulatory liabilities) to offset the full amount of the Deferred Collection Amount (including carrying costs), plus credit amounts to offset all RSSA costs that exceed USD 2.3 million per month, not to exceed a total use of credits in the amount of USD 110 million, applicable through 30 June 2017. To the extent that the available credits are insufficient to satisfy the final payment from RG&E to Ginna then the RSSA surcharge may continue past 31 March 2017 to recover up to USD 2.3 million per month until the final payment has been recovered by RG&E from ratepayers. In the month following the expiration of the term on 31 March 2017, Ginna shall prepare and issue an invoice to RG&E for, and RG&E shall pay to Ginna, a one-time payment in the amount of USD 11.5 million. This amount is being accrued pro-rata over the term of the agreement and will be recovered from ratepayers. On 23 February 2016, the NYPSC unanimously adopted the Joint Proposal in the Ginna RSSA proceeding as in the public interest.

• NY Transco

AVANGRID NETWORKS holds an approximate ownership of 20% in the New York Transco. The New York Transco was established by the New York transmission utilities to develop, own, and operate the electric transmission in New York. In December 2014, New York Transco filed for regulatory approval of its tariffs, terms, and conditions with FERC. The filing requests a base ROE of 10.6%, plus 150 basis points as incentives, recognition of construction work in progress, a tariff formula mechanism, and a proposed cost allocation. Various parties, including the NYPSC, have protested the filing with FERC, including the base ROE, the ROE incentives, and the cost. The New York Transco will not make final decisions on transmission project development until a FERC decision on allocation.

On 2 April 2015, the FERC issued an order granting, inter alia, the New York Transco's owners' request for a 50 basis points adder for NY Transco's membership in the NYISO RTO, subject to the adder being capped within the zone of reasonableness after a determination of where within that zone its base level ROE should be set. The FERC also set the formula rate and base ROE issue for hearing and settlement judge procedures. In addition, the FERC rejected the New York Transco's owners' cost allocation method for the Transmission Owner Transmission Solutions, or TOTS, Projects because it would allocate costs to Power Supply Long Island and New York Power Authority that they did not voluntarily agree to pay.

On 5 November 2015, the New York Transco's owners, filed the Settlement with the FERC to resolve all outstanding issues associated with the TOTS Projects, including issues related to the TOTS Projects that were set for hearing and issues pending on rehearing. The issues regarding certain other projects remain pending. The Settlement addressed the financial terms that are components of New York TransCo's revenue requirement for the proposed Transmission Owner Transmission Solution (TOTS) Projects, including the base ROE of 9.50%, and a 50-basis point ROE adder, the capital structure of 53%, and the cost allocation under the New York Independent System Operator, Inc. (NYISO) Open Access Transmission Tariff (OATT) for the TOTS Projects. La FERC aprobó la Solución el 17 de marzo de 2016.

- **Net Energy Metering**

On 16 October 2015, the NY Commission issued an Order Establishment Interim Ceilings on the Interconnection of Net Metered Generation (the Floating Cap Order). There the Commission directed that net metering limitations should "float" until completion of a proceeding to develop an interim method of evaluating the benefits of distributed energy resources.

Following the issuance of the Floating Cap Order and the launch of the CDG program, the Joint Utilities experienced a surge in new applications for net metered resources, ultimately leading to more than 4000 MW of interconnection applications. The Commission started the proceeding "Value of DER" in reply to the decision to leave the limit of net measure open and the promise to adopt a "new regulatory approach" for assessing Distributed Energy Resources (RED).

- **The Commission is expected to rule of the proceeding in 1Q2017. New York State Department of Public Service Investigation of the Preparation for and Response to the March 2017 Windstorm**

At the direction of Governor Andrew Cuomo, on March 11, 2017 the New York State Department of Public Service (the "Department") commenced an investigation of NYSEG's and RG&E's preparation for and response to the March 2017 wind storm, which affected more than 219,000 customers. The Department investigation will include a comprehensive review of NYSEG's and RG&E's preparation for and response to the windstorm, including all aspects of the companies' filed and approved emergency plan. The Department held public hearings on April 12 and 13, 2017. On November 16, 2017 the NYPSC issued an Order Instituting Proceeding and Show Cause whereby the Commission indicated that the Companies had twelve violations of its Emergency Response Plan (4 at NYSEG and 8 at RG&E) and indicated the Companies could be subject to penalties of several million dollars.

3. Connecticut

- **UI rate case**

On 1 July 2016, UI filed an application with the Connecticut Public Utilities Regulatory Authority, or PURA, requesting approval of a three-year rate plan commencing 1 January 2017, and extending through 31 December 2019. UI's application requests an increase of USD65.6 million in 2017, an additional USD 21.1 million in 2018, and an additional USD 13.4 million in 2019, totaling USD 100.1 million over the three years. During the litigation of the case, the three-year cumulative request was modified to USD 98.3 million. The original application includes a rate levelization proposal to moderate the customer impact of the necessary revenue increases. The proposal results in levelized revenue requirement increases of USD 40.7 million in 2017, USD 47.4 million in 2018 and USD 39.1 million in 2019, followed by an offset of USD 25.6 million at the end of the three year rate plan to equate the levelized recovery to the non-levelized revenue requirement increase.

UI's rate request is attributable primarily to the amount of capital expenditures devoted to its electric distribution system for the purpose of reliability and system resiliency, both in relation to routine operations and during major storm events. UI's application also proposes continuation of its revenue decoupling mechanism and proposes a new Earnings Sharing Mechanism (ESM). Under the proposed ESM, 50% of UI's earnings in excess of the allowed ROE, plus a deadband above the allowed ROE, would be flowed through to the benefit of customers. The proposed ESM includes a 20-basis point deadband in 2017 above the authorized ROE, within which there would be no sharing. This deadband would be 30 basis points in 2018 and 40 basis points in 2019. UI proposes to continue applying any dollars due to customers to reduce the storm regulatory asset, if one exists. If none exists, then the customer share would be provided through a bill credit.

On 15 December 2016, the PURA issued its Final Decision authorizing a cumulative three year rate of USD 57 million for the years 2017, 2018 and 2019. The 2017 rate increase is USD 43.0 M, an additional USD 11.5 million in 2018, and an additional USD 2.9 million in 2019. The PURA requested a 9.10% ROE and 50% equity ratio. The three year rate plan retains the existing earnings sharing level whereby earnings above the allowed ROE are shared equally between customers and shareholders. The Company's revenue decoupling mechanism continues. The PURA did reduce the residential basic service charge to USD 9.65 per month.

- **SGC's rate case**

On June 30, 2017, The Southern Connecticut Gas Company (SCG) filed an application with PURA for new tariffs to become effective January 1, 2018. SCG requested a three-year rate plan for calendar years 2018, 2019 and 2020 and a proposed ROE of 9.95%. SCG also requested to implement a RDM and Distribution Integrity Management Program (DIMP) mechanism similar to the mechanisms authorized for Connecticut Natural Gas Corporation (CNG).

On October 16, 2017, SCG, Prosecutorial Staff from PURA, and the Connecticut Office of Consumer Counsel (OCC) filed an amended settlement agreement with PURA for approval, which includes among other items the implementation of an RDM, ESM and the DIMP as proposed by SCG, the amortization of certain regulatory liabilities (most notably accumulated hardship deferral balances and certain accumulated deferred income taxes) and tariff increases based on an ROE of 9.25% and approximately 52% equity level. The parties also agreed on a three-year rate plan with rate increases of \$1.5 million, \$4.7 million and \$5.0 million in 2018, 2019, and 2020, respectively.

On 13 December 2017, PURA approved the amended settlement agreement and a Final Decision is expected on 1 January 2018.

4. FERC

CMP's and UI's transmission tariffs are determined by a tariff regulated by the FERC and administered by ISO New England (ISO-NE). Transmission rates are set annually pursuant to a FERC authorized formula that allows for recovery of direct and allocated transmission operating and maintenance expenses, as well as the return on assets invested. Prior to 16 October 2014, the FERC provided a base ROE of 11.14% and additional ROE incentives applicable to assets based upon vintage, voltage and other factors.

On 30 September 2011, the Massachusetts Attorney General, Massachusetts Department of Public Utilities, Connecticut Public Utilities Regulatory Authority, New Hampshire Public Utilities Commission, Rhode Island Division of Public Utilities and Carriers, Vermont Department of Public Service, numerous New England consumer advocate agencies and transmission tariff customers collectively filed a complaint (Complaint I) with the FERC pursuant to sections 206 and 306 of the Federal Power Act. The filing parties sought an order from the FERC reducing the 11.14% base return on equity (ROE) used in calculating formula rates for transmission service under the ISO-New England Open Access Transmission Tariff (OATT) to 9.2%. CMP and UI are New England Transmission Owners (NETOs) with assets and service rates that are governed by the OATT and will thereby be affected by any FERC order resulting from the filed complaint.

On 19 June 2014, the FERC issued its decision in Complaint I, establishing a ROE methodology and setting an issue for a paper hearing. On 16 October 2014, FERC issued its final decision in the Complaint I setting the base ROE at 10.57% and a maximum total ROE of 11.74% (base plus incentive ROEs) for the October 2011 – December 2012 period as well as prospectively from 16 October 2014, and ordered the NETOs to file a refund report. On 17 November 2014, the NETOs filed the requested refund report. On 17 November 2014, the NETOs filed the requested refund report.

On 3 March 2015, the FERC issued an order on requests for rehearing of its 16 October 2014 decision. The March order upheld the FERC's 19 June 2014 decision and further clarified that the 11.74% ROE cap will be applied on a project specific basis and not on a transmission owner's total average transmission return. In June 2015 the NETOs and complainants both filed an appeal in the U.S. Court of Appeals for the District of Columbia of the FERC's final order. On April 14, 2017, the Court of Appeals (the Court) vacated FERC's decision on Complaint I and remanded it back to FERC. The Court held that FERC, as directed by statute, did not determine first that the existing ROE was unjust and unreasonable before determining a new ROE. The Court ruled that FERC should have first determine that the then existing 11.14% base ROE was unjust and unreasonable before selecting the 10.57% as the new base ROE. The Court also found that FERC did not provide reasoned judgment as to why 10.57%, the point ROE at the midpoint of the upper end of the zone of reasonableness, is a just and reasonable ROE. Instead, FERC had only explained in its order that the midpoint of 9.39% was not just and reasonable and a higher base ROE was warranted. On June 5, 2017, the NETOs made a filing with FERC seeking to reinstate transmission rates to the status quo ante. The effect of the Court vacating order is to return the parties to the rates in effect prior to FERC Final decision as of June 8, 2017, the date the Court decision became effective. In that filing, the NETOs stated that they will not begin billing at the higher rates until 60 days after FERC has a quorum of commissioners. On October 6, 2017, FERC issued an order rejecting the NETOs request to collect transmission revenue requirements at a higher ROE (11.14%), pending FERC order on remand. In reaching this decision, FERC stated that it has broad remedial authority to make whatever ROE it eventually determines to be just and reasonable effective for the Complaint I refund period and prospectively from October 2014, the effective date of the Complaint I Order. Therefore the NETOs will not be harmed financially by not immediately returning to their pre-Complaint I ROE. We anticipate FERC to address the Court decision during 2018. We cannot predict the outcome of action by FERC.

On 26 December 2012, a second, ROE complaint (Complaint II) for a subsequent rate period was filed requesting the ROE be reduced to 8.7%. On 19 June 2014, FERC accepted Complaint II, established a 15-month refund effective date of 27 December 2012, and set the matter for hearing using the methodology established in the Complaint I.

On 31 July 2014, a third ROE complaint (Complaint III) was filed for a subsequent rate period requesting the then effective ROE of 11.14% be reduced to 8.84%. On 24 November 2014, FERC accepted Complaint II, established a 15-month refund effective date of 31 July 2014, And set the matter for hearing using the methodology established in the Complaint I. Hearings relating to the refund periods and going forward period were held in June 2015 on Complaints II and III before a FERC Administrative Law Judge. On 29 July 2015, post-hearing briefs were filed by parties and on 26 August 2015 reply briefs were filed by parties. On 13 July 2015, the NETOs filed a petition for review of FERC's orders establishing hearing and consolidation procedures for Complaints II and III with the U.S. Court of Appeals. The FERC Administrative Law Judge issued an Initial Decision on March 22, 2016. The Initial Decision determined that, 1) for the 15-month refund period in Complaint II, the base ROE should be 9.59% and that the ROE Cap (base ROE plus incentive ROEs) should be 10.42% and 2) for the 15-month refund period in Complaint III and prospectively, the base ROE should be 10.90% and that the ROE Cap should be 12.19%. The Initial Decision is the Administrative Law Judge's recommendation to the FERC Commissioners. The FERC is expected to make its final decision in early 2018.

CMP and UI reserved for refunds for Complaints I, II and III consistent with the FERC's 3 March 2015 final decision in Complaint I. Refunds were provided to customers for Complaint I. The CMP and UI total reserve associated with Complaints I, II and III is USD 22.2 million and USD 4.4 million, respectively, as of 30 September 2017, which has not changed since December 31, 2016, except for the accrual of carrying costs. If adopted as final, the impact of the initial decision would be an additional aggregate reserve for Complaints II and III of USD 17.1 million, which is based upon currently available information for these proceedings. We cannot predict the outcome of the Complaint II and III proceedings.

On 29 April 2016, a fourth ROE complaint (Complaint IV) was filed for a subsequent rate period requesting the then effective ROE of ROE be reduced to 11.24%. The NETOs filed a response to the Complaint IV on June 3, 2016. On 20 September 2016, FERC accepted Complaint II, established a 15-month refund effective date of 29 April 2016, and set the matter for hearing and settlement judge procedures. On February 1, 2017, the complainants filed their initial testimony recommending a base ROE of 8.59%. On March 23, 2017, the NETOs filed their answering testimony supporting the continuation of the base ROE from Complaint I of 10.57%. In April 2017, the NETOs filed for a stay in the hearings pending FERC on the Court order described above. That request was denied by the Administrative Law Judge. Hearings are being held later this year with an expected Initial Decision from the Administrative Law Judge in March 2018.

On October 5, 2017, the NETOs filed a Motion for Dismissal of Pancaked Return on Equity Complaints in light of the decision by the Court in April 2017 that became effective on June 8, 2017. The NETOs assert that all four complaints should be dismissed because the complainants have not shown that the existing ROE of 11.14% is unjust and unreasonable as the Court decision requires. In addition, the NETOs assert that Complaints II, III and IV should also be dismissed because the Court decision implicitly found that FERC's acceptance of Pancaked FPA Section 206 complaints was statutorily improper as Congress intended that the 15-month refund period under Section 206 applies whenever FERC does not complete its review of a complaint within the 15-month period. In the event FERC chooses not to dismiss the complaints, the NETOs request that FERC consolidate the complaints for decision as the evidentiary records are either closed or advanced enough for FERC to address the requirements of the Court decision and expeditiously issue a final order.

• Net Energy Metering

On 14 September 2016, the MPUC issued a Notice of Rulemaking regarding Amendments to the Net Energy Metering Rule. The Commission initiated a rulemaking to consider several proposed amendments to its net energy billing rule (Chapter 313). First, the proposed amended rule would increase the maximum size for an eligible generating facility from 660 kilowatts to one megawatt. Second, the proposed amended rule would gradually reduce the T&D portion of a customer's bill which is eligible to be netted against the generating facility's output, while netting of the supply portion of the bill will remain largely unchanged. Third, the proposed amended rule would grandfather existing NEB customers for a fifteen year period. Fourth, the proposed amended rule would add specific provisions that allow and provide consumer protections for community net energy billing and net energy billing leases. As noted by the Commission in its Notice of Rulemaking, these proposed amendments would do little to impact existing NEB customers.

CMP filed initial and reply comments in response to the Commission's Notice of Rulemaking. Other parties, including industry experts also provided comments. The MPUC made a decision on its Notice of Rulemaking on 31 January 2017. The MPUC has not yet issued the final rule but did issue a notice stating that the resulting rule a) grandfathers existing customers for fifteen years, b) for new entrants it locks in the phase down level, at the year in which they enter, for fifteen years, and c) maintains incentive margins consistent with the declining costs of solar technology. Below is additional detail of the ruling.

- Grandfathering of existing NEB Customers. All existing customers and new customer facilities that occur prior to 1 January 2018 will be grandfathered for fifteen years. This means those customers will receive the current incentives and terms as they exist today.

- Grandfathering of New Entrants to NEB. As new customers sign up over the next 10 years, netting of the transmission and distribution (T&D) portion of the bill will be gradually decreased to reflect reductions in the costs of small renewable generation technology. For example, in the first year NEB customers will receive the full value of the supply portion, and 90% of the T&D portion for each year of the fifteen years.
- Maintaining Incentive Levels. The incentives to NEB customers under the new Rule should not change the length of time it takes for a customer to recoup their investment. The estimated payback for new facilities will be similar to what it has been historically. As noted above, for a customer installation signed in year one, the full incentive for supply and 90% of the incentive for T&D is received for fifteen years. As the cost of technology declines, the incentive for T&D also declines for new entrants. For a new customer installation in year two, for example, the cost of the solar panels will have declined but the incentive will also decline to 80% for T&D and the full incentive for supply.
- The rule only applies to residential solar installation on roofs. Many projects are being built across the state today based on existing market mechanisms. The Commission decided not to address larger scaled projects and community projects as part of the NEB rules to ensure we stayed within our regulatory function, and in light of legislative initiatives in these areas.
- Includes Renewable Energy Credit (REC) Based Revenue Stream. The new Rule allows to a NEB customer to choose to monetize the value of their solar generation and receive a credit for that value. NEB facilities will be automatically classified as a Maine Class I Renewable Resource.

5. Electricity generation from renewable energy resources

Numerous State Governments and the Federal Government have adopted measures and implemented numerous regulations designed to foster the development of electricity production from renewable resources. State programs have generally come in the form of: 1) Renewable Portfolio Standards (RPS's) that usually require utilities to generate or purchase a minimum amount of renewable electricity; and 2) tax incentives. To date, the Federal Government has primarily supported renewable energy development through tax credits for production and investment as well as accelerated tax depreciation.

State Law

Twenty-nine states and the District of Columbia have adopted mandatory RPS requirements, which vary across the states but will generally range from 15-33% of the generation by 2025. The requirements are typically implemented through a system of tradable renewable energy certificates that verify that a kWh of electricity has been generated from a renewable resource. Several state legislatures have debated whether to repeal or roll back significantly their RPS requirements. In 2014 Ohio enacted legislation to freeze its RPS program until 2017; in 2015, Kansas replaced its mandatory RPS with a 20% voluntary standard as part of a compromise that retained existing property tax exemptions. In contrast, California in 2015 and Oregon in 2016 enacted legislation to increase the state RPS to 50%.

Most states also offer a variety of tax incentives to promote investment in renewable energy resources. For instance, Washington and Colorado, among other states, exempt the sale and use of renewable energy equipment from taxation, which reduces development costs substantially. Several states reduce property tax requirements on renewable generation facilities through enterprise zones or similar designations, while Minnesota has substituted a property tax in lieu of fix production tax. Other states, such as Texas, boost the construction of electrical infrastructure (Competitive Renewable Energy Zones) to ease the transportation of renewable electricity towards load points.

In 2017 California legislators approved and Gov. Brown signed Assembly Bill 398, extending and expanding the State's greenhouse gas regulations and authorizing the use of the cap-and-trade program through 2030. Maryland enacted an RPS increase over Gov. Hogan's veto. The Nevada Legislature passed an RPS increase to 40% by 2030 but Gov. Sandoval vetoed the bill. The California Senate passed a bill to accelerate and increase its RPS requirements but the Assembly did not act on it before adjournment. Further action in 2018 is possible. No state has moved forward yet with RPS rollback legislation. Texas legislators passed and Gov. Abbott signed a bill to deny property tax incentives to new wind projects near certain military facilities. An 18-month wind-siting moratorium provision was added by the North Carolina Senate to a popular solar bill passed by the House. Gov. Cooper signed the bill into law, which would not impede completion of the Desert Wind II development. Proposals to provide financial support to operating nuclear plants appear to be stalled in Ohio and Pennsylvania. Connecticut passed a nuclear assistance bill that will be triggered by a study and finding of commercial hardship for the Millstone plant. New Jersey legislators are examining whether to assist the fleet of nuclear plants in that state but no legislation has been introduced yet.

Federal Law

In 1992, the US Congress enacted legislation that established a Production Tax Credit (PTC) of USD 15 per MWh (adjusted for inflation) for the production of electricity from wind power facilities for the first ten years of a project's operation. This programme has been renewed several times and extended to include the generation of electricity from other renewable sources, such as biomass, geothermal power, waster and hydro power.

In 2005 the Congress established a 30% Investment Tax Credit (ITC) for solar power projects. The PTC, which is currently valued at USD 24 per MWh, was extended and phased out by the Congress on 18 December 2015. Developers that start construction on a wind project before 2017 will qualify for the full credit, while those starting construction between 2017 and 2019 will qualify for a reduced-value credit. These qualifying facilities may also elect to take a 30% ITC rather than the PTC. Congress also phased down the solar ITC. Developers that start construction on a solar project before 2020 will qualify for a 30% Investment Tax Credit (ITC). Projects for which construction begins after 2019 are eligible for a lower ITC. In addition to the PTC and ITC, renewable energy facilities are eligible for accelerated five-year tax depreciation on their investments. This program is known as the Modified Accelerated Cost Recovery System. As a result of legislation enacted in 2008, 2009, 2013 and 2014, many facilities placed in service between 2008 and 2014 qualified for bonus depreciation which allowed 50% depreciation deduction in the year a facility was placed in service. In December 2015, Congress enacted legislation to extend and phase out bonus depreciation. Companies can through 2017 deduct 50% of certain capital investments during the year the investment is made. If the investment occurs in 2018, companies can deduct 40% and if it occurs in 2019 only 30% of deduction is allowed.

On 22 December 2017, President Trump signed the tax reform, Tax Cuts and Jobs Act, which implied a cut of 1.5 trillion US dollars. The new law establishes the following:

- The permanent reduction of corporate income tax from 35 to 21%, effective as of 1 January 2018.
- The elimination of the corporate Alternative Minimum Tax (AMT).
- The maintenance of corporate deductions for local and state taxes.
- The limitation on the deduction of interests.

- The exclusion of the utilities (regulated public services) from the total expense and their exemption from the limitation on the deduction of interests.
- The inclusion of normalisation and the excess provisions of deferred taxes.
- The maintenance of tax on dividends and capital gains.
- The maintenance of the elimination and gradual reduction of the PTC (Production Tax Credits) and the ITC (Investment Tax Credits), without modifications.
- The enforcement of a Base Erosion Anti-Abuse Tax on the deductions for the costs paid or accrued to a foreign subsidiary.

The Ministry of Finance will publish the guides and regulations necessary to implement the law.

AVANGRID does not anticipate a direct impact from BEAT under current conditions. However, most U.S. providers of tax equity for renewable energy projects (generally, large banks and other corporations) meet the criteria to be subject to the BEAT.

FERC

With respect to interstate transmission networks, the FERC has adopted a series of requirements on transmission operators to improve access and reduce costs for variable generation like wind and solar power. FERC Order 764 is driving changes in scheduling practices and other activities that will increase forecasting accuracy and reduce needed reserves, resulting in lower technology integration costs.

6. Industry regulation in Mexico

The Mexican Energy Reform, which began at the end of 2013 with the amendment of Mexican Constitution, set in motion the deep transformation of the electric sector, through the creation of a completely new regulatory framework and the promotion of competitiveness, non-existent up until now in the country. As a consequence of this constitutional reform, nine new laws were enacted during 2014 and 2015 and 25 regulations were either created or reformed.

Besides having an impact on the hydrocarbons sector, the Proposal also introduced new business opportunities in the generation, transmission, distribution and management of electricity infrastructure. This transformation opens the energy sector to private investment in activities that were previously reserved to the Government. It also respects the regulatory framework of existing businesses and facilities.

The Hydrocarbons Law (LH) regulates activities like petroleum treatment and refining natural gas processing export and import of hydrocarbons and petroleum products; transportation, storage, distribution, compression, liquefaction, decompression, re-gasification, marketing and sale to the public of natural gas, hydrocarbons, petroleum products and petrochemicals, along with the management of integrated systems. All these activities are now open to private investment and subject to the Hydrocarbons Law.

One of the goals of the industry restructuring is to improve the power generation, promoting the use of renewable sources or low carbon emissions. Thus, the Government introduced Clean Energy Certificates (CECs) through the Electricity Industry Law (Ley de la Industria Eléctrica - LIE). Concurrently with the COP 21 in Paris, the Mexican Congress and Senate passed the Energy Transition Law (Ley de Transición Energética - LTE), which creates binding obligations for clean energy generation and emission reductions targets for the future, bringing a strong legal framework to the development of clean energy projects in Mexico.

The previous regulatory framework will continue being applicable to IBERDROLA's existing businesses and facilities, which provides stability and legal certainty in the Mexican regulatory context.

1. The Electric Reform

The Mexican Constitution, amended in December 2013, states that the planning and control of the National Electrical System (SEC), as well as the energy distribution and transmission public service are competency of the Government of Mexico. Power generation, excluding nuclear, is open to private investment, as well as power sales to the end users.

The transmission and Distribution networks (T&D) will remain under State ownership as regulated activities, but the Mexican Government may grant service contracts to private companies, creating opportunities to participate in the construction, operation and maintenance of T&D infrastructure.

The Electricity Industry Law (Ley de la Industria Eléctrica - LIE) regulates activities in the electricity sector in Mexico. According to the LIE, the private companies can now generate and sell electricity under an organised Wholesale Electric Market, and also invest in transmission and distribution infrastructure, under specific Public-Private Associations and other legal structures described therein.

From the regulatory side, three agencies will have primary responsibility for the sector. The Energy Secretariat ("SENER") will have the policy function; the Energy Regulatory Commission ("CRE") will have the regulatory function; and the National Energy Control Center ("CENACE"), a new decentralized agency, will manage the power grid and the wholesale electric market.

2. Energy Secretary

As part of the Energy Reform, the Energy Secretariat (Secretaría de Energía - SENER) has been empowered to coordinate the centralised planning and coordination of the energy policy, both for hydrocarbon and electric subsectors. SENER is also in charge of guaranteeing the implementation of the laws derived from the reform including the LTE issued recently for the transition to clean energy and emission reduction.

During the first half of 2015, SENER issued the mandatory requirement of Clean Energy Certificates (CECs) for year 2018, with a target of 5% of the total consumption and in March 2016 established a target of 5.8% for 2019. A year later, in March 2017, the targets for CECs for 2020, 2012 and 2022 (7.4%, 10.9% and 13.9%, respectively) were established. Penalties for non-compliance with the requirements of CECs have been issued.

During the second half of 2015, SENER issued the Wholesale Electric Market guidelines and called for the first long term auction for CECs, capacity and energy; eleven companies awarded contracts to develop more than 1.8 GW of new solar and wind capacity.

Through the first half of 2016 SENER called for the second long term auction, and twenty three companies were awarded contracts to develop 2.8 GW of the renewable capacity; the energy-CECs cost was 30% lower than the first auction.

In 2017 the first medium-term auction was called. It will award in 2018 energy and capacity contracts for 1 to 3 years. As happens every year, a long-term auction was held where the award prices were again decreased (-40% with respect to the previous auction) of 2 GW of new allocated renewable generation.

Throughout this process, SENER has been responsible for publishing updates of all wholesale electricity market Operational Manuals that outline the fundamental aspects of the market Guidelines.

Regarding the coordination and planning of the National Electric System, SENER issued, in May 2017 -as every year- the yearly versions of the National Electric Grid Development Programme (Programa de Desarrollo del Sector Eléctrico Nacional - PRODESEN) including projections of power generation, demand and infrastructure requirements for the 15 years following its publication (2017-2031).

Another highlight of 2017 was the publication of the Smart Power Grid Programme, which defines a roadmap for the short, medium and long terms, and describes projects linked to developing smart grids.

3. Regulatory Body

As part of the energy reform in Mexico, the country enacted the Regulatory Body Law in August 2014. The regulatory bodies in charge of coordinating activities in the energy field are the National Hydrocarbons Commission (Comisión Nacional de Hidrocarburos - CNH) and the Energy Regulatory Commission (Comisión Reguladora de Energía - CRE).

CRE and the CNH are the two most relevant regulatory authorities in the energy sector. They have their own legal status, budget, technical and governance autonomy. Both commissions have a similar governance authority of seven commissioners and an executive secretary.

CRE has existed since 1995 as a public body with power and authority to grant permits and issue administrative provisions in the fields of electricity, gas transport and some regulated tariffs for natural gas and liquefied petroleum gas.

As a result of the Energy Reform, CRE's field of authority was expanded significantly, to transportation and commercialisation of hydrocarbon and derivatives, such as gasoline, petrol, diesel fuel oil, etc.

Regarding the electricity sector, the main faculties of CRE are to define terms and conditions of auctions and bidding processes; to supervise the wholesale market operation; to authorise the contract and auction models; to regulate reliability, capacity requirements and operational costs; to determine the regulated tariffs and contract models for services involving transmission, distribution and basic supply of electricity, to authorise models related to technical specifications for connecting power stations and users, intelligent networks, etc. Other roles of CRE include granting permits to market participants and the CECs registry as well as to resolve controversies and to enforce fines related to non-compliance of market participants.

Regarding the hydrocarbon sector, the CRE regulates and promotes the development of transportation, storage, distribution, compression, liquefaction and regasification activities of all hydrocarbons. In this regard, the natural gas market deregulation began in 2017, for the purpose of promoting fair conditions for participation of new retailers in the market and protection of natural gas end users in the country.

The CNH has the fundamental task of regulating and supervising the exploration and extraction of hydrocarbons. It is responsible for the promotion, tendering and undersigning of contracts for this activity.

4. National Agency for Energy Control

Mexico created the National Agency for Energy Control (Centro Nacional de Control de Energía - CENACE) as a decentralised public body with authority to perform the operational control of the National Electricity System and the wholesale electric market. CENACE has full autonomy and acts under the authority of SENER and CRE, in order to control the participation of generators and suppliers in the market; acquire and provide electricity and capacity under competitive basis; and summon and manage the auctions of capacity, energy and CECs.

CENACE guarantees open access to the transmission and distribution facilities to all market participants, public and private.

Additionally, CENACE also operates and oversees the preparation of proposals for planning and expansion of the entire national electricity grid through its development programme (PRODESEN), which is then supervised and issued by SENER and thereafter by CRE.

During the first half of 2015, CENACE received from CFE all the relevant assets related to its roles, issued its internal organisational by-laws, delivered the draft of the PRODESEN to SENER and issued the first version of interconnection criteria.

During 2016, CENACE launched the first phase of the Wholesale Electric Market, conducted the second auction for CECs, Clean Energy and Capacity and issued the first result of the Capacity Balance Market process.

In 2017, CENACE developed the Clearinghouse that allows all Responsible Load Entities (Users and/or Suppliers) to buy products from the Wholesale Electricity Market in auction. Additionally, it outlines the Market Information System, a key piece of the WEM's operations.

5. CFE's Law

The CFE's Law, issued in August 2014, states that CFE becomes a productive state-owned production company wholly owned by the Federal Government. The new CFE has budgetary and governance autonomy, with Board of Directors formed by members of the incumbent secretariats (SENER, Treasury, etc.) and independent board members. This law aims to regulate the organisation, administration, operation, control, evaluation and accountability of CFE and to establish the special regime for productive enterprises subsidiaries and subsidiaries, compensations, acquisitions, leases, services and works, assets, liabilities, state dividend, budget and debt.

The new CFE will operate through separate affiliated companies that will participate in generation, transmission, distribution and supply, so that other parties will have open access to the grid and levelled play roles for the wholesale electricity market.

In the second half of 2016 CRE assigned CFE's electric power plants through its six different generation companies.

During 2016, CFE published the terms and conditions of the strict legal separation and asset restructuring, and cautiously commenced the operation of the newly created subsidiaries as separated entities in the wholesale electric market. A very significant success of CFE during 2016 was the renegotiation of the Labour Union Contract, which significantly reduced the burden of the pension liability in CFE's Balance Sheet.

6. Transmission and Distribution

As ruled by the LIE, the Mexican Government will continue performing electric transmission and distribution (T&D) as a strategic regulated public service through state-owned production company CFE, or its subsidiaries. CFE's legal separation allows to create these entities as regulated open access companies.

The LIE provides opportunity for T&D activities and related services to be subcontracted with private companies through public-private agreements, so that financing, installation, maintenance, management, operation, expansion, rehabilitation, surveillance and preservation of the required infrastructure can be performed as services provided to the T&D regulated companies. Thus, in December 2017, the preliminary guidelines for the first bidding for transmission lines were published following the Reform's implementation. Called by SENER, this bid invitation will award the High Voltage Direct Current (HVDC) project that connects the National Interconnected System with Baja California.

One of the key elements in this matter is the implementation of a high voltage direct current transmission line that will connect Istmo de Tehuantepec (one of the most important wind energy generation zones in Mexico) with the central area of the country; the bidding request and the preliminary bidding package was issued in the last quarter of 2016.

7. Generation and Retail

The LIE provides that generation and retail can be performed by any private or public entities subject to the compliance of permitting and market rules. Generation plants 0.5 MW or larger require a permit from the CRE.

These are two types of permits required for electric retail: 1- basic supply with regulated tariff (for those consumers with a lower demand of 1 MW from August 2016) or 2- qualified supply through the wholesale electricity market at liberalized conditions for consumers with a demand of 1 MW or upper.

SENER may revise and reduce the threshold of 1 MW for the possibility of qualifying consumers for the liberalised conditions. However, becoming a qualified consumer is optional, only mandatory for new costumers.

Accordingly, several Qualified Services Supplier (SSC) licenses have been issued, which in a free access and not unduly discriminatory environment, have competed since 2016 with the CFE affiliate dedicated to said service. The proliferation and consolidation of these new SSCs is one of the keys to making the electricity market's deregulation a success.

8. Geothermal energy

The Geothermal Energy Law regulates the exploration and use of underground geothermal resources to generate electricity. The private sector can participate through auctions to obtain exploitation rights of geothermal resources. Additionally, the National Water Law was also amended in order to provide special status to the "geothermal water" compatibly with the exploitation of your thermal resources under the Geothermal Energy Law.

9. Wholesale electricity market

The wholesale electric market commenced operation at the beginning of 2016 as provided under LIE. It is a nodal marginal price market operated by CENACE, where generators, suppliers and qualified costumers of the electric energy can interact to buy and sale the energy, capacity, ancillary services, CECs and financial transmission rights in Day Ahead, Hour Ahead and Real Time.

The entire Market Rules have not yet been fully developed, although a high degree of progress has been reached and many aspects of said Market are already operational. The Market Guidelines were issued in the second half of 2015, since then more than 20 WEM Operational Manuals have been published. The remaining pending Manuals outlining all aspects of the WEM's management and operations will be made public in 2018.

10. Surface use and occupancy

The LIE provides that transmission and distribution, being for public service, must be treated as strategic activities in terms of rights of way. This allows greater access to the facilities and rights of way to the national electricity grid. The CRE will issue provisions that will secure access to the power lines and fair compensation to the land owners.

11. Previous regime for permits, centrals and electric industry contracts

All the permits and contracts granted and executed under the previous Public Power Service Law (Ley del Servicio Público de Energía Eléctrica - LSPEE) will remain under the same terms and conditions, and can be amended as provided there. Once the market starts operating, the holders of these legacy contracts - self supply and Independent Power Producers ("IPP") have the alternative to migrate partially or completely to the new LIE. Existing IPP will remain in effect to the end of their contractual term prior to the migration and Legacy Connection Contracts (Contratos de Interconexión Legados - CIL) of the self-supply projects will not be renewed upon their termination.

Permit requests for self-supply, co-generation, small-scale production, imports or exports made before August 2014 were resolved under the LSPEE terms and conditions, provided that the facilities under such permits must start operation before 31 December 2019.

12. Electricity tariffs

In December 2017, the CRE published the new calculation methodology for regulated tariffs that apply to basic supply. This responsibility falls on the regulatory body in accordance to LIE provisions. The principle of the new tariffs is to be based on the recovery of all generation costs, connection services, transport and distribution costs, clean energy certificates and other recoverable costs and collection targets.

Undoubtedly this is one of the electricity reform's most significant milestone, although its implementation is gradual and the real impact of said methodological update will not be seen until the second quarter of 2018.

As the main mechanism to promote the reduction of non-technical losses arising from customer's fraud, CRE has imposed collection targets on the T&D companies.

13. Natural Gas System

As part of the Energy Reform, the former owner of the Natural Gas Transportation System, PEMEX, has been split in the following subsidiaries: Pemex exploration and production, Pemex industrial transformation, Pemex perforation, Pemex logistics, Pemex co-generation and services, Pemex fertilisers and Pemex ethylene, as provided under the PEMEX Law enacted in August 2014.

This law transformed PEMEX into a state-owned production company which performs business activities and aims to profitability goals. Concurrently with this transformation, the natural gas transportation system was transferred from PEMEX to CENAGAS, the National Operator of the Natural Gas Pipeline Grid in order to promote an open market for its transportation, distribution and commercialisation. According to the principle of asymmetrical regulation, PEMEX cannot integrate transportation and commercialisation of gas under the same company any more.

CENAGAS has issued the 5 year programme (2015-2019) for the Expansion of the National Natural Gas Transmission and Storage System governing its operation, of which two revisions have been issued.

As part of the programme to reduce fuel oil consumption, CFE called for several bidding processes to contract natural gas transportation services from pipelines to be owned by private companies. The majority of these pipelines will be operational by 2018, thus increasing the natural gas fired power generation, and reducing CO2 emissions from the fuel oil based generation. Simultaneously, the Government is promoting multiple gas pipelines intended to expand the existing gas transportation system through CENAGAS.

The natural gas transport and storage systems incorporated into the new integrated tariff scheme must meet the criteria of forming part of an interconnected system, thus providing benefits, improving the safety, continuity, redundancy levels and efficiency of integrated systems.

The Legacy Transportation Permits (permits given before the electric reform) for self-supply and the long term natural gas supply contracts with Pemex required by the electric plants will remain in effect and will not be adversely affected by these changes in the regulatory framework.

During the second half of 2016 CENAGAS was empowered to conduct the future bidding processes for natural gas transportation auctions, (no longer CFE or Pemex). Additionally, all capacity rights of the SISTRANGAS were transferred to CENAGAS to control manage.

SENER issued a Public Policy to create a Natural Gas Open Market by 2018, in order to promote new players and to reduce the role of Pemex in the commercialization.

As part of this public policy in 2017, CENAGAS issued an Open Season for Transportation Capacity in the SISTRANGAS, which will grant firm capacity rights to the winning bidders for year 2017 and will help to identify the sections that need to be expanded in the future. The Open Season is for all the capacity available that has not been reserved or contracted under pre-existing long term supply agreements.

7. Industry regulation in Brazil

1. Generation

The Brazilian system

Although hydroelectric generation's share has decreased in recent years, Brazil's generation system is predominantly hydraulic. In terms of the energy matrix, from 2000 to 2016, hydraulic participation has decreased from 83% to 64%, in reference to installed capacity. On the other hand, wind's share has increased to 7%. In upcoming years, Brazil's government expects the system to expand mainly through wind and solar energy.

The Brazilian system is interconnected and the power plants are spread over four electric regions: southeast, south, northeast and north. These regions have distinct hydrology and the synergies between them can be used.

Electricity dispatch is centralised to an independent operator. This operator uses computer programs to optimize resources considering hydrological uncertainty, reserve storage capacity and thermal power plants' costs. In addition to defining power plants' dispatch, these programs calculate the marginal energy price cost, used as the market's cash price.

Assured energy

Since the system is predominantly hydraulic, the installed capacity is insufficient to measure the supply guarantee. Therefore, each hydroelectric station has a related insured energy, calculated by the Brazilian government, which represents the contribution in terms of the reliability of each power plant interconnected to the system. This value is calculated by computer programs when the plant engages in the auction.

Although the regulation establishes that insured energy must be reviewed every five years, the first one was conducted in 2017 following a public hearing.

The following table contains the insured energy before this review, which is valid until 2017; and the new values valid from 2018. These values are shown in MWMed.

Utility	Avg MW	
	Former	New
Baguari	80.2	84.7
Corumbá III	50.9	49.3
Itapebi	214.3	209.1

This revision applied solely for electricity plants who had been commissioned for a minimum of 5 years.

Energy reallocation mechanism

There is a financial mechanism that allows centralized dispatch and mitigates the hydrologic risk of hydraulic plants. This mechanism is called energy reallocation mechanism (ERM) and all hydroelectric plants must participate in this mechanism. The important thing for the ERM is total hydraulic generation and not each plant's individual generation. According to this mechanism, each month the total hydraulic generation is allocated between each hydroelectric plant in proportion to its share in the system's total insured energy for financial purposes.

In other words, each month the GSF (Generation Scaling Factor) is calculated. This number corresponds to the total hydraulic generation of the group of ERM generators divided by their total physical guarantee (insured energy). The energy allocated to each generator is the GSF applied to its insured energy.

This mechanism worked well until 2012. Since then, hydrological conditions and other issues have reduced the GSF and this has provoked a significant financial impact to hydroelectrical stations.

Recent hydrology and claims

In recent years, total hydraulic generation has been systematically less than the total insured energy (GSF under 100%). Part of this can be explained due to hydrology. For example, in the southeast region, which is the most important in hydraulic generation terms, in 2014, 2015, and 2016 the average rainfall was 69%, 85% and 95% of the historic values. With respect to the northeast region, averages of 48%, 39% and 43% were registered. There are other reasons, however, for low hydraulic generation.

- Thermal power generation outside the order of merit. In several occasions the operator decided to replace hydraulic generation with thermal with costs over the short-term market price, for the purposes of conserving the storage reserve.
- Delays in the transmission line construction: some new hydraulic power plants were finished before the transmission lines necessary for their evacuation of energy were operational. However, the hydraulic plants participate in the ERM with their total insured energy but cannot generate their full capacity. This scenario reduces the energy allocated for all participants of the mechanism.
- Insured energy expectation: all the insured energy of some hydraulic plants are recognized before constructing all their generation units. That is, they have participated in the ERM with all the insured energy but without the corresponding generation. This has been a regular practice at big hydraulic plants, such as, Belo Monte, Santo Antonio and Jirau,
- Changes in the energy matrix: the increase of intermittent sources, such as wind, reduce hydraulic generation.

Given that ERM has energy allocated below its insured energy, producers must buy the difference in the short-term market at elevated prices. This has resulted in a huge financial impact. Because of this, since 2015 some companies have made claims to the government to review the ERM rules.

At the end of 2015, the government offered a solution to those generators with contracts with distributors. The solution was insurance to protect these generators against a GSF below a certain limit. Several options were offered for the GSF limit (from 89% to 100%) with the respective insurance premium to be paid by the generator. This process is called renegotiating the hydrological risk with consumers. All generators wishing to adhere to this system must pay a premium and abandon current and future hydrological risk claims.

However, the majority of claims of generators with contracts in the free market are currently in force. The five main companies and the government have negotiated conditions to withdraw the requirements during the last months but a solution has not been reached and is dependent on the publication of a specific law establishing the conditions to withdraw the requirements. Currently, these requirements total BRL 4.66 billion.

Generation assets

NEOENERGIA is the leading private electricity group in Brazil's energy sector in terms of customer service and is present in 11 Brazilian states. The group operates in all segments of the Brazilian energy sector, that is, generation, transmission, distribution and marketing.

In the business of generation, NEOENERGIA has 4GW of installed capacity, of which 3.13 GW are already in operation, including hydroelectric, wind, and gas natural projects.

Assets	Location	Total installed capacity (MW)	NEOENERGY quota (%)	NEOENERGIA installed capacity (MW)
UHE Baguari	Minas Gerais	140.00	51	71.40
UHE Itapebi	Bahia	462.01	100	462.01
UHE Corumbá III	Goiás	96.45	70	67.51
UHE Dardanelos	Mato Grosso	261.00	51	133.11
UHE Teles Pires	Mato Grosso/Pará	1,819.80	51	920.09
UHE Baixo Iguaçu	Paraná	350.20	70	245.14
UHE Belo Monte	Pará	11,233.10	10	1,123.31
UTE Termopernambuco	Pernambuco	532.76	100	532.76
EOL Rio do Fogo	Rio Grande do Norte	49.30	100	49.30
EOL Caetité 1	Bahia	30.00	100	30.00
EOL Caetité 2	Bahia	30.00	100	30.00
EOL Caetité 3	Bahia	30.00	100	30.00
EOL Arizona	Rio Grande do Norte	28.00	100	28.00
EOL Mel	Rio Grande do Norte	20.00	100	20.00
EOL Calango	Rio Grande do Norte	30.00	100	30.00
EOL Calango 2	Rio Grande do Norte	30.00	100	30.00
EOL Calango 3	Rio Grande do Norte	30.00	100	30.00
EOL Calango 4	Rio Grande do Norte	30.00	100	30.00
EOL Calango 5	Rio Grande do Norte	30.00	100	30.00
EOL Calango 6	Rio Grande do Norte	30.00	100	30.00
EOL Santana I	Rio Grande do Norte	30.00	100	30.00
EOL Santana II	Rio Grande do Norte	24.00	100	24.00
EOL Canoas	Paraíba	31.50	100	31.50
EOL Lagoa 1	Paraíba	31.50	100	31.50
EOL Lagoa 2	Paraíba	31.50	100	31.50
TOTAL in operation (November 2017)				3,139.52
TOTAL deployed				931.61
TOTAL gross				4,071.13

Some of the projects are listed below.

- **Teles Pires hydroelectric power plant**

NEOENERGIA (50.1%) along with its partners, Furnas (24.5%), Electrosul (24.5%) and Odebrecht Participações e Investimentos (0.9%) obtained authorisation for the construction, use, and commercialisation of the Teles Pires hydroelectric plant's energy located in the Teles Pires river, between the cities of Paranaita / MT and Jacareacanga / PA in the 04/2010 auction held by ANEEL, which took place in December 2010.

The Teles Pires hydroelectric plant has an installed capacity of 1,820 MW and 930.7 MWMed insured energy. Its commercial exploitation began on 9 November 2015, and since then has been fully operational and in compliance with the energy sales contracts signed in the regulated environment (DISCO).

- **Belo Monte hydroelectric plant**

On 20 April 2010, during the 006/2009 auction held by ANEEL, Norte Energia SA obtained authorisation of the Belo Monte hydroelectric plant located in the state of Para, with an installed capacity of 11,233 MW and 4,571 MWMed of insured energy. NEOENERGIA has a 10% share in Norte Energia through SPE Belo Monte Participações S.A.

The plant has all of Pimental Site's generation units in commercial use (6UG) and 7 generator units of the main site in use, leaving 11 deployed units.

In 2017, Belo Monte renegotiated the hydrological risk for 2018 and thereafter. The product chosen was SPR100, which protects the amount sold to distributors against a GSF of less than 100%. The insurance premium the electric plant must pay is 10% of the contract price. In this product, the electric plant transfers the energy surplus to the distributor if the GSF is above 100%. In addition, the SPR100 product protects the electric plant against the insured energy's regular revisions.

- **Baixo Iguaçu hydroelectric plant**

In September 2008, NEOENERGIA, won the concession to construct and use the Baixo Iguaçu hydroelectric plant through its wholly owned subsidiary, Geração Céu Azul, during the 7th A-5 new energy auction organized by ANEEL. The plant, located in Parana, has an installed capacity of 350.20 MW and an average 172.8 MW insured energy.

Currently, NEOENERGIA owns 70% of the Baixo Iguaçu Consortium (CEBI) and the remaining 30% belongs to Copel G&T.

There were several incidents during the plant's construction (invasion by the movement of people affected by the dam (MAB in Portuguese) among others) that delayed the process. The cause of all these incidents were outside the consortium's responsibility, thus, NEOENERGIA requested ANEEL's recognition of exclusion of responsibility on 26 May 2015. After several months of ANEEL analysing the process, with several interactions to provide clarifications and evidence, the consortium succeeded in the process and on 11 May 2016, ANEEL acknowledged 756 days of exclusion of responsibility, postponing the start dates of the commercial exploitation and provided the CCEAR (contracts regulated with the distributors).

In 2017, given a new invasion by the MAB and the cessation of deployment works, NEOENERGIA presented a new process to ANEEL, obtaining partial success. In November, ANEEL acknowledged 46 days of the 104 days requested.

Upon completion of this process, a new appendix to the agreement was signed that altered the plant's implementation schedule; it also postponed the start of the supply to sales contracts until 12 November 2018. Start of the plant's commercial exploitation is scheduled for the second half of 2018.

In 2017, this electric plan renegotiated the hydrological risk. The product chosen was SP89, which protects the amount sold to distributors against a GSF of less than 89%. The insurance premium the electric plant must pay is BRL 2.14 per MWh. Furthermore, in this product the electric plant transfers the energy surplus to the distributor if the GSF is above 100%.

- **Wind energy assets**

Through a joint venture with IBERDROLA, the NEOENERGIA group has 466.5 MW of installed capacity in wind energy, with 100% of the energy contracted in the free and regulated markets.

Wind farms are located in the northeast, 3 in the state of Bahia (Caetite 1, Caetite 2 and Caetite 3) and 7 in the state of Rio Grande do Norte (Arizona 1, Calango 1, Calango 2, Calango 3, Calango 4, Calango 5 and Mel 2).

On 28 December 2016, new wind farms (Calango 6, Santana 1 and Santana 2), also located in Bahia began commercial exploitation to fulfil the energy sales agreements to DISCO (regulated market), initiated on 1 January 2017.

On 30 September 2017, commercial exploitation of the Canoas and Lagoa 2 wind farms began, on 31 October commercial exploitation of Parque Lagoa 1 began, all located in the state of Paraíba. These farms arose from the A-5 auction of 2014, whose energy supply for the energy sales contracts with DISCO (regulated market) is expected to begin on 1 January 2019. Until then, the energy generated by the farms is beginning to be used for energy sales contracts signed with NC Energia in the free market.

- **Termopernambuco thermal power plant**

Termopernambuco is a natural gas thermal power plant that arose from the Priority Thermal Power Program (PPT in Portuguese), established by the Minister of Mines and Energy in 2000, for the purpose of promoting energy generation and implementing thermal plants in Brazil's northeast region. In accordance with the PPT, among other government-adopted measures, the minister established that the gas supply guarantee would be provided by Petrobras.

Currently, there are only three thermal plants that belong to the PPT, among them, Termopernambuco.

In recent years, Petrobras has tried to disregard the fuel supply contracts signed under the regulatory framework established by the PPT, alleging excessive charges, and it has adopted different strategies with these contract's counterparts in order to achieve this goal.

In the particular case of Termopernambuco, Petrobras started an arbitration procedure in August 2010, initially to discuss tax collection of goods and services transactions (ICMS in Portuguese); the decision was favourable for Termopernambuco's. Subsequently, on August 2013, alleging excessive charges, Petrobras initiated a new arbitration process requesting review of the gas price and review of the first ICMS arbitration procedure.

This process is still incomplete and in 2017, the parties involved submitted the opinions of several technicians, including a face-to-face hearing to provide information to the arbitration judges and clarify questions regarding the history and regulations on this matter.

Generation auctions

The government held two new auctions in December 2017 (auction A-4 on 18 December, and auction A-6 on 20 December)

In auction A-4, hydroelectrical, biomass, wind farms and solar photovoltaic projects may participate. In auction A-6, hydroelectrical, wind farms, biomass and coal and natural gas combined cycle plants may participate. In the A-4 auction, 674.5 MW of installed power from 25 projects were contracted, of which 85% correspond to solar energy (574 MW); 9.5% correspond to wind power projects (64 MW), 3.7% to biomass (25 MW), and 1.7% to small hydraulics (11.5 MW). Contracting was low because of the distributors' low demand. NEOENERGÍA did not participate in this auction with generation projects.

In the A-6 auction, 3,841 MW of installed power was contracted from 63 projects, of which 49 were wind projects (1,386 MW), 6 were small hydraulic plant projects (139 MW), 6 biomass plants (177.05 MW) and 2 gas thermals (2,138 MW). No coal power plant was matched. NEOENERGIA was awarded 281 MW of wind power originating from 9 farms in the Santa Luzia area (state of Paraíba) at an average price of BRL 100.01 per MWh. The wind farms are: EOL Canoas 2; EOL Canoas 4; EOL Chafariz 1; EOL Chafariz 2; EOL Chafariz 3; EOL Chafariz 6; EOL Chafariz 7; EOL Lagoa 3 and EOL Lagoa 4. On 1 December, the Minister of Mines and Energy published Order No. 465, outlining the execution of auction A-4 on 4 April 2108[sic]. Hydroelectric, biomass, wind and solar photovoltaic projects may participate in this auction. At the auction, CCEAR (regulated contracts) will be negotiated with a supply term of 30 years for hydraulic projects and 20 years for biomass, wind and solar photovoltaic projects.

Regulatory laws

On 18 April, ANEEL published resolution no. 764 establishing the quantity, price, and payment conditions for ERM participants for the impact caused by thermal generation outside the market's order of merit and impact of imports. Despite this publication, payments must start next year, retroactively.

On 9 October, ANEEL published resolution no 784, which sets the unit premium values for renegotiating hydrological risk in the regulated market. The new values are valid for renegotiation whose referencing begins in 2018.

On 10 October, ANEEL improved the methodology to define the criteria to review the insured energy of hydroelectric plants that sell energy under the quota system. The review basically anticipates ANEEL's dissemination of the allocation of quotas for the purpose of guaranteeing greater predictability for distributors to manage their energy contracts.

2. Distribution

Electricity distribution performed by joint ventures, such as Companhia de Eletricidade do Estado da Bahia, S.A. (COELBA), Companhia Eletricidade do Rio Grande do Norte, S.A. (COSERN), Companhia Energética de Pernambuco, S.A (CELPE) and Elektro Redes S.A. (ELEKTRO), which operate in São Paulo and Mato Grosso do Sul, is subject to Brazil's federal regulation.

Distribution activities are regulated and executed in a 30-year concession under a monopoly. The concession term may be extended during the same period at the granting authority's (Union) discretion. At the end of the concession period, the assets will be reversed back to the Union and the concessionaire must be compensated for investments not depreciated or redeemed.

The Brazilian regulatory framework is based on a price cap system that is reviewed every four or five years, depending on each concession contract by the company and is updated annually by the regulator. COELBA and COSERN have a five-year term, whilst CELPE and ELEKTRO have a four-year term.

Tariffs are updated annually by the National Electric Energy Agency (Agência Nacional de Energia Elétrica - ANEEL), through the annual adjustment process that considers inflation, an ex-ante efficiency factor and variations on non-manageable costs components, such as energy purchase costs and transmission tolls.

The purpose of the annual adjustment is to ensure that the charges, transmission and energy acquisition costs (known as Parcel A) are passed on to the tariff and to adjust the distribution costs (known as Parcel B) for inflation, discounting a predetermined efficiency factor (factor X). An annual tracking account mechanism is used to register Parcel A's unbalances, which should be passed on to tariffs in the following tariff review process.

On 18 April, ANEEL approved COELBA's annual tariff readjustment, which increased its tariffs by an average 3.0%, in effect as of 22 April. The most striking thing was the 2.72% increase in Parcel A (responsible for final rate increase of 2.30%) due to a hike in energy transmission costs. Parcel B increased some 2.01% as a result of the inflation adjustment index, IGP-M minus factor X, and was responsible for the 0.70% hike in the final rate.

On 18 April, ANEEL approved COSERN's annual tariff readjustment, which increased its tariffs by an average 3.38%, in effect as of 22 April. The most striking thing was the 3.48% increase in Parcel A (responsible for the final rate increase of 2.46%) due to a hike in energy transmission costs. Parcel B increased some 3.04% as a result of the inflation adjustment index, IGP-M less factor X, and was responsible for the 0.92% hike in the final rate.

On 25 April, ANEEL approved the 4th revision of CELPE's tariffs, which increased its tariffs by an average 7.62%, in effect as of 29 April. The most striking thing was the 5.34% increase of Parcel A also due to the energy transmission and acquisition costs. Parcel B increased 15.61% due to the remuneration in capital invested during the tariff cycle years and the increase for the purposes of covering the bad debt-financing regulator level. Furthermore, the regulatory energy distribution losses increased from 14.5% to 15.9% on average (4 years since the following tariff cycle).

On 22 April, ANEEL approved ELEKTRO's annual tariff adjustment, which increased its tariffs by an average 10.40%, in effect as of 27 August. The most striking thing was the 8.04% increase of Parcel A also due to the energy transmission costs. Parcel B decreased -4.08 by inflation index IGP-M minus factor X.

2017 metering procedures	COELBA Adjustment	CELPE Revision	COSERN Adjustment	ELEKTRO Adjustment
Variation Parcel A	2.72 %	5.34 %	3.48 %	8.04 %
Parcel B				
IGPM	4.86 %		4.86 %	-1.66 %
Factor X	2.84 %		1.81 %	2.42 %
Factor Xp - productivity component	0.84 %		0.89 %	1.28 %
Factor Xt - trajectory per OPEX efficient component	2.00 %		1.25 %	1.38 %
Factor Xq - quality component	0.00 %		-0.33 %	-0.24 %
TOTAL (IGPM minus Factor X)	2.01 %		3.04 %	-4.08 %
Variation Plot B	2.01 %	15.61 %	3.04 %	-4.08 %
Economic adjustment Index	2.47 %	8.36 %	3.35 %	4.82 %
Package A monitoring account/Other financial components	4.12 %	2.11 %	-0.25 %	0.89 %
TOTAL	6.59 %	10.47 %	3.10 %	5.71 %
Removal of previous year's financial components	-3.60 %	-2.85 %	0.28 %	4.69 %
Consumer impact	3.00 %	7.62 %	3.38 %	10.40 %

According to the tariff regulation calendar procedures (PRORET); two tariff review parameters must be recalculated for the purpose of applying them to 2018 and thereafter, taking into consideration the current methodologies and a database update.

- Weighted average cost of capital (WACC): the current WACC value is set at 8.09% ANEEL is currently discussing the distribution companies' new WACC value to be applied from 2018 to 2020. The value proposed in the public hearing reduces the current WACC value from 8.09% to 7.71% (actual, after taxes), but the distributors are arguing to keep the current value.
- OPEX Reference: is calculated over the base of a comparative evaluation methodology and its effects depend on each company's yield performance in comparison with its peers.

These parameter updates must be applied to the next tariff review for COELBA (2018), COSERN (2018) and ELEKTRO (2019).

According to current regulation, the distributors must sign PPAs with the generators in order to supply 100% of the estimated demand. The cost assumed by the distributors originating from the energy purchase to cover the estimated consumer demand is transferred to the final tariff. This cost may be transferred provided 100% to 105% of the estimated consumption is covered. If the distributor purchases energy for less than 100% of its estimated demand they may be penalised; conversely, if it has contracts over 105% of its demand, they will be exposed to spot price risk.

Since 2016, distributors had a surplus of energy contracts due to:

- Relocation¹ of instalments, which increased the quantity of PPAs of some DSO.
- The migration of consumers to the energy free market, such as special consumers, without the distributors being able to reduce the PPAs
- Significant market reduction, due to the economic crisis and the cumulative tariff increases of previous years.

In order to confront this issue, MME and ANEEL have carried out several actions, such as:

- Acknowledge that the additional energy received by the distributors by the quota system must be considered involuntary and transferred to the tariff (resolution 706/2016)
- Create a mechanism whereby the distributors and generators commonly agree to reduce their PPAs (resolution 711/2016)
- Determine the distributors right to reduce PPAs for the purpose of compensating the exit of special customers to the free market (customers with demand between 0.5 and 3MW (resolution 726/2016)
- Broaden the new energy relocation (MCSD de Energia Nova), thus allowing generators to offer reduction of the PPA (resolution 727/2016)
- Release the energy limit that must be acquired by distributors in A-1 auctions, for distributors with surplus energy (decree 8,828/2016)

On 28 March, ANEEL broadened the criteria for participation of generators in the new energy relocation mechanism edition that will be valid from 2018 to 2021 (MCSD +4), allowing more electric plants to participate. The decision increases the mechanism's potential to mitigate the distributors' energy surpluses.

On 23 August, ANEEL published decree 9,143/2017 regarding the new MCSD mechanism rules. The main changes are:

- Recognition of overcontracting arising from the migration of special customers to the deregulated market as involuntary, provided they participated in all possible rounds of the centralised energy surplus and deficits compensation mechanism between distributors and generators (MCSD). This decision is subject to ANEEL's approval, which may evaluate if the distributor has managed its energy position under the prudent "best effort" principle.

¹ Energy from hydro power plants renewing their concessions in accordance with Law 12.783/2013.

- Permission for distributors to cancel "existing energy" contracts in the event of migration of special consumers (loads above 500 kV and up to 3 MW)
- Improvements in energy auctions' resolutions upon providing the contracting periods. It also defines that a yearly agenda must be published prior to auctions.
- Regulated sales permit for surplus energy contracts from distributors to generators, retailers and producers, as well as "free customers" (> 3 MW)
- Reduction from 95% to 90% of the insured energy volume considered for distributors' contractual coverage for generators that renew their concession contracts in 2013 under the "quota system." This measure decreases the risk of excess contracting from the distributors.

On 30 October, ANEEL approved changes in the energy marketing rules, in order to adapt them to the new energy relocation mechanism (MCSD de Energia Nova). The changes are associated with the inclusion of capacity mechanism PPAs (until this time only "quantity" PPAs could participate) and to some operational features. It also stated that distributors inside the mechanism had been prevented from participating by default for 12 months.

Given that short-term market prices had been higher throughout 2017 than long-term prices, the distributors were able to decrease their contract in the relocation of energy mechanism between agents.

Since 2015, distributors' tariffs have been complemented with tariff a flag, this additional cost fluctuates according to the marginal operation cost. The collection of the tariff flag partially mitigates the distributors' cash flow differences due to energy acquisition costs. The tariff flags will be reviewed annually by ANEEL. From January to October 2017, the flags were set in the following manner:

Flag	Thermal plants in operation (fuel cost)	Reaes brasileiros/MWh
Green	Up to 211.28 BRL/MWh	-
Yellow	211.28 - 422.56 BRL/MWh	20
Red - level 1	422.56 – 610.00 BRL/MWh	30
Red - level 2	More than 610.00 BRL/MWh	35

In 2017 the green flag was set for January, February and June, the yellow flag for March, July and September, the Level I red flag for April, May, August and December, and Level II red flag for October and November.

There is currently a public hearing in which ANEEL is proposing changes in the tariff flags methodology to bear in mind the water reserve level and the cash price. It also proposes lowering the yellow flag to 10 Brazilian reais per MWh and increases the red tariff's level 2 to 50 Brazilian reais per MWh, with values to be applied from November 2017 onwards.

ANEEL called a public hearing regarding the Energy Operations Account budget - CDE (by its Spanish call letters) for 2018, with a total amount of BRL 12,600 million, showing a 35% increase versus the previous year. The increase is fundamentally due to the increase in subsidies per distribution/transmission and fuel costs for the isolated system. There is no impact for the companies given this value is covered as a tariff.

On 24 October, ANEEL approved a Corporate Governance regulation for distributors, which must be implemented in one year, and will function on an experimental basis for two years. Any breach committed during this period could result in ANEEL's inspection of the distributor. Distributors may be waived from this regulation if their companies comply with the new market governance rules of Brazil's stock market (BM&F Bovespa). The impacts of the new regulation in the event BM&F Bovespa's new market governance is not migrated, are being studied.

On 7 February, ANEEL approved the conditions to incorporate subtransmission assets to distributors' asset base as a result of the 41/2015 public hearing. Mandatory transfer of a limited set of assets was determined; said process must take place at the distributors' next tariff review, which will also include the compensations payment. In addition, the regulation will prevent the construction of new subtransmission assets. In August, by legislative resolution no 781, ANEEL fulfilled CTEEP's request to not make the transfer of some of its assets mandatory. Therefore, Elektro will not receive any asset due to this process.

In 2015 CELPE and COELBA were chosen by ANEEL to develop an improvement plan on the operational behaviour, customer service and safety results. These companies must improve their services within a maximum of two years. The plan was laid out by the distributors and sent to ANEEL for approval, with a quarterly follow-up.

Both distributors completed the established plans, COELBA, however, had to send a new improvement plan for the following years. Therefore, this new plan was approved by ANEEL in 2017, and must produce the expected results until 2019.

On 8 August, ANEEL approved a revision of COELBA's universalisation plan, with regard to rural electrification which included new goals and intermediate terms. Its term had been previously postponed from 2016 to 2021.

On 19 December 2017, the Regulatory Regulation No. 796/2017 was published on the expected hydrological risk in the processes tariffed by the distributors. This regulation approves modifications in the submodules dealing with the rest of the financial components in the Tariff Regulation Procedures (PRORET). The adjustments made to these submodules establish that it must include the expected hydrological risk to be considered in the processes tariffed by the distributors as a financial component, specifically in the energy purchase account of Parcel A. It also establishes that a change to this provision will modify the parameters and therefore the balance to be compensated in the energy purchase account.

3. Electric transmission

In the electric transmission business, NEOENERGIA has 5 concession contracts between 2009 and 2013, which include transmission lines and substations, as well as reinforcements. Together, they generate an annual allowed profit (RAP in Portuguese) of approximately BRL 77 million.

Company	Annual profit allowed (BRL)
Afluentes T	38,011,193.43
SE Narandiba	9,533,800.58
SE Extremoz II	2,823,650.11
SE Brumado II	1,968,679.70
Potiguar Sul	24,645,827.14
Total	76,983,150.96

These assets are subject to tariff reviews every 5 years, in addition to annual adjustments made for monetary reformulation.

In 2017, SE Extremoz II submitted to a tariff review process; in 2018, SE Brumado II and Potigua will submit to a tariff review process

The only proposal they could directly impact the electric transmission business is the centralisation of the establishment and management of transmission contracts. Although it may be a transaction cost-reducing measure, a potential issue would be its impact on defaulted payments and its consequences on possible tax increases.

Another relevant issue in the transmission sector arena refers to auctions for projects in unexplored places. The auctions in 2016 and first half of 2017 were satisfactory; projects with a value of BRL 21 billion are expected to be auctioned in 2018.

- The 005/2016 auction entailed 35 available projects in April 2017, representing 7,400 km of transmission lines and substations with a transformation capacity of 13,200 MVA. ELEKTRO Holding (NEOENERGIA) won four projects in the states of Mato Grosso do Sul, Ceará, São Paulo and Santa Catarina.
- The second transmission auction in 2017 was held on 15 December 2017, offering 11 projects (4,919 km of transmission lines and substations with a transformation capacity of 10,416 MVA). ANEEL expects a total investment of BRL 8.8 billion. EXOENERGIC was the main winner of this auction, being awarded 1,074 km and a substation, which were amongst the most disputed projects.

4. Other Regulatory Changes

The Ministry of Mines and Energy - MME has initiated a Public Inquiry (33/2017) to address improvements in the current sector framework. The document is the basis for a future provisional measure and includes the following milestones:

- Broaden deregulation in the retail market for all high voltage consumers. Proposes a calendar between 2020 and 2028.
- The relative costs of surplus energy contracts due to the migration of consumers to the deregulated market must be paid by all the consumers.
- Separation of markets between capacity and energy. The separation between energy and capacity contracts shall be understood as a critical mechanism to ensure future expansion in a more deregulated market.
- Improvements in the cash price calculation, opening the potential of the asking price.
- Decrease of the contracting requirement.
- Possible voluntary finalisation of contracts with the high-cost thermal generation plants.
- Centralisation of generation and transmission contracts.
- Anticipation of the criteria to standardise the regulated charges (CDE Account) between regions. It proposes advancing standardisation from 2029 to 2023. This may produce sharp increases in the north/northeast regions (Coelba, Celpe, Cosern) and reduce tariffs in the south/southeast regions (ELEKTRO).

- Change of energy marketing regime for generators whose concessions were renewed in 2013, from energy quotas to regular energy contracts (market prices). According to MME estimates, this change will impact the electricity tariffs of regular clients by approximately 7%.
- Unification of energy prices for captive customers (distributors' consumers) throughout the country.
- Binomial tariff implementation for electricity services (revenue per distribution) in 2021.
- Ability to renegotiate losses due to GSF/Generation outside the order of merits (GFOM) currently under legal dispute. The proposal recommends an extension of the concession term to compensate for losses.
- Change of incentives in renewables from tariff subsidy to income premiums, valid until the current contracts expire. For new contracts, the income premium may have a given final term. For current contracts, the migration to the new model would be optional.

In addition to the subjects presented in the public inquiry, NEOENERGIA contributed some additional points:

- Purchase or lease rural lands by companies under foreign control.
- Solution to delays in the transmission lines.
- Coding of the electric sector rules and creation of a special court.

The following steps would be: i) formulation of the final proposal bearing in mind the formal contributions of agents from all sectors; ii) publication of a provisional measure by President Michel Temer; iii) approval in Congress, with or without amendments; iv) final sanction by President Michel Temer.

5. Privatisation of Eletrobras

Published on 29 December in the Official Journal, Provisional Measure 814/2017 repeals the device of Act 10.848/2004 by means of which Eletrobras and its controlled companies remained exempt from the National Privatisation Programme. With this measure, the Government unblocks sales from Eletrobras distributors. It also modifies the legislation of the isolated systems (Northern regions not connected to the National Interconnected System, establishing the conditions for Eletrobras to ensure the collection of credits from sectorial funds for the distributors, which minimises the indebtedness to be assumed by the holding company.

In January 2018, this measure was suspended by the Federal Justice of the state of Pernambuco. In light of this judicial blocking, the President of the Government presented a draft law that allowed for increases of share capital to give access to private capital, thus diluting the holding of the State (the funds raised do not go to the company but to the state coffers). The draft law proposes altering the corporate bylaws of Eletrobras, preventing any shareholder from holding over 10% of the shares with a right to vote. This limit prevents market concentration and the hostile taking of control by another company. Additionally, after privatisation, the Government shall have a Gold Share that will grant it exclusive powers in the administration of the company, such as the indication of an additional Board Member. The text also proposes a corporate restructuring to maintain control over nuclear power and Itaipú Binacional (hydraulic power plant administered jointly between Brazil and Paraguay).

CONSOLIDATED MANAGEMENT REPORT 2017

This management report has been prepared taking into consideration the "Guide of recommendations for the development of management reports of listed companies", published by the CNMV in July 2013.

1. COMPANY'S STANDING

The company has undergone a major transformation over the last 15 years, staying clearly ahead of the energy transition in order to tackle the challenges posed by climate change and the need for clean electricity.

Boasting a track record that spans over 170 years, today Iberdrola is a multinational group leading the energy sector: the company produces and supplies electricity to some 100 million people in the countries in which it operates.

IBERDROLA is committed to low-emission energy: it is the leading producer of energy from renewable sources among the European utilities, a world leader in installed terrestrial wind power and the cleanest electricity producer in the US, with almost zero emissions. As a result of its environmental commitment and its stake in the decarbonisation of the economy, it has succeeded in reducing its emissions in Europe by 75% since 2000, reaching levels that are 70% below the average for European companies in its sector.

IBERDROLA, as the energy company of the future, has placed its bets on clean energy, smart grids, efficient energy storage and the development of customised solutions for customers. And at the centre of this strategy are the various stakeholder groups, with which it maintains permanent dialogue. In order to confront the future energy scene with assurance of success, the company places its trust in the digital transformation, which is based on two main pillars: technology and innovation.

On this basis, IBERDROLA is now embarking on a new stage of growth, supported by a strong investment drive essentially in regulated businesses or with long-term contracts, which will provide the security, stability and visibility that are the hallmarks of the company's business model. Likewise, IBERDROLA will continue maintaining its social commitments, acting as a driver for the growth and generation of employment in the countries where it operates, and creating sustainable value for all its stakeholders.

1.1. Governance system

To make its business model as competitive as possible, IBERDROLA has organised the management of its activities around three global businesses:

Network Business: the grids area, which is responsible for the construction, operation and maintenance of power lines, substations, transformer substations and other facilities for delivering power from the production centres to the end user. Among the main targets are:

- Zero accidents.
- Offering an excellent service to customers, based on quality of supply and grid information.
- Maximising efficiency in the operation of the system through operating excellent and digitisation of assets.

- Leading change towards a more efficient integration of renewable distributed energy.

Generation and retail businesses: The business and retail business focus on the production of electricity through the construction, operation and maintenance of generation plants and the sale and purchase of energy in wholesale markets. It also involves the supply to end customers and additional products and services. Among the main targets are:

- Competitive supply and excellence of service to customers.
- Operating excellence, safety and respect for the environment,
- Identifying and minimising risks.
- Safety and continuous improvement of efficiency in operations.
- Analysis of growth opportunities.

Renewable Business: the renewables area, which is responsible for generating and selling electricity from renewable sources: wind (onshore and offshore), mini-hydroelectric, solar thermal, photovoltaic, biomass, etc. Among the main targets of the renewables business are:

- Safety in operations.
- Efficiency in operations to maximise return of assets.
- Efficiency in construction costs, with a special emphasis on offshore wind projects.
- Profitable growth in onshore and offshore wind in strategic group companies.

1.2 Mission, Vision and Values of the Iberdrola Group

The Mission, Vision and Values of the Iberdrola Group constitute its corporate philosophy, inspire and take form in the Corporate Policies Company's By-Laws and in the other rules of the Corporate Governance System, govern the day-to-day activities of the companies of the Group thereof, channel its leadership role in all of its areas of activity, focus its strategy of maximising social dividends, and guide their strategy and all of their actions.

Mission

"Our mission is to create value sustainably in carrying out its activities for society, citizens, customers, employees, shareholders, and other stakeholders, as the leading multinational group in the energy sector providing a quality service through the use of environmentally-friendly energy sources, which engages in innovation, leads the process of digital transformation in its area of activity, and is committed to the fight against climate change through all of its business activities, with a social dividend and the generation of employment and wealth, considering its employees to be a strategic asset. Along these lines, we foster their development, training, and measures of reconciliation, favouring a good working environment and equal opportunity. All of the foregoing is within the framework of our strategy of social responsibility and compliance with tax rules."

Vision

“We want to be the leading multinational group in the energy sector at the forefront of a better future, sustainably creating value with a quality service for people: customers, citizens, and shareholders (whom we care for and engage in our corporate life) and for the communities in which we carry out our activities, generating employment and wealth (with whom we engage in a constructive dialogue), known for our firm commitment to ethical principles, good corporate governance, and transparency, the safety of people and supply, operational quality and excellence, innovation, protection of the environment, and customer focus and the Sustainable Development Objectives approved by the UN. Making it possible thanks to the work of our employees and the people working at our suppliers and collaborators, whom we care for by offering all of our training resources and reconciliation measures for their development and to strengthen equality of opportunity”.

Values

The mission and vision of the Group is configured based on a firm commitment to twelve values that all of the Corporate Policies, internal rules, and other internal codes and procedures must follow:

- Sustainable creation of value.
- Ethical principles.
- Good corporate governance and transparency.
- Development of our workforce.
- Social commitment.
- Sense of belonging.
- Safety and reliability.
- Quality.
- Innovation.
- Respect for the environment.
- Customer focus.
- Institutional loyalty.

1.3. Iberdrola's corporate governance model

Corporate governance system

The Corporate Governance System constantly updates its corporate governance system, consisting of By-Laws, the Mission, Vision, and Values of the Iberdrola group, the Corporate Policies, the governance rules of the corporate decision-making bodies and other internal committees, and the other codes, regulations, and procedures making up and elaborating upon Iberdrola's regulatory compliance system. In order to move forward in developing specific aspects of its corporate governance system, the Company promotes the creation of working groups composed of authorised representatives of the stakeholder group(s) affected in each case, Company employees and top-level experts in the field concerned.

The IBERDROLA group's commitment to good corporate governance and transparency is reflected in its Mission, Vision and Values, the bases of which as regards corporate governance are the involvement of the shareholders in the Company's affairs and maintaining a lead position in the application of best practices and in transparency.

The general corporate governance policy contains a summary of the basic principles regulating the corporate governance of the Company and of the Group and of its most important components, all of which is available at www.iberdrola.com.

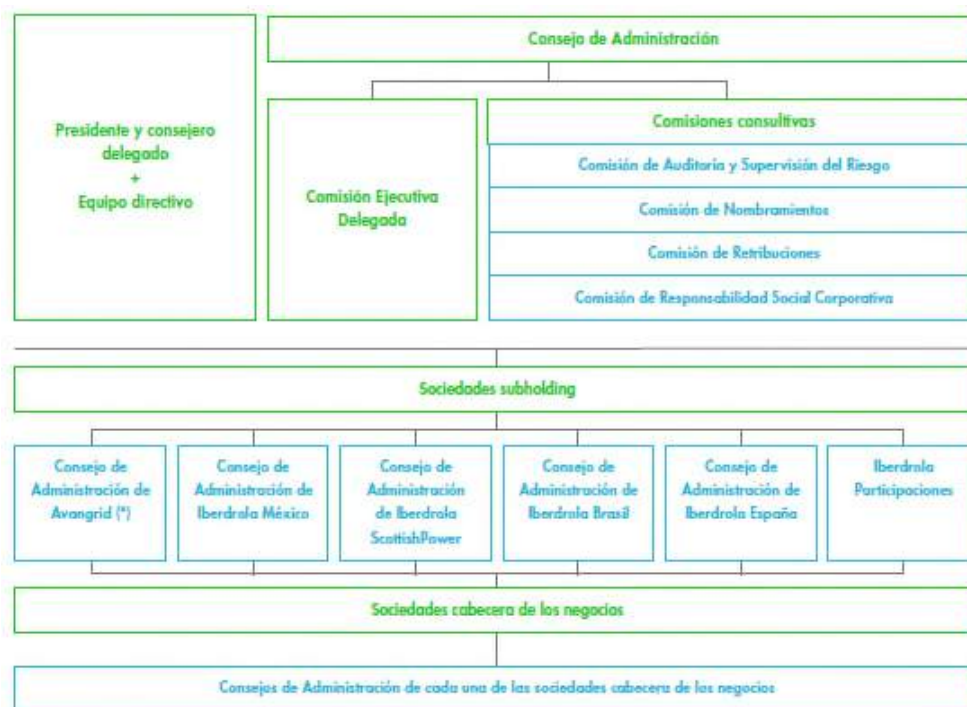
Governance model

This duly makes a distinction between the functions of strategy and supervision and those of management and control:

- The Iberdrola Board, composed of a large majority of independent directors, focuses on defining, supervising and monitoring the policies, strategies and guidelines to which the group must adhere.
- The chairman of the Board, the chief executive officer and the rest of the management team are responsible for the group's strategic coordination and organisation, through the distribution, implementation and monitoring of the general strategy and its basic guidelines.
- In all countries in which the group operates, business is organised and strategically coordinated through subholding companies, which group investments in energy business operating in the country concerned and centralise the provision of common services to these companies. The group also has a subholding to handle all non-energy business.
- The subholdings have boards with independent directors, and their own Audit and Compliance Committees, Internal Audit departments and Compliance units or departments.
- Parent companies are tasked with ordinary management and effective administration of all lines of business. They also have boards with independent directors and specific management teams.

This structure, which operates along with the group's business model, fosters global integration of the lines of business (Networks, Generation and Sales and Renewables), and focuses on maximising operational efficiency, by implementing best market practices.

Corporate and governance structure of Iberdrola, S.A.



(*) Sociedad cotizada en la Bolsa de Nueva York.

1.4. Corporate structure of the Group

Given the nature of the activities carried out by the IBERDROLA Group, its organization responds to the strategic business units, rather than product and service lines. These businesses are managed independently, as they respond to different technologies, regulations, and geographic markets (Note 8).

The IBERDROLA Group has a decentralised structure and management model to approximate the decision taking to places where they should have effect, through the subholding companies and parent companies of the businesses. In addition, the independence and listed subholding companies' reinforced autonomy are guaranteed.

The corporate structure encompasses the Company (IBERDROLA, S.A.), subholding companies and business parent companies.

IBERDROLA, S.A. (Parent company)

The Board of Directors of the Company defines and supervises the Group's policies and strategies and of the basic guidelines for the management thereof, as well as general oversight of the development of such policies, strategies and guidelines and of decisions on matters that are strategically significant at the Group level.

The chairman of the Board of Directors & chief executive officer, with the technical support of the Operating Committee, the Group's Business CEO and the rest of the management team, assumes the duty of organisation and strategic coordination of the Group through the dissemination, implementation and monitoring of the overall strategy and of the basic management guidelines established by the Board of Directors.

Subholding companies

The sub-holding companies group together the equity interests in the head-of-energy-business companies that conduct their activities in the various countries in which the group operates. This structure is rounded out with a country subholding company that groups together certain equity interests in other entities including the non-energy head of business companies,.

They contribute to organisation and strategic coordination in their respective countries, disseminating and implementing the Group's directives and management policies.

They centralise the provision of services that are common to the head-of-business companies, always in accordance with applicable legislation, and in particular with the rules on segregation of regulated activities.

The subholdings have boards with independent directors, and their own Audit and Compliance Committees, Internal Audit departments and Compliance units or departments.

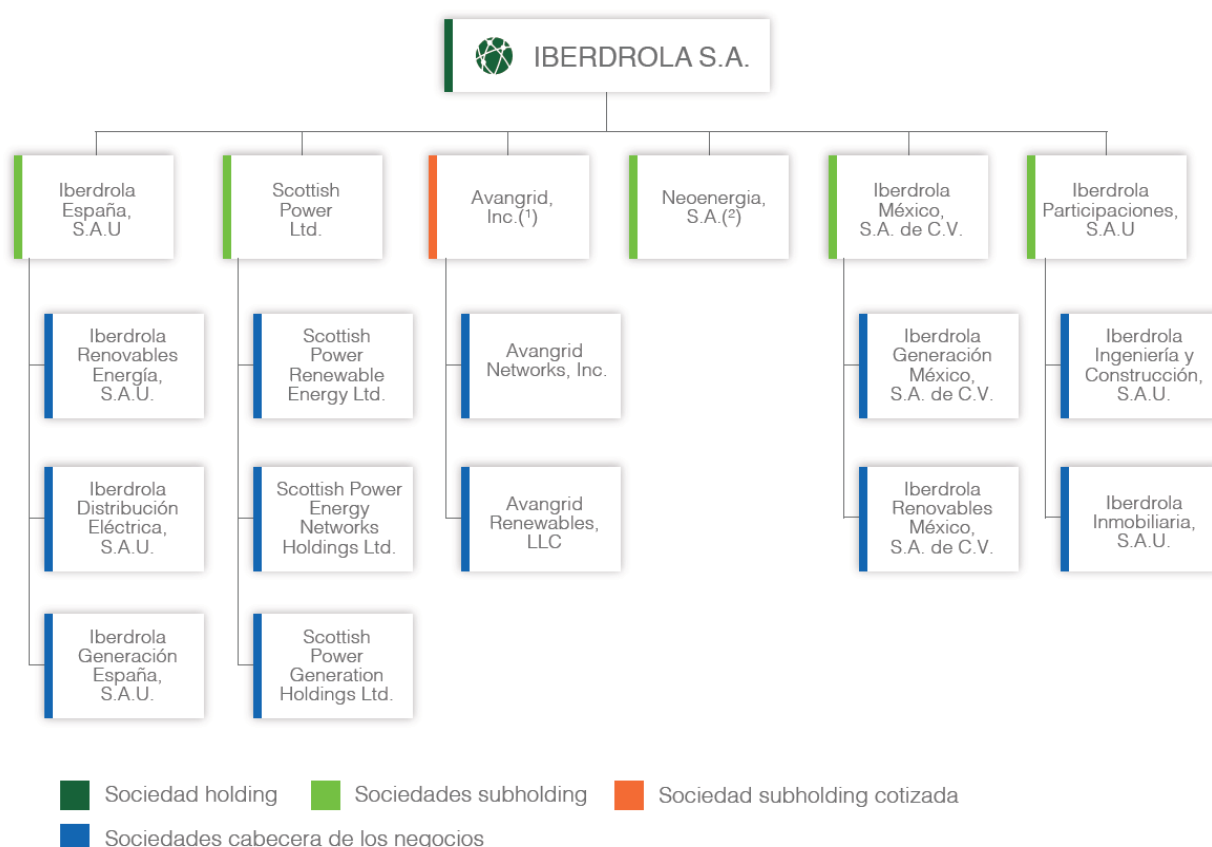
Subholding company listed have a reinforced special autonomy framework projected in regulations, combined business and management.

Head of business companies

The business subholding companies of the Group assume decentralised executive responsibilities. They carry out the day-to-day administration and effective management of each of the businesses, and are responsible for the day-to-day control thereof.

They are organised through their boards of directors, which may include, if the case, independent board members, and their own management; they may also have their own audit committees, internal audit areas, and compliance divisions.

Simplified scheme of the corporate structure of the Group



(1) IBERDROLA has a stake in Avangrid, Inc. of 81.50%

(2) IBERDROLA has a stake in .Neoenergia S.A. of 52.45%

The Company's and the Group's governance conforms to the structure described above: separates the duties relating to strategy, oversight, and control of the Group as a whole, the duties of organisation and coordination of the businesses in each country and the multinational no-energetic business, as well as those of day-to-day administration and effective management of each business.

It is established on the following bases:

- a) The Board of Directors of the Company, which exclusively exercises holding company duties, has assigned powers relating to the establishment of the Group's policies and strategies and of the basic guidelines for the management thereof, as well as general oversight of the development of such policies, strategies and guidelines and of decisions on matters that are strategically significant at the Group level.
- b) The chairman of the Board of Directors & chief executive officer of the Company, with the technical support of the Operating Committee, the Group's Business CEO and the rest of the management team, assumes the duty of organisation and strategic coordination of the Group through the dissemination, implementation and monitoring of the overall strategy and of the basic management guidelines established by the Board of Directors.

- c) This organisation and coordination duty is strengthened through the boards of directors of country subholding companies, which includes independent directors, and their own audit committees, internal audit areas, and compliance units or divisions.
- d) The business subholding companies of the Group assume decentralised executive responsibilities. They carry out the day-to-day administration and effective management of each of the businesses, and are responsible for the day-to-day control thereof. These business subholding companies are organised through their respective boards of directors and their own decision-making bodies.

The corporate and governance structure of the Group described above operates jointly with the Group's Business Model, which entails the global integration of the businesses and aims to maximise the operational efficiency of the different units. The Business Model ensures the dissemination, implementation and monitoring of the overall strategy and of the basic management guidelines established for each business, primarily through the exchange of best practices among the various companies of the Group, without detracting from their independence in decision-making.

In any case, the Company and the Group assume the commitments established by law in connection with the legal and functional separation of the companies carrying out regulated activities, while the country subholding companies ensure compliance with the law on this matter.

1.5. Organization of the Board, or bodies in which it delegates its decision, including control functions and the policy followed with minority interests.

A comprehensive description of the governance structure of the Company, functions and internal regulations of the committees can be seen in Appendix C of the Annual Corporate Governance Report, which forms part of this Management Report.

1.6. Regulatory framework of the activities

A comprehensive description of sector regulation and operation of electric and gas system in the markets in which the Group operates can be seen in Appendix II "Sector regulation and functioning of the electricity and gas system" of these Financial Statements.

1.7. Main products and services, production processes

The main products that IBERDROLA offers to its customers are power and natural gas, both in the wholesale and retail markets reaching the final consumer. Also offers a wide range of products, services and solutions in the fields of:

- Improving the quality of life, calm and safety of the consumer.
- Efficiency and energy services.
- Caring for the environment: renewable energy and sustainable mobility.
- Power quality and safety of the facilities.
- Installation of electrical infrastructure.

- Global management of facilities and energy supplies.

Through its subsidiaries it also provides engineering and construction services of power generation facilities, distribution and control; operation and maintenance of power generation facilities, management and promotion of the ground; and sale and rental of housing, offices and commercials. More detailed information can be found in www.iberdrola.com, in "customers" section.

As a general rule, companies directly manage the activities that belong to its core business, and outsource other estimated to be developed more efficiently by other specialized companies, which IBERDROLA requires certain quality standards and responsible behaviour in environmental, social and labour fields.

This information can be extended with corresponding indicators described in the Sustainability Report.

1.8. Strategic principles for the 2017-2021 period

Market conditions

The energy scenario in which IBERDROLA will develop its activity in the next few years will be based on three pillars:

- Decarbonisation, which will have as a direct consequence greater electrification of the economy, mainly based on energy from renewable sources;
- Technological advances, which will continue to drive the trend of increasing efficiency in renewable sources of generation and power grids; and
- Increased consumer connectivity, leading to demand for new energy services made possible by digitisation.

For all that, we estimate that world demand for electricity will increase by more than 60% to 2040, and that as a proportion of final demand for energy it will grow by four percentage points from its 2016 level to reach 23%.

Underpinned by these pillars, the company will continue to strengthen its lead position in the various markets in which it has a presence:

- In the United States the company is taking up a position to home in on opportunities for investment in energy infrastructures and renewables through the platform operated by its subsidiary AVANGRID, which has eight regulated energy Transport distribution companies in New York, Connecticut, Maine and Massachusetts, and is the country's second largest wind energy producer.
- The company will continue to expand in the United Kingdom in terms of networks and consolidate its leadership in renewable energies, especially offshore wind power plants on the current platform.
- In the Iberian peninsula it will bolster its position of leadership in energy from renewable sources and the associated grids.
- In Mexico, it will continue to invest in contracted generation, building on its position as the leading private sector supplier of electricity and taking advantage of the opportunities arising from the Energy Reform and the associated liberalisation of the sector.

- In Brazil, NEOENERGIA is already the country's leading electric utility in terms of number of customers, with a presence in ten states, and has great opportunities for growth in both energy from renewable sources and transport and distribution grids.
- Elsewhere in Europe, the company has already brought its first German offshore wind farm into operation, and is developing a project in France. In the retail business it is also extending its activities to other European markets, mainly Portugal, France and Italy.

Outlook 2018-2022

- IBERDROLA will continue to focus its investment strategy on grids, renewables and contracted generation, in its current areas of activity, in which it will invest EUR 32,000 million between now and 2022.
- The grids business will account for 50% of total capital expenditure, while renewables will account for 37% and contracted generation for 4%. Lastly, 9% of total investment will be earmarked for the generation and retail business.

Subsequently, 90 % of the investment scheduled will target regulated business –networks, renewable energies and long-term contracts.

By geographical areas, Iberdrola will invest 38 % in dollars, 19 % in sterling pounds, 25 % in the Eurozone and 18 % in Brazilian reals.

Main projects

- United States: Through AVANGRID the Group will continue investing in transmission grids and distribution infrastructure. Moreover, the company plans on reaching 8,700 installed MW of renewable source in 2022.
- United Kingdom: IBERDROLA will continue to implement network infrastructures under the regulatory frameworks already approved for transmission and distribution (RIIO-T1 and RIIO-ED1). As regards the renewable energy projects in the UK, the company continues to develop the 714 MW East Anglia One offshore wind project in the North Sea, which will be fully operational in 2020.
- Mexico: IBERDROLA's investment packages will focus on regulated generation and renewable energies, on the strength of the energy reform introduced in this country. The Company is building three combined-cycle plants and two cogeneration plants on long-term contracts, with a combined power output of 3,570 MW, and has plans for further investment in renewable energies in the years ahead. These projects, together with others in advanced stages of development, will allow the company to attain 10,600 MW of installed capacity in the country by 2022.
- Iberian Peninsula: investments will be centred on the area of distribution grids. The company will also continue with the construction of the Río Tamega hydroelectric storage complex in Portugal, which will have a total capacity of 1,158 MW.
- Brazil: Through NEOENERGIA, IBERDROLA will take advantage of the investment opportunities in the Grids and Renewables businesses.

Operational efficiency

IBERDROLA, one of Europe's most efficient major electricity companies, will continue to boost its operating efficiency on the strength of technical progress in terms of the automation and digitalisation of all its businesses and processes, as well as the homogenization of processes through the implementation of the best practices of the group in all its businesses.

Earnings performance

This strategy of profitable growth in mature businesses, efficient management of assets and the investment plan described will lead to sustainable growth in the company's profits, which are expected to amount to more than EUR 11,500 million between now and 2022. In terms of net profit, this is estimated to exceed EUR 3,500 million a year by the end of the plan.

Shareholder remuneration

The trend forecast for the period will enable the company to increase long-term remuneration for shareholders, in keeping with results,

Financial solvency

The Company will continue to hold a solid financial position compatible with the investment plans and the remuneration provided to shareholders.

- Funds from operations (FFO) will reach EUR 42,000 million on a cumulative basis, with cash generation exceeding capital expenditure in all business areas.
- At the end of the period the company will have EUR 9,000 million of capital expenditure in progress, corresponding to assets that will start producing results beyond 2022. This allows the bases for further growth beyond the plan horizon to be established.
- All in all we expect the Group's ratio of FFO to Net Debt to be at around 24% in 2022.

This caption of the management report of IBERDROLA contains forward-looking information, including financial projections and estimates and their underlying assumptions, statements regarding plans, objectives and expectations with respect to future operations, capital expenditures, synergies, products and services and statements regarding future performance or administrators estimates which are based on assumptions that are considered reasonable by them.

Although IBERDROLA believes that the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of IBERDROLA, risks that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements.

Forward-looking statements are not guarantees of future performance and have not been reviewed by the auditors of IBERDROLA. You are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date they were made. All subsequent oral or written forward-looking statements included in this report are expressly qualified in their entirety by the cautionary statement above. All forward looking statements included herein are based on the information available on the date hereof. Except for required by applicable law, IBERDROLA undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

2. BUSINESS EVOLUTION AND RESULTS

2.1 Operating highlights for the period

Iberdrola's results for the period must be framed within the implementation of the corporate strategy announced on Investor Day 2017, defined by the growing weight of regulated activities (transmission and distribution of electricity and gas) and the renewables business, both in terms of utilising investment opportunities and contributing to the Group's profit, with a growing weight of the United States and Mexico businesses on said contribution.

The following highlights should be noted regarding the period analysed, in comparison to the previous financial year, for their relevance in the interpretation of the profit for the year:

- On 24 August, having obtained approval from the ANEEL (*Agência Nacional de Energia Elétrica* or National Electrical Energy Agency) the BNDES (*Banco Nacional de Desenvolvimento Econômico e Social* or National Bank for Economic and Social Development) and the CADE (*Conselho Administrativo de Defesa Econômica* or Administrative Council for Economic Defence) we completed the transaction whereby the businesses of Elektro were incorporated into Neoenergia, thus creating a leading utility in Brazil and Latin America focused on the Grids and Renewables businesses. Following the transaction, IBERDROLA holds 52.45% of the resulting company, which has 13.6 million supply points, 585,000 km of distribution grid and more than 3,500 MW of contracted capacity in operation and under construction mainly in renewables. The transaction was carried out without affecting the Group's financial solidity, with no cash component, no capital increase and strengthening our position in an already well-known company.
- The results for 2017 were achieved in extremely difficult operating circumstances, with Spain suffering one of the driest years on record and 11 TWh less hydro-electricity being produced than in 2016. This difficult situation was partly offset by the good performance of the Grids business in the United States and the Generation and Retail business in Mexico, with the coming on stream of new capacity in accordance with the 2016-2020 Growth Plan.
- The tax reform approved in the US in the final weeks of the financial year, which reduces federal income tax from 35% to 21%, led to an improvement of EUR 1,284 million in net income. The impact is as follows:
 - o As a result of the reduction of the federal tax rate from 35% to 21%, net income increased by EUR 2,026 million (see Notes 2.c and 30).
 - o Impact on the value in use of the renewables business in the US, which required an impairment adjustment to goodwill in an amount of EUR 450 million (see Note 13).

- Impact on non-controlling interests of the two foregoing effects: EUR 292 million.
- Non-current asset profit/(loss):
 - the merger of the wind energy businesses of Gamesa Corporación Tecnológica, S.A. (as the company absorbed) and Siemens AG GAMESA (as absorbing company), leading to a dilution of the percentage holding of the IBERDROLA Group, which went from 19.69% to 8.07% in the new Siemens Gamesa Renewable Energy, S.A. group. This transaction contributed EUR 251 million to profit for the year, of which EUR 198 million correspond to the extraordinary merger dividend paid to former shareholders of GAMESA.
 - the corporate reorganisation in Brazil, involving a capital gain of EUR 44 million on revaluing 39% of Neoenergia, S.A.
- We have discontinued the Engineering activity which is reported under discontinued operations in the consolidated financial statements, restating the figures for the previous year as required by the accounting rules.

As for average movements in IBERDROLA's main reference currencies against the euro during 2017, sterling depreciated by 7.1% and the US dollar by 1.9%, these movements being partly offset by the 6.7% appreciation of the Brazilian real.

For the system as a whole, the following points stand out:

- In Spain, the period was characterised by a sharp fall in hydroelectric production (48.9%), and a decline in nuclear production (0.9%). Production with other renewable technologies, coal-fired and gas-fired power stations covered the fall in hydroelectric and nuclear, with increases of 1.8%, 21% and 38% respectively. Electricity demand was slightly higher compared with 2016 (1%).
- In the United Kingdom, electricity demand dropped by 1.7% compared to 2016. Customer's gas demand (not including generation consumption) also drops 3.1% due to a more benign weather.
- In the AVANGRID area in the East Coast of the USA, electricity demand dropped by 2%, while gas demand stayed practically the same, increasing 0.5% compared to 2016.
- On the other hand, in the Iberdrola area in Brazil, electricity demand rose by 1.2% compared to 2016.

2.2 Magnitudes básicas gestionadas

At the end of 2017, IBERDROLA had 46,075 MW installed generation capacity, of which 65.6% produces emission-free energy while operating at a very low variable cost. In the table below distribution classified by countries and technologies is shown:

Power per country (MW)	2017	2016	MW change
Spain	25,607	25,605	2
United Kingdom	4,616	4,522	94
United States	7,009	6,502	507
Mexico	6,242	5,840	402
Brazil	1,640	187	1,453
ROW	961	621	340
Total	46,075	43,277	2,798

Power per technology (MW)	2017	2016	MW change
Hydraulic	10,984	10,392	592
Nuclear	3,166	3,166	–
Coal	874	874	–
Gas combines cycles	14,670	13,778	892
Cogeneration	299	299	–
Wind power, mini-hydraulic and other renewables	16,082	14,768	1,314
Total	46,075	43,277	2,798

IBERDROLA Group's total production in this period dropped by 4.6% to 126,198 GWh (132,274 GWh in 2016). The Net Production by geographical areas is the following:

Net Production (GWh)	2017	2016	% charge
Spain	50,358	61,725	(18.4)
United Kingdom	11,945	13,531	(11.7)
United States	17,612	17,436	1.0
Mexico	41,854	37,577	11.4
Brazil	3,047	639	376.8
ROW	1,382	1,366	1.2
Total	126,198	132,274	(4.6)

Net production per technology (GWh)	2017	2016	% charge
Hydroelectric	8,659	19,422	(55.4)
Coal	2,665	3,751	(29.0)
GCC	55,964	50,973	9.8
Nuclear	23,190	24,335	(4.7)
Renewables	33,557	31,917	5.1
Cogeneration	2,163	1,876	15.3
Total	126,198	132,274	(4.6)

2.3 Business evolution

2.3.1 Analysis of the profit and loss account

The key figures for the financial year 2017 are as follows:

Millions of euros	2017	2016	% charge
Revenue	31,263	28,759	8.7
Gross margin ⁽¹⁾	13,364	12,935	3.3
EBITDA ⁽²⁾	7,319	7,934	(7.8)
EBIT ⁽³⁾	2,713	4,686	(42.1)
Net Profit	3,423	2,944	16.3

(1) Gross Margin: Revenue – Procurements

(2) EBITDA: Operating profit+ Amortisation and provisions

(3) EBIT: Operating profit

2.3.1.1 Gross Margin

Gross Margin was at EUR 13,364 million with a 3.3% increase compared to that obtained in financial year 2016, supported by the contribution of US, Mexico and Brazil, due to the incorporation of NEOENERGIA. The performance of reference currencies had a negative effect of EUR 186 million compensated by a better performance of the businesses of EUR 614 million including the incorporation of NEOENERGIA.

The gross margin by business is as follows:

Millions of euros	2017	2016	% change
Network Business	6,787	6,161	10.2
Deregulated Business	4,238	4,634	(8.5)
Renewable Business	2,326	2,179	6.7
Other businesses	53	5	960.0
Corporation and adjustments	(40)	(44)	9.1
Gross Margin	13,364	12,935	3.3

Network Business

The Networks business improved its contribution by 10.2% to reach EUR 6,787 million (EUR 6,161 million in 2016) supported by the improvement in the United States and the corporate reorganisation in Brazil.

Millions of euros	2017	2016	% change
Spain	2,003	2,028	(1.2)
United Kingdom	1,174	1,267	(7.3)
United States	2,754	2,537	8.6
Brazil	856	329	160.2
Total	6,787	6,161	10.2

As notable events in the evolution of the gross margin during the period we can highlight the following:

- Gross margin in Spain reached EUR 2,003 million, EUR 25 million lower than the previous year, mainly explained by a decrease in recognised income of EUR 27 million. This is due to the fact that in 2016, positive re-estimates from previous years were recognised for EUR 16 million that affected the comparison.
- The United Kingdom contributed EUR 1,174 million (-7.3%), mainly due to the devaluation of the pound. This business is also affected by lower demand in 2017 due to the climate and reassessments of previous years due to lower-than-anticipated investments.
- The contribution of the United States in the period stands at EUR 2,754 million, EUR 217 million higher than the previous year (8.6%), despite the devaluation of the dollar which had an effect of EUR 53 million and an improvement of EUR 270 million for the business from the new rate cases and lower energy costs.
- The Gross Margin of Brazil amounts to EUR 856 million (160.2%) affected by the appreciation of the Real, EUR 58 million, the corporate reorganisation, which accounts for EUR 421 million, and the increase in the energy distributed and the annual rate reviews.

Deregulated Business

The Deregulated Business (Generation and Retail) decreased by 8.5% to EUR 4,238 million (EUR 4,634 million in 2016).

Millions of euros	2017	2016	% charge
Spain	2,690	3,071	(12.4)
United Kingdom	796	1,000	(20.4)
Mexico	646	509	26.9
Brazil	89	6	1,383.3
United States	17	48	(64.6)
Total	4,238	4,634	(8.5)

- In Spain, the Gross Margin reached EUR 2,690 million (-12.4%), mainly due to the low hydropower contribution during the year offset by the positive evolution of the results in the gas business after the contract price review.
- Gross Margin for the United Kingdom was EUR 796 million. 204 lower in comparison to 2016. This variation negatively affected by the depreciation of the Sterling Pound in (the local currency depreciated 14.7%). Production was 25.5% lower than in 2016 (-2,665 GWh), affected by the closure of the Longannet plant, which, together with higher supply costs, the increase in the cost of green certificates (ROCs), lower sales of gas and the narrowing of commercial margins explain this reduction in the contribution of the business.
- Mexico's contribution to Gross Margin amounts to EUR 646 million (26.9%), improving in EUR 137 million the 2016 contribution. Depreciation of the US dollar results in a decrease of EUR 12 million. The increase of EUR 149 million by the business has its origin in the PPA contracts (EUR 60 million), which include the commissioning of the Baja California combined cycle; improvement in sales to private customers and increase in power (EUR 81 million); other smaller items, surpluses, etc. (EUR 8 million).
- The Gross Margin of Brazil came to EUR 89 million, the main effects of the increase of EUR 82 million were: the appreciation of the Real, which accounted for EUR 6 million and the corporate reorganisation, which accounted for EUR 76 million.

Renewable Business

The Renewable business decreased its Gross Margin by 6.7% to EUR 2,326 million (EUR 2,179 million in 2016), EUR 147 million more in comparison to 2016.

Millions of euros	2017	2016	% charge
Spain	777	764	1.7
United Kingdom	493	385	28.1
United States	783	802	(2.4)
Brazil	78	36	116.7
Mexico	71	69	2.9
ROW	124	123	0.8
Total	2,326	2,179	6.7

The main causes of this trend are:

- In Spain, it increased to EUR 13 million up to EUR 777 million (+1.7%) despite lower production.
- The gross margin in the United Kingdom increased by EUR 108 million to EUR 493 million (28.1%) despite the impact of the devaluation of the pound, which accounted for EUR 35 million. Despite this, the higher production (+42%) derived from better onshore and offshore wind power during the year and the increase in onshore power improved the gross margin by EUR 115 million. The improvement of the ROC price and other minor effects explain the remaining EUR 28 million.
- The contribution of the United States for the period totalled EUR 783 million (-2.4%), EUR 19 million less compared to the previous year. The effect of the devaluation of the dollar had a negative impact of EUR 15 million, while the improvement in production improved the gross margin by EUR 7 million and was offset by the reduction in the year of EUR 11 million in the impact of electricity and gas derivatives.
- Mexico contributed EUR 2 million to the Gross Margin due to increase in prices.
- Brazil contributed EUR 42 million in higher margin, affected by the appreciation of the Brazilian real and greater volume (+87.5%) due to the global integration of the plants of the Neoenergia subgroup.
- The rest of the world increased slightly with respect to 2016, EUR 1 million, due to an increase in production of 0.8%.

Other businesses

The contribution of Other Businesses reached EUR 53 million, a decrease of 960.0% (EUR 5 million in 2016), although it is due to the discontinuation of the engineering business.

2.3.1.2 Gross Operating result – EBITDA

Consolidated EBITDA decreased by EUR 615 million, -7.8%, to EUR 7,319 million (EUR 7,934 million in 2016), where the Networks (+3.6%) and Renewables (6.1%) businesses improved and the Liberalised Generation and Customers business reduced its contribution (-28.9%). This reduction in EBITDA without considering the exchange rate effect of EUR 105 million would be EUR 510 million (-6.4%).

However, without taking into account the early retirement plan for each year, EBITDA would decrease by EUR 452 million (-5.7%) and would be 4% lower if the variation in the main currencies was not considered.

Millions of euros	2017	2016	% charge
Network Business	4,228	4,082	3.6
Deregulated Business	1,601	2,253	(28.9)
Renewable Business	1,592	1,500	6.1
Other businesses	39	(7)	657.1
Corporation and adjustments	(141)	106	(233.0)
EBITDA	7,319	7,934	(7.8)

Net operating expenses

The net operating expense increased by EUR 704 million (20.3%) to EUR 4,170 million (EUR 3,466 million in 2016) affected by the exchange rate, EUR 54 million, the reorganisation in Brazil that accounted for EUR 254 million, the effect of the storms in the United States came to EUR 109 million and the variation in the early retirement plan for an amount of EUR 163 million. The growth in the business itself and positive impacts in 2016 that affect the comparison explain the remaining EUR 124 million.

Millions of euros	2017	2016	% change
Network Business	1,981	1,441	37.5
Deregulated Business	1,534	1,504	2.0
Renewable Business	631	537	17.5
Other businesses	13	11	18.2
Corporation and adjustments	11	(27)	140.7
Total	4,170	3,466	20.3

Taxes

Taxes increased by EUR 339 million, 22.1% higher than those registered in 2016, to reach EUR 1,875 million, due to:

- the positive exchange rate effect (EUR 28 million) and the decrease of EUR 43 million in the taxes from the Sustainability Act, hydropower fee;
- several positive impacts recorded in 2016 that amounted to EUR 269 million and had a negative impact on the year-on-year comparison (the territorial supplement, the Ecotax and the discount rate (bono social) amounted to EUR 119 million, EUR 8 million and EUR 142 million respectively);
- the negative impacts of spending on the discount rate (bono social) in 2017 for EUR 68 million and the increase in rates in the United Kingdom, mainly in the Generation and Customers business derived from the Warm Home Discount programme and the United States for EUR 30 million and EUR 6 million, respectively;
- provisions and other minor effects accounted for an increase of EUR 37 million.

2.3.1.3. Net Operating result – EBIT

EBIT totalled EUR 2,713 million, 42.1% higher in comparison with 2016 (EUR 4,686 million).

Millions of euros	2017	2016	% change
Network Business	2,660	2,649	0.4
Deregulated Business	(33)	1,313	(102.5)
Renewable Business	288	703	(59.0)
Other businesses	3	(15)	120.0
Corporation and adjustments	(205)	36	(669.4)
EBIT	2,713	4,686	(42.1)

Amortisations and provisions

Amortisations and Provisions rose by 41.8%, totalling EUR 4,606 million:

- The Amortisations item rose EUR 99 million (3.2%), and reached EUR 3.186 million.
 - o The effects that reduce this item with respect to the previous year are: the exchange rate effect, EUR 49 million and the modification of the useful life of the combined cycles of 35 to 40 years and the electromechanical equipment of the hydraulic power plants from 35 to 50 years (limited by the date of concession of each plant) that had a positive impact of EUR 65 million; the net impact of other minor effects is EUR 3 million;
 - o The incorporation of the corporate reorganisation in Brazil and the new investments increased the amortisations by EUR 117 million and EUR 99 million, respectively;
- Provisions represent EUR 1,420 million. The main impacts registered are:
 - o Provision derived from the classification as maintained for the disposal of the gas business in the United States and Canada in the amount of EUR 744 million (Notes 34 and 41);
 - o Reorganisation of the goodwill of the renewables business in the United States as a result of the tax reform amounting to EUR 450 million;
 - o The remaining EUR 226 million are net of several less significant provisions and reversals.

2.3.1.4. Financial Result

The net financial result was EUR -937 million, rising EUR 34 million, improving by 3.8% compared to that registered in 2016 (EUR -903 million), mainly due to the consolidation of NEOENERGIA.

The reduction in the average cost to 3.49% (57 b.p. lower than last year) has contributed with a EUR 64.8 million (6%) on the improvement of the result associated to debt, despite the fact that average net debt increased by EUR 3,470 million.

The result of the valuation of the foreign currency and derivatives items was greatly reduced by the valuation of the hedges on net profit in foreign currency (extraordinarily high for the pound in 2016). On the other hand, several non-recurrent contingencies (mainly default interest recognised in court rulings) resulted in higher financial income. The net impact of both effects was EUR 13 million.

The contribution to the financial result of the integration of Neoenergía as from 24th August had an impact of EUR 86 million.

2.3.1.5 Results of Companies Consolidated by the Equity Method

The item of Company Results using the Participation Method accounted for EUR -29 million compared to 2016, coming to EUR 47 million as a result of Neoenergía becoming consolidated globally instead of using the equity method since 24th August and the lower contribution by Gamesa-Siemens.

2.3.1.6 Income from Non-Current Assets

Income from Non-Current Assets amounted to EUR 279 million with a decrease of EUR 469.4% million compared to 2016 (EUR 49 million). In 2017 the most significant transactions were as follows:

- The absorption of Gamesa and Siemens that contributed EUR 251 million (EUR 198 million) corresponded to the cash received as an extraordinary merger dividend;
- The corporate reorganisation carried out in Brazil led to the takeover of Neoenergía, going from a stake of 39% to 52%, after having contributed Elektro to Neoenergía. Upon taking control, the initial shareholding of 39% was recorded at market value, recording a capital gain of EUR 44 million.
- The sale of Amara and other assets resulted in net losses of EUR 14 million.

2.3.1.7 Net Profit

The Net Profit amounts to EUR 2,804 million, with an increase of 3.7% compared to that obtained in 2016 (EUR 2,705 million) thanks to the impact of the tax reform in the United States, a positive figure of EUR 2,026 million in the tax item, which meant that this item went from expenditure of EUR 935 million in 2016 to a positive result of EUR 1,397 million in 2017.

2.4 Operative evolution of the period

2.4.1 Network business

A. Spain

IBERDROLA has approximately 11 million managed supply points and total distributed energy 93,289 GWh, a decrease of 0.5% compared to the same period of the previous year (93,736 GWh in 2016).

TIEPI's quality of supply indicator for fiscal year 2017 was 52.7 minutes, with an improvement of 2.6% over the previous year (54.1 minutes in 2016).

The table shows the values of the TIEPI (interruption time) and NIEPI (number of interruptions) in relation to the previous year:

	Accumulated TIEPI	Accumulated NIEPI
2016	54.1	1.04
2017	52.7	1.14

The investment made during the year has allowed the following facilities to be put into operation:

Physical Units	2017	Total
Lines ⁽¹⁾	Overhead (km)	274
	Underground (km)	723
Substations	Transformer (units)	18
	Capacity increase (MVA)	1,816
	Substation (units)	6
Secondary sub-stations	Centres (no) ⁽³⁾	503
	Capacity increase (MVA) ⁽²⁾	217

(1) Decrease of numbers of km of HV lines by substitution by EHV lines (some owned by REE) and, in addition, EHV/HV transformation is being replaced by EHV/MV, leading to the elimination of some HV circuits. In June 2017, in the province of Valencia, the works of shifting from 132kV to 220kV were completed on the lines connecting the substations of Catadau, Valle del Cáncer, Valldigna and Gandía, which became part of the transmission Network.

(2) New substations put into service in 2017: Carril (380 kV) IN Murcia, Tobarra 132 kV In Albacete, Mudarra Iberdrola 220 kV In Valladolid, Nogalte (132kV) In Murcia, ST Armuña (132kV) In Salamanca AND ST Murcia (220kV) In Murcia.

Within the STAR smart grid project, IBERDROLA has exceeded the figure of 10 million digital meters installed and adapted the infrastructure that supports them to a smart grid, which represents a modernisation of 95% of the company's meter pool in Spain. Around 67,000 transformer stations distributed throughout Spain have also been adapted, now incorporating telemanagement, supervision and automation capabilities. So far this year, a total of 1,257,431 smart meters have been installed and 95% of the total have been integrated into the network. According to the CNMC report of 23 February 2017, that tracks the effective integration of smart meters in Spain, IBERDROLA is the number one distributor in terms of remote management reading.

B. United Kingdom

IBERDROLA has more than 3.5 million supply points in the United Kingdom. The volume of energy distributed during 2017 was 32,772.0 GWh (33,482 GWh in 2016), a decrease of 2.1% compared to the year 2016.

All quality of service indicators improved compared to 2016. The average Customer Minutes Lost (CML) and the number of consumers affected by interruptions per every 100 customers (Customer Interruptions, CI) are:

	2017		2016	
	CML	CI	CML	CI
Scottish Power Distribution (SPD)	29.4	40.7	30.7	45.3
Scottish Power Manweb (SPM)	33.2	29.6	37.2	38.9

C. United States

Distribution

In the United States IBERDROLA has 2.2 million electricity supply points. The volume of energy distributed in the year was 36,591 GWh, which represents a decrease of 1.2% compared to 2016 (37,027 GWh).

The System Average Interruption Frequency Index (SAIFI) and the Customer Average Interruption Duration Index (CAIDI) are as follows:

	2017		2016	
	SAIFI	CAIDI	SAIFI	CAIDI
Central Maine Power (CMP)	1.61	1.83	1.78	1.89
NY State Electric & Gas (NYSEG)	1.20	–	1.19	2.02
Rochester Gas & Electric (RGE)	0.55	1.77	0.58	1.79
United Illuminating Company (UI)	0.41	1.36	0.53	0.42

The three companies comply with all their quality of service indicators within the limits required by the corresponding commission.

Gas

The number of gas users in the United States at the end of 2017 is over 1 million, which has been supplied with 51,440 GWh, a 3.8% decrease over the same period of last year when 53,460 GWh were distributed..

D. Brazil

The evolution of the demand of distributors in Brazil in 2017 increased 1.8% reaching 55,510 GWh (54,503 GWh in 2016).

Energy distributed (GWh) 100% of business	2017	2016	% Change
COELBA	19,679	19,549	0.7
COSERN	5,623	5,582	0.7
CELPE	13,512	13,410	0.8
ELEKTRO	16,696	15,962	4.6
Total	55,510	54,503	1.8

The number of customers served by the distributors at the end of the year reaches 14 million.

Number of customers (million) 100%	2017	2016
COELBA	6	5
COSERN	1	1
CELPE	4	4
ELEKTRO	3	3
Total	14	13

Plant	MW	Attributable MW	Year
Baixo Iguaçu	350	129	2018
Belo Monte	6,722	353	2016-2018
Total	7,072	482	

2.4.2 Deregulated business

A. Spain and Portugal

A.1. Generation

Installed capacity in Spain (without renewables) reaches 19,747 MW, with no significant changes compared to 2016 (19,745 MW).

Installed capacity (MW)	2017	2016	Change
Hydroelectric	9,715	9,713	2
Nuclear	3,166	3,166	–
Coal	874	874	–
Gas combines cycles	5,694	5,694	–
Cogeneration	298	298	–
Total	19,747	19,745	2

The Energy Balance of the peninsular system in 2017 is characterised by a significant increase in thermal production compared to the previous year (26%), mainly due to the reduction of hydroelectric production (47%) as it was a year with very low rainfall. The rest of the production from renewable sources increased by 2%, mainly due to the higher wind production recorded in the last quarter (+44% compared to the same period of the previous year). Coal and combined cycles production have increased in 21 and 32% respectively in comparison to 2016. In terms of demand, it increased by 1% with respect to the same period of 2016, while in terms adjusted for work and temperature, it grew by 1.6%.

According to IBERDROLA, during the twelve months of 2017, production decreased by 22.1% until reaching 39,368 GWh.

The evolution of the year by technologies is as follows:

Net Production (GWh)	2017	2016	% Change
Hydraulic	7,467	18,510	(59.7)
Nuclear	23,190	24,335	(4.7)
Coal	2,665	2,115	26.0
Gas combined cycles	3,883	3,724	4.3
Cogeneration	2,163	1,875	15.4
Total	39,368	50,559	(22.1)

- Hydraulic production reached 7,467 GWh, a decrease of 59.7% over the previous year. The level of hydropower reserves as of 31st December 2017 was at 29% compared to 42% as of 31st December 2016 (equivalent to 3,314 GWh compared to 4,791 GWh), all due to the exceptionally low rainfall in the year.
- Nuclear production stands at 23,190 GWh, registering a decrease of 4.7%, as a consequence of the lengthening of the stoppage at the Cofrentes plant.
- Coal-fired power stations reached 2,665 GWh, compared to 2,115 GWh the previous year, representing an increase of 26.0%.
- Production of combined cycle plants, for their part, increased by 4.3%, until reaching 3,883 GWh.
- Cogeneration plants increase their production by 15.4%, until reaching 2,163 GWh.

A.2 Retailing

Supplied energy (electricity and gas) in Spain came to 55,157 GWh (51,614 GWh in 2016) and 7,926 GWh of gas (8,753 GWh in 2016).

Electricity sales on the deregulated market in 2017 increased by 9.3% amounting to 47,455 GWh compared to 43,405 GWh supplied in the same period of 2016. Regarding the electricity supplied at the PVPC, it amounts to 7,702 GWh.

The gas retailed in the deregulated market in 2017 increased by 9.6% to 7,863 GWh compared to 8,702 GWh supplied in 2016.

In Portugal, IBERDROLA supplied 7,587 GWh during 2017, compared to 7,343 GWh supplied in 2016 (+3.3%), being the second seller in the Medium Voltage industrial clients.

B. United Kingdom

B.1. Generation

As of 31 December 2017 and 2016 installed capacity in the UK reached 2,531 MW.

UK capacity (MW)	2017	2016	% Change
Hydraulic	563	563	–
Gas combined cycles	1,967	1,967	–
Cogeneration	1	1	–
Total	2,531	2,531	–

With regard to production from traditional electricity generation, in 2017 it decreased by 25.5% to 7,792 GWh compared to the 10,456 GWh of the previous year, due to the aforementioned impact of the closure of the Longannet power plant.

The market share of the generation business in 2017 was 4%, compared to 4.2% in the previous year. By technologies, the most outstanding aspects are the following:

UK Production (MW)	2017	2016	% Change
Hydraulic	692	585	18.3
Coal	–	1,636	(100.0)
Gas combined cycles	7,100	8,234	(13.8)
Cogeneration	–	1	(100.0)
Total	7,792	10,456	(25.5)

B.2. Retailing

Regarding sales, during 2017 customers have been supplied with 21,591 GWh of electricity and 29,514 GWh of gas (20,951 GWh of electricity and 31,974 GWh of gas supplied during 2016). SCOTTISH POWER had 3 million electricity customers and 2 million gas customers as of 31 December 2017.

C. Mexico

IBERDROLA is the leading private producer in the country with 5,832 MW (5,473 MW in 2016) in installed capacity. Highlights are the entry into commercial operation of the Baja California III power plant of 301 MW at the end of January 2017 and the extensions to the MXL de Monterrey III, contributing more than 22 MW extra to the plant for sale to private clients and a power expansion in the combined cycle of Altamira V of 35 MW.

Currently the following plants are in construction:

Projects	MW
Cogeneración Altamira (Dynasol)	57
Cogeneración Bajío	50
Cogeneration	107
Escobedo	857
Topolobambo II	887
El Carmen	842
Topolobambo III	766

Combined cycles	3,352
Total	3,459

The electric energy supplied from the combined cycles and cogeneration plants has been 41,601 GWh (36,598 GWh in 2016), which supposes a charge factor of the 80%, because the generation with natural gas the base of the electric generation in Mexico. The accumulated availability of the plants in Mexico has been 97%.

D. Brazil

The power of the projects in operation at the end of 2017 is 5,653 MW (1,059 MW in the IBERDROLA percentage).

As for the projects under construction, the pace of construction follows the planned schedule, so that the scheduled finish dates are maintained. Generator sets in Belo Monte continue entering into operation in a staggered manner. During 2017, 2,522 MW came into operation, 132 MW attributable to them. Construction of Baixo Iguaçu continues.

Plant	MW	Attributable MW	Year
Baixo Iguaçu	350	129	2018
Belo Monte	6,722	353	2016-2018
Total	7,072	482	

2.4.3. Renewable business

At the end of 2017, the renewables business had an installed capacity of 14,141 MW (12,971 MW in 2016).

The renewable production increased by 5.1% to 33,557 GWh (31,917 GWh in 2016).

In the last 12 months, IBERDROLA increased its power in 1,316 MW.

MW installed	2017	2016	MW change
Wind Energy Spain	5,508	5,508	–
Wind Energy USA	6,145	5,692	453
Onshore Wind Energy United Kingdom	1,891	1,796	95
Offshore Wind Energy United Kingdom	194	194	–
Wind Energy Mexico	367	367	–
Wind Energy Brazil	516	187	329
Onshore Wind Energy Rest Of The World	605	615	(10)
Offshore Wind Energy Rest Of The World	350	–	350
Total wind energy	15,576	14,359	1,217
Other renewables	507	408	99
Total installed capacity	16,083	14,767	1,316

A. Onshore Wind Energy

In the last 12 months IBERDROLA has increased its total installed capacity to 867 MW: 320 MW were incorporated due to the integration of Neoenergía, 638 MW were installed and 91 MW were deconsolidated (81 MW due to the deconsolidation of Colorado Green and 10 MW due to the sale of the Italian companies).

Spain

The installed power at the end of 2017 has reached to an amount of 5,508 MW and manages 244 MW through non-consolidated participated companies.

A work of two wind farms with a total capacity of 32.2 MW in the Tenerife island has been approved: Chimiche II (18.4 MW) and Las Aulagas (13.8 MW).

United States

The Company has presence in 21 states with a total of 6,145 MW wind farms installed and additional 161 MW are managed through participated companies.

In 2017 El Cabo (298.2 MW) in Nuevo Mexico, Tule (131 MW) in California, Twin Buttes II (75 MW), in Colorado, and Deerfield (30 MW) in Vermont were commissioned.

In September construction works for Montague (201.1 MW) in Oregon started.

In 2017 the construction of a 66 MW with photovoltaic technology in Oregon has been approved. Gala (56 MW), where works ended in October with its commissioning, and W'y East (10 MW), on which works will begin during the first quarter of 2018. The construction of a 645 MW with wind technology has been approved: Karankawa (286 MW) in Texas, Coyote Ridge (96.7 MW) and Tatanka de (96.7 MW) in South Dakota and La Joya (166 MW) in New Mexico.

United Kindom and Republic of Ireland

The onshore wind power is 1,891 MW in United Kingdom and 15 MW are managed through participated companies.

In 2017, 95 MW were commissioned: 71.5 MW en Killgallioch, 11.5 MW en Ewe Hill Phase 2, 3.4 MW in the extension of Hare Hill, 8 MW en Glen App.

Brazil

Following the incorporation of Neonergia, Brazil has 516 MW.

Six projects for a total of 174 MW wind farms were finally winners in the “Leilões” (competition) which had taken place during 2014. There are in the course phase the works of the following wind farms: Calango 6 (30 MW), Santana I (30 MW) and Santana II (25 MW).

Mexico

In Mexico, the installed power is 367 MW.

The following wind farms are in construction: Santiago eólico (105 MW) in Guanajuato and Pier (220.5 MW) in Puebla. The first 20 MW in Santiago were commissioned.

ROW

The installed power at the end of 2017 has reached to an amount of 605 MW following the sale of 10 MW in Italy.

B. Offshore Wind Energy

IBERDROLA has two offshore wind farms operating with 544 MW, West of Duddon Sands in the United Kingdom, located in the Irish Sea, with an installed capacity of 194 MW and Wikingen in Germany with 350 MW.

Currently, the renewables business is developing offshore wind projects mainly in the United Kingdom, Germany and France.

In Germany, active work is being carried out to increase the portfolio of projects in the German Baltic Sea, in the vicinity of the Wikingen wind farm, through the participation in the auctions that will be organised by the German regulator in April 2018.

In France, in April 2012, the consortium formed by IBERDROLA and the French company EOLE-RES was awarded by the French Government the exclusive rights for the operation of the offshore wind farm of Saint-Brieuc, with a capacity of 500 MW. In October 2015, the project submitted its application for a construction license, which was granted in April 2017. This gives way to the pre-FID phase, with the geotechnical studies campaign currently under way as the first milestone in the construction.

Iberdrola is developing in the United Kingdom the “East Anglia” project in the North Sea. The East Anglia 1 project (714 MW) is in the construction phase, with on-site work and ongoing manufacturing activities initiated in various locations inside and outside Europe. Progress is being made on the wiring and land substation works, which will connect the project with the national network.

The manufacturing works are taking place in various locations inside and outside Europe: Navantia is manufacturing the offshore substation and 42 jackets on which the turbines will be installed. The completion of the first jacket is expected in October 2018. Lamprell has started manufacturing the remaining 60 jackets, 24 of which will be assembled at Harland & Wolff, in Belfast. Nexans is finalising the detail design and will begin to produce the “sub-sea” wiring, and Prysmian has already produced more than 50% of the onshore wiring.

The project is moving forward in order to commence the marine works in 2018, starting with the foundation works by van Oord, and continuing with the installation of the marine substation by Seaway Heavy Lifting, and the installation of the marine wiring, for its connection with the terrestrial substation, by Nexans and DeepOcean. Siemens Gamesa will manufacture and install the 102 units of 7MW turbines, installation of which is expected to begin in mid-2019.

The other three development projects owned by Iberdrola in the East Anglia area, with an accumulated capacity of 2,800 MW, are still being processed in accordance with the plans agreed with The Crown Estate. For the East Anglia 3 project, environmental approval from the Secretary of State for the Department of Business, Energy and Industrial Strategy of the United Kingdom was received on schedule on 7 August for the construction of its 1,200 MW of power. The next step for this project will be to win the award of a contract to sell its production (CfD: Contract for Difference) and thus ensure its viability, foreseeably in April 2019.

C. Other technologies

The Renewable business has facilities of other renewable technologies in various countries making a total of 507 MW, which breakdown is presented in the following table:

MW installed	2017	2016	Country
Mini-hydraulic special regime	130	130	Spain
Mini-hydraulic ordinary regime	171	172	Spain
Solar thermal hybrid	50	50	Spain
Photovoltaic	155	56	USA (150MW) Greece (6MW)
Total	507	408	

USA-Avangrid

Gala was placed into operation with 56 MWn of photovoltaic technology, while the commissioning works are ongoing at W'y East (10 MWn), both in the state of Oregon.

Mexico

Of the 270 MWh of photovoltaic technology in construction in 2016: Santiago (170 MW) in San Luis de Potosí and Hermosillo (100 MW) in Sonora. 23 MW of Santiago were commissioned.

3. LIQUIDITY AND EQUITY RESOURCES

3.1. Leverage

Gross financial debt as of 31 December 2017 increased by EUR 5,089 million to EUR 37,115 million compared to EUR 32,026 million as of 31 December 2016, mainly as a result of the integration of Neoenergía, which accounts for an increase of EUR 4,051 million, and investments made in 2017.

As a result, financial leverage increases to 43.5% compared to 42% as of 31 December 2016 (Note 21).

Millions of euros	2017	2016
Equity	42,733	40,687
Gross debt	37,115	32,026
Cash and cash equivalents (Note 20)	(3,197)	(1,433)
Derivative assets and other	(1,034)	(1,179)
Net debt	32,884	29,414
Leverage	43.5%	42.0%

3.2. Credit rating of IBERDROLA senior debt

Agency ratings are:

Agency	Long-term ⁽¹⁾	Outlook	Date
Moody's	Baa1	Positive	26/04/2016
Fitch	BBB+	Stable	08/07/2016
Standard & Poors	BBB+	Stable	22/04/2016

(1) Warning: The above ratings may be revised, suspended or withdrawn by the rating agency at any time.

3.3. Debt structure

Regarding the evolution of the financing cost of the Company, at 31 December 2017 it stood at 2.91% compared to 3.17% in the same period of the previous year (Note 26 of the Consolidated financial statements).

The structure of the debt by interest rate and currency can be seen in Notes 5 and 26 of the Consolidated financial statements.

In accordance with the policy of minimizing the financial risks of the Company, foreign currency risk has continued to be mitigated through the financing of international businesses in local currencies (Sterling Pound, Brazilian Real, US Dollar) or in their functional currencies (US dollar, in the case of Mexico).

IBERDROLA has a strong liquidity position at the end of 2017, exceeding EUR 10,061 million (Note 5 of the Consolidated Financial Statements).

.Million euros

Credit line maturities	Available
2018	795
2019	364
2020 onwards	5,705
Total	6,864
Cash and cash equivalents (Note 20)	3,197
Total adjusted liquidity	10,061

IBERDROLA presents a comfortable profile of debt maturities, with more than six years of average debt life. IBERDROLA's debt maturity profile at the end of 2017 can be seen in Note 26 of the Consolidated financial statements.

3.4. Working capital

Working capital shows an increase of EUR 730 million since December 2016 as a result mainly due to several different effects partially offsetting one another:

- An increase of trade receivables of EUR 859 million after the global incorporation of Neoenergía.
- A net increase in working capital associated with assets held for disposal, gas business in the United States and Canada, in EUR 221 million.
- The increase in inventories of EUR 236 million, mainly due to the increase in the cost of green certificates (EUR 277 million, see Note 18) which is are offset by Liability provisions for emissions (EUR 386 million). The rest of the inventories decreased by EUR 40 million.
- An increase of short-term provisions of EUR 483 million mainly due to the effect of the emission rights mentioned above.
- Other assets of lesser amounts

(Millions of euros)	31.12.2017	31.12.2016	Change
Assets held for sale	356	-	356
Nuclear fuel	332	323	9
Inventories	1,870	1,634	236
Commercial debtors and other accounts receivable	6,721	5,862	859
Current Financial investments	601	781	(180)
Asset derivative financial instruments ⁽¹⁾	175	322	(147)
CURRENT ASSETS	10,055	8,922	1,133
Liabilities linked to assets held for sale	135	-	135
Provisions	627	144	483
Liability derivative financial instruments ⁽²⁾	136	339	(203)
Trade and other payables	8,422	8,434	(12)
Current Liabilities	9,320	8,917	403
NETWORKING CAPITAL	735	5	730

(1) It does not include financial debt and debt Assets derivatives. (Note 27)

(2) It does not include financial debt and debt liabilities derivatives. (Note 27)

4. MAIN RISKS AND UNCERTAINTIES

4.1 Risk Management System

The IBERDROLA Group is exposed to various inherent risks in the countries, industries and markets in which it operates and the businesses it carries out, which could prevent it from achieving its objectives and executing its strategies successfully.

The Company's Board of Directors, aware of the importance of this matter, has pushed for the mechanisms necessary to be put into place so that the risks relevant to all of the Group's activities and businesses are appropriately identified, measured, managed and controlled, and has established, through the Group's general risk control and management policy, the basic mechanisms and principles necessary for the appropriate management of risk-opportunity with a level of risk which allows:

- attain the strategic objectives formulated by the Group with controlled volatility,
- provide the maximum level of assurance to the shareholders,
- protect the results and reputation of the Group,
- defend the interests of customers, shareholders, other groups interested in the progress of the Company, and society in general, and
- ensure corporate stability and financial strength in a sustained fashion over time.

In the implementation of the aforementioned commitment, the Board of Directors and its Executive Committee have the cooperation of the Audit and Risk Supervision Committee, which, as a consultative body, monitors and reports upon the appropriateness of the system for assessment and internal control of significant risks, acting in coordination with the audit committees existing at other companies of the Group.

All actions aimed at controlling and mitigating risks shall conform to the following basic action principles:

- a) Integrate the risk-opportunity vision into the Company's management, through a definition of the strategy and the risk appetite and the incorporation of this variable into strategic and operating decisions.
- b) Segregate functions, at the operating level, between risk-taking areas and areas responsible for the analysis, control, and monitoring of such risks, ensuring an appropriate level of independence.
- c) Guarantee the proper use of risk-hedging instruments and the maintenance of records thereof as required by applicable law.
- d) Inform regulatory agencies and the principal external players, in a transparent fashion, regarding the risks facing the Group and the operation of the systems developed to monitor such risks, maintaining suitable channels that favour communication.
- e) Ensure appropriate compliance with the corporate governance rules established by the Company through its Corporate Governance System and the update and continuous improvement of such system within the framework of the best international practices as to transparency and good governance, and implement the monitoring and measurement thereof.

- f) Act at all times in compliance with the law and the Company's Corporate Governance System and, specifically, with due observance of the values established in the *Code of Ethics* and under the principles of zero tolerance for the commitment of illicit acts and fraud situations included in the *Prevention of Fraud and Crimes Policy*.

The *General Risk Control and Management Policy* and the basic principles underpinning it are implemented by means of a comprehensive risk control and management system, supported by a Corporate Risk Committee of the Group and based upon a proper definition and allocation of duties and responsibilities at the operating level and upon suitable supporting procedures, methodologies, and tools, including the following stages:

- a) The ongoing identification of significant risks and threats based on their possible impact on key management objectives and the accounts (including contingent liabilities and other off-balance sheet risks).
- b) The analysis of such risks, both at each corporate business or function and taking into account their combined effect on the Group as a whole.
- c) The establishment of a structure of policies, guidelines, limits and risk indicators, as well as of the corresponding mechanisms for the approval and implementation.
- d) The measurement and monitoring of risks, by following consistent procedures and homogeneous standards that are common to the Group as a whole.
- e) The analysis of risks associated with new investments, as an essential element of decision-making based upon profitability/risk.
- f) The maintenance of a system for monitoring of compliance with policies, guidelines, and limits, by means of appropriate procedures and systems, including the contingency plans needed to mitigate the impact of the materialisation of risks.
- g) The periodic monitoring and control of profit and loss account risks in order to control the volatility of the annual income of the Group.
- h) The ongoing evaluation of the suitability and efficiency of applying the system and the best practices and recommendations in the area of risks for eventual inclusion thereof in the model.
- i) The audit by the Internal Compliance Division of the comprehensive risk control and management system.

In addition, the General Risk Control and Management Policy is further developed and supplemented through the policies listed below which are also subject to approval by the Company's Board of Directors:

- a) Corporate risk policies:
 - Corporate credit risk policy.
 - Corporate market risk policy.
 - Operational Risk Market Transactions Policy.
 - Insurance Policy.

- Investment Policy.
- Financing and Financial Risk Policy.
- Treasury Share Policy.
- Risk Policy for Equity Interests in Listed Companies.
- Reputational Risk Framework Policy.
- Procurement Policy.
- Information Technology Policy.
- Cybersecurity Risk Policy.

b) Risk policies and limits of the various businesses of the Group:

- Risk policy for the generation and retail business of the IBERDROLA Group.
- Risk policy for the renewables business of the IBERDROLA Group.
- Risk policy for the network business of the IBERDROLA Group.
- Risk Policy for the Real Estate business of the IBERDROLA Group.

The *General Risk Control and Management Policy*, as well as a *Summary of the Corporate Risk Policies* and a *Summary of the Specific Risk Policies* for the various Group businesses, are available on the corporate website (www.iberdrola.com).

In order to align the risk impact with the established risk appetite, the Executive Committee of the Board of Directors, acting at the proposal of the business or corporate divisions involved and upon a prior report from the Group's Risk Committee, annually reviews and approves specific guidelines regarding the Group's risk limits.

Subholding companies are responsible for adopting the Group's risk policies and specifying their application, approving the guidelines regarding specific risk limits, addressing the characteristics and unique features businesses in each country.

The head of business companies of each country must approve - in their respective administration boards - the specific risk limits applicable to each one and implement the control systems required to ensure their compliance.

The risk factors to which the Group is generally subject are listed below:

- a) **Corporate Governance Risks:** the Company assumes the need to safeguard the interests of the Company and the strategy of sustained maximisation of the economic value of the Company and its long-term success, in accordance with the Group's corporate interest, culture, and corporate vision, taking into account the legitimate public and private interests that converge in the conduct of all business activities, particularly those of the various stakeholders and communities and regions in which the Company and its employees act. A fundamental requirement for the foregoing is compliance with the Company's Corporate Governance System, made up of the By-Laws, the Corporate Policies, the internal corporate governance rules, and the other internal codes and procedures approved by the competent decision-making bodies of the Company and inspired by the good governance recommendations generally recognised in international markets.
- b) **Market risks:** defined as the exposure of the Group's results and equity to changes in market prices and variables, such as exchange rates, interest rates, commodity prices (electricity, gas, CO2 emission rights, other fuel, etc.), prices of financial assets and others.
- c) **Credit Risks:** defined as the possibility that a counterparty fails to perform its contractual obligations, thus causing an economic or financial loss to the Group. Counterparties can be final customers, counterparties in financial or energy markets, partners, suppliers, or contractors.
- d) **Business Risks:** defined as the uncertainty regarding the performance of key variables inherent to the business, such as the characteristics of demand, weather conditions, the strategies of different players, and others.
- e) **Political and Regulatory Risks:** defined as those arising from regulatory changes made by the various regulators, such as changes in compensation of regulated activities or in the required conditions of supply, or environmental or tax regulations, including risks related to political changes that could affect the legal security and to the legal framework applicable to the Group's businesses in each jurisdiction, the nationalization or expropriation of assets, the operating licenses cancelation and the previous end of the contracts of the administration.
- f) **Operational Risks:** defined as those related to direct or indirect economic losses resulting from inadequate internal procedures, technical failures, human error, or as a consequence of certain external events, including the economic, social, environmental, and reputational impact, as well as legal and fraud risks.
- g) **Reputational Risks:** potential negative impact on the value of the Company resulting from the conduct of the Company that is below the expectations created among various stakeholders: shareholders, customers, media, analysts, Government, employees, and society in general.

Owing to its universal and dynamic nature, the system allows for the consideration of new risks that may affect the Group as a consequence of changes in its operating environment or revisions of objectives and strategies, as well as adjustments resulting from ongoing monitoring, verification, review and supervision activities.

The Audit and Risk Supervision Committee of the Board of Directors periodically monitors the evolution of the Company's risks:

- It reviews the Group's risk quarterly reports, which include monitoring compliance with risk limits and indicators and updated key risk maps, submitted by the Group's director of corporate risks.

- It coordinates and reviews risk reports sent periodically, at least semi-annually, by the audit and compliance committees of the main subsidiaries of the Group, being included the subholding companies of the main countries where the Group operates that, along with the risk director appearances are used to prepare a risk report for the Board of Directors at least semi-annually.

For further details, see the section E of *Control systems and risk management* of the Corporate Governance Report 2017.

4.2. Credit risk

The IBERDROLA Group is exposed to the credit risk arising from the possibility that counterparties (customers, suppliers, financial institutions, partners, etc.) might fail to comply with contractual obligations. This exposure may arise with regard to unsettled amounts, to the cost of replacing products that are not supplied, as well as, in the case of dedicated plants, to amounts on which depreciation is pending, of said plants.

Credit risk is managed and limited in accordance with the type of transaction and the credit worthiness of the counterparty. A specific corporate credit risk policy is in place which establishes criteria for admission, approval systems, authorisation levels, scoring tools, exposure measurement methodologies, etc.

With regard to credit risk on trade receivables, the historical cost of defaults has remained moderate and stable at close to 1% of total turnover of this activity, despite the current difficult economic environment. Regarding other exposure (counterparties in transactions with derivatives, placement of cash surpluses, sale transactions involving energy and guarantees received from third parties), in 2017 and 2016 there have been no material non-payments or losses.

The Group's Networks businesses in Spain and the UK do not sell energy. Therefore their credit risk is limited. In the case of Brazil and the United States, the activity of supplying to regulated tariff allows to recover, in general terms, commercial default.

4.3. Financial risk

4.3.1. Interest rate risk

The IBERDROLA Group is exposed to the risk of fluctuations in interest rates affecting cash flows and market value in respect of items in the balance sheet (debt and derivatives). In order to adequately manage and limit this risk, the IBERDROLA Group manages annually the proportion of fixed and variable debt and establishes the actions to be carried out throughout the year: new sources of financing (at a fixed, floating or indexed rate) and/or the use of interest rate derivatives.

The reference interest rates for the floating rate borrowings are basically Euribor, Libor- sterling pound, Libor-dollar and the CDI in the case of the debt of the Brazilian subsidiaries .

Additionally, as of 31 December 2017, the IBERDROLA Group has arranged derivatives to cover the interest rate risk of the future financing for a nominal amount of EUR 3,620,000 thousand euros, which help to mitigate the interest rate risk.

The debt structure at 31 December 2017, once considered the hedge provided by the derivatives traded, is included in the Note 5 of the Consolidated financial statements.

4.3.2. Foreign currency risk

As the IBERDROLA Group's presentation currency is the euro, fluctuations in the value of the currencies in which borrowings are instrumented and transactions are carried out with respect to the euro, mainly the Sterling Pound, the US Dollar and the Brazilian Real, may have an effect on the finance costs, profit and equity of the Group.

The following items could be affected by exchange rate risk:

- Proceeds and payments for supplies, services or equipment acquisition in currencies other than the local or functional currencies.
- Income and expenses incurred by certain foreign subsidiaries indexed to currencies other than the local or functional currencies.
- Debt and financial expense denominated in currencies other than the local or functional currency.
- Profit or loss in consolidation of the foreign subsidiaries.
- Consolidated carrying amount of investments in foreign subsidiaries.
- Expense for taxes in Mexico because the functional currency (United States dollar) differs from the currency for calculation purposes of corporate taxes (Mexican peso).

The IBERDROLA Group reduces this risk by:

- Ensuring that all its economic flows are carried out in the currency of each Group company, provided that this is possible and economically viable and efficient, through the use of derivatives if not.
- As far as possible, this covers the risk of transfer of earnings scheduled for the current year, thereby limiting the ultimate impact on Group earnings.
- As far as possible, this covers the expense of the exchange rate risk in the Mexican corporate taxes, limiting the overall impact on the earnings of Mexico and of the Group.
- Mitigating the impact on the consolidated net asset value of a hypothetical depreciation of currencies due to Group's investment in foreign subsidiaries by maintaining foreign currency debt, as well as through financial derivatives.

The sensitivity of the consolidated profit and equity of the IBERDROLA Group to changes in the dollar/euro, sterling pound /euro and Brazilian real/euro exchange rate is as referred to in Note 5 of the Consolidate financial statement. The detailed information interest rate and currency can be seen in Note 26 of the Consolidated financial statement.

4.3.3. Liquidity risk

Exposure to adverse situations in the debt or capital markets or in relation to the IBERDROLA Group's own economic-financial situation may hinder or prevent the IBERDROLA Group from obtaining the financing required to properly carry on its business activities.

IBERDROLA Group's liquidity policy is designed to ensure that it can meet its payment obligations without having to obtain financing under unfavourable terms. For this purpose, various management measures are used such as the arrangement of committed credit facilities of sufficient amount, deadline and flexibility, diversification of the coverage of financing needs through access to different markets and geographical areas, and diversification of the maturities of the debt issued.

The balances for cash, liquid assets and available committed credit facilities are sufficient for meeting the Group's liquidity (not including NEONERGIA) needs for more than 18 months, not including the new financing facilities.

The figures relating to changes in the Company's debt are included in Notes 26 and 52 to the Consolidated financial statements.

4.4. Country risk

The activities of the different businesses that the IBERDROLA Group developed are submitted, in greater or lesser extent depending on their characteristics, to various risks inherent to the country where they operate:

- Imposition of monetary and other restrictions on the movement of capital.
- Changes in the trade environment and administrative policies.
- Economic crisis, political instability and social riots affecting operations.
- Nationalisation or expropriation of assets.
- Exchange rate fluctuations.
- Cancellation of operating licenses.
- Anticipated termination of Government contracts.
- Regulatory changes.

The results of our international subsidiaries, their market value and their contribution to the Group may be affected by such risks.

The IBERDROLA Group's main operations are focused on Spain, United Kingdom, USA, Brazil and Mexico, countries with low or moderate risk, whose credit ratings at 31 December 2017 are as follows:

Country	Moody's	S&P	Fitch
Spain	Baa2	BBB+	BBB+
United Kingdom	Aa2	AA	AA
United States	Aaa	AA+	AAA
Brazil	Ba2	BB	BB
Mexico	A3	BBB+	BBB+

The presence in countries other than the ones mentioned above is not significant at Group level from an economic point of view.

4.5. Activity risks

The activities of the various businesses developed by the IBERDROLA Group are subject to various risks including market, credit, operational, business, regulatory and reputational risks arising from the uncertainty of the main variables that affect them.

It must be noted that on 24 August 2017, after the integration of Elektro (formerly 100% owned by IBERDROLA) in Neenergia, the Group passed to control 52.45% of said group, globally consolidating said activity. Neenergia operates in the sectors of electricity generation, transmission, and distribution in Brazil.

The analysis by businesses made in this section consider the management model in force at the end of 2017, where the hydraulic capacity in Spain is managed and operated by Generation and Customers business, given that the transfer notice of said activity to the Renewable business is pending development, and is forecast to be carried out in 2018.

The gas business in the United States and Canada is considered a non-strategic asset by Avangrid, in its publication of its 2016 annual results on 21 February 2017.

4.5.1. Regulatory and political risks

Companies in the IBERDROLA Group are subject to laws and regulations concerning prices and other aspects of their activities in each of the countries in which they operate. The introduction of new laws and regulations or amendments to the already existing ones may have an adverse effect on the Group's operations annual results and economic value of businesses.

The following paragraphs are a few of the new major regulatory measures that were approved in 2017 or are due to be implemented in 2018:

Spain:

- On 23 December, the Royal Decree-law 7/2016 and Royal Decree 897/2017 and Order ETU/943/2017 which regulate the mechanism for financing the cost of Social tariff and other measures to protect vulnerable electricity consumers ("social tariff") and other protections measures for home electricity consumers implemented by retail companies.

United States:

- Approval of rate cases by the regulator of the Estate of New York RG&E and NYSEG, valid from July 2016 for a period of three years, in satisfactory terms for the Company.

Brazil:

- Approval by the Brazilian regulator ANEEL of the new terms for the new regulatory period of Celpe, valid for a period of four years, in satisfactory terms for the Company. Annual rates for Coelba, Cosern and Elektro were revised. Lastly, ANEEL's publication of Technical Note No. 179/2017-SRM must be noted, which establishes greater requirements in terms of corporate governance for electricity distribution companies.

Mexico:

- Approval of the Energy Regulatory Commission's Agreement A/058/2017 which defines the methodology to determine the final tariff's calculations and adjustment, along with operations tariffs that will apply to the subsidiary production company "CFE Suministrador de Servicios Básicos" from 1 December 2017 to 31 December 2018. Once this new methodology to calculate the electricity tariff, which was announced in 2016, was published, regulatory uncertainty lessened.

4. 5. 2. Network business risk

The regulations of each country in which the IBERDROLA Group's network businesses operate establish regularly revised frameworks, guaranteeing that these businesses will receive reasonable and predictable returns. These frameworks include penalties and bonuses for efficiency, service quality and, eventually, for default management, which have a minor, immaterial impact overall. Any change to the aforementioned regulation may represent a risk for said business.

In general, the profitability of the IBERDROLA Group's network businesses is not exposed to demand risk, except for the Brazilian subsidiaries.

The IBERDROLA Group's network businesses in Spain and in the United Kingdom are not exposed to any market risk associated with energy prices.

The network businesses in Brazil and some of the businesses in the USA sell energy to regulated customers at a price determined by certain previously approved tariffs. In the case of a prudent procurement management and as established by the regulator, the regulatory frameworks in both countries guarantee sums will be collected in subsequent tariff readjustment reviews for possible purchase price deviations from those previously recognised in the tariff.

Given the above, in the case of extraordinary events (extreme drought in Brazil as happened in 2014, catastrophic storms in USA, etc.), occasional temporary gaps between payments and collections may arise with an impact on the cash flows of some of these businesses and eventually on profits recognised under IFRS.

Spanish networks:

The present regulatory model is based on Electricity Sector Law 24/2013 of 26 December, establishing regulatory six-year periods and profitability for distribution activity calculated as the yield on government bonds plus 200 basis points. Profitability was set at 6.5% for the first regulatory period, which was extended until the end of 2019. Fluctuation of the financial remuneration rate used between two consecutive years may not exceed 50 basic points in absolute value.

Royal Decree 1048/2013 of 27 December establishing the methodology to calculate remuneration for electricity distribution activities defines a methodology based on standard unit costs of investment and operation. The remuneration of facilities will be calculated on the basis of the real audited cost and the standard cost recognised for each investment, and therefore profitability will depend on the constructive efficiency achieved.

Moreover, in accordance with current regulations, the distribution company does not sell any energy to customers, and it is therefore not exposed to market risk at the present time. This means that fluctuations in demand have no direct impact on the income statement.

United Kingdom Networks:

The group operates in the United Kingdom through its subsidiary Scottish Power Ltd and the following licences:

- SP Distribution PLC (SPD)
- SP Manweb PLC (SPM)
- SP Transmission PLC (SPT)

The current regulatory model for SPD and SPM is based on the RIIO ED1 framework, and on the RIIO T1 framework in the case of SPT. The latest tariff review for electricity distributors (RIIO ED1), including SPD and SPM, is valid from April 2015 to April 2023. The SPT review (RIIO T1) is valid from April 2013 to April 2021.

The weighted average cost of capital or WACC is set for each tariff period. The current real WACC after tax recognised for distribution activities was 3.67% from January to March, and 3.59% from April to December, whereas for transmission activities it was 4.46% from January to March and 4.37% from April to December.

The regulator (OFGEM) also establishes incentives/penalties for safety, environmental impact, consumer satisfaction, social obligations, connections and quality, which may have an effect on the income statement.

United States Networks:

The Iberdrola Group operates in the US through its listed subsidiary Avangrid, which in turn has the following subsidiary network companies:

- New York State Electric & Gas (NYSEG), New York, with a 3-year rate case valid until 2019 (base ROE 9% for distribution).
- Rochester Gas and Electric (RG&E), New York, with a 3-year rate case valid until 2019 (base ROE 9% for distribution).
- Central Maine Power (CMP), Maine, conducting electricity distribution business with an annual extendable rate case (base ROE 9.45% for distribution), and transmission business (base ROE 10.57%).
- United Illuminating (UI), Connecticut, with rates in force for conducting electricity distribution business (base ROE 9.1%) and for transmission business (base ROE 10.57%).
- It also has the following natural gas distribution companies: Maine Natural Gas Corporation (MNG), Connecticut Natural Gas (CNG), Southern Connecticut Gas (SCG) and Berkshire Gas (BG).

Companies carrying on regulated business in the US are exposed to risks associated with the regulations of a number of federal regulatory bodies (FERC, CFTC, DEC) and state commissions, responsible for establishing the regulatory frameworks of the companies regulated (tariffs and other conditions).

The distributors' tariff plans have been designed to reduce the risk to which business is exposed through mechanisms for deferral, reconciliation and provisions for costs. Regulated distributors pass on the costs of gas and electricity to end customers, thereby mitigating any impacts of fluctuations in demand.

Brazilian Networks:

The IBERDROLA Group operates in Brazil through its listed subsidiary NEOENERGIA, which in turn has the following subsidiary network companies:

- Elektro Redes, S.A. (in the states of Sao Paulo and Mato Grosso do Sul), current rates until August 2019 and WACC of 8.09%;
- Companhia de Eletricidade do Estado do Bahia (“Coelba”), operating in the state of Bahia. rates in force until April 2018 and WACC of 7.5%;
- Celpe Energetica de Pernambuco S.A. (“Celpe”), operating in the state of Pernambuco. rates in force until April 2021 and WACC of 8.09%;
- Companhia Energética do Rio Grande do Norte (“Cosern”), operating in the state of Rio Grande do Norte. Rates in force until April 2018 and WACC of 7.5%;.
- Several transmission assets with their own regulation.

The Brazilian regulatory framework is based on a system of price cap that is revised every four or five years, depending on each company’s concession contract and is updated annually by the regulator. COELBA and COSERN have a five-year term and CELPE and ELEKTRO have a four-year term.

Brazilian legislation applicable to regulated electricity distribution business establishes two types of costs: i) “Plot A”, which includes the costs of energy, transport and other obligations and regulatory charges, which can be recovered through tariffs (“pass through”) as part of the conditions and limits imposed by ANEEL, except for other obligations and regulatory charges which can always be recovered through tariffs, and ii) “Plot B”, which includes remuneration for investment and the costs of operation and maintenance, which generate either an incentive or a risk for the investor.

ANEEL also acknowledges other smaller incentives to minimise default and impairment of quality and customer satisfaction that can affect the income statement.

Pursuant to current legislation, electricity distribution companies:

- a) transfer the cost of supplying electricity to the end customer through the regulated tariff, provided the energy contracted is between 100% and 105% of the demand required.
- b) risk penalties imposed by the regulator ANEEL, when this is less than 100% due to the exclusive responsibility of the distributor.
- c) risk price fluctuations when it is above 105%.

4.5.3. Renewable business

The regulations of each country in which the Group operates establish regulatory frameworks aimed at promoting the development of renewable energies based on formulas which may include premiums, green certificates, tax or regulated tariff deductions, which allow investors to obtain sufficient and reasonable return. Any change to the aforementioned regulation may represent a risk for said business.

In addition to the aforementioned regulatory risk, Group’s renewable energy businesses may be subject to a greater or lesser extent, to wind resource risk and market risk.

The Group considers that the wind resource risk is mitigated through the high number of wind power farms available and their geographic diversification, and the trend to compensate less wind energy periods with those with high wind energy on the medium term.

Regarding the electricity price risk the following should be mentioned:

Renewables business – Spain

The Group currently has a renewable installed capacity in Spain of: 5,752 MW wind farms, 303 MW mini hydro, and 50 MW solar thermal.

Subsequent to the approval of the new regulatory framework (the Royal Decree-law 9/2013, of 12 July, Law 24/2013, of 26 December, the Royal Decree 413/2014, of 6 June, and the Ministerial Order IET/1045/2014, of 16 June and the Ministerial Orden ETU/130/2017, of 17 February), all renewable energy generated since 2014 is remunerated at market price plus a premium per MW. This guarantees a reasonable regulated return based on a recognised standard investment.

- The reasonable rate of return of the investments is defined on the basis of the average yield on 10 year government bonds plus 300 basic points (that is, 7.4% for the first six-year period ending on 31 December 2019).
- This return is readjusted every three years within predetermined bands to cover any possible deviation in market price.
- The facilities that began operating in 2003 or before have a null premium, and therefore are fully exposed to market risks.

For the purposes of mitigating risk, the Renewables business in Spain annually sells the production exposed to market risk to the Spanish division of the Generation and Customers business at a market price that is reviewed each year. In this manner, the year-on-year volatility of the loss and profit account due to the markets is practically eliminated.

Renewables business – United Kingdom

The Group's current renewables installed capacity in the UK is: 1,906 MW in onshore wind plants and 194 MW in offshore wind plants, operational under current "Renewables Obligation" legislation. This means that income is partially exposed to the risk of the market price for electricity in the UK, as the revenues obtained comprise income from the price of the energy produced and the sale of renewables obligation certificates (ROC certificates).

UK regulations impose minimum ROC obligations per MWh sold on sellers of electricity, 10% more than the system envisages producing, and determine the price at which the rest must buy, which in practice amounts to a floor price at the price of the ROCs.

New renewable technology plants, implemented from 1 April 2017 (onshore wind plants, implemented as of 12 May 2016), are subject to the new "Contract for Difference" remuneration scheme, or CfD, which eliminates market risk for 15 years. Such is the case of the East Anglia offshore plant of 714 MW, currently under construction.

The fixed prices for these projects are established on a project-by-project basis through public tenders. The counterparty guaranteeing this price, "The Low Carbon Contracts Company", finances its potential payments by charging a fee to distributors depending on their market share, and therefore the credit risk with the counterparty is practically zero.

As is the case in Spain, the positions exposed to market risk of the renewables businesses in Spain and the UK are managed and included in their position in the Deregulated businesses in these countries, to be hedged in the most efficient manner possible.

In addition, the Group has a 15 MW onshore wind farm in the Republic of Ireland at market price.

Renewables business - United State

The Iberdrola Group conducts its renewables business in the US through its listed company Avangrid, which has an installed capacity of 6,145 MW in onshore wind plants, and 119 MW in operational photovoltaic plants.

At the present time, approximately 65% of the energy produced is sold on fixed-price long-term contracts with third parties. Some 17% have coverage contracts of some type, and the remaining 18% of the energy produced is sold to the market in more or less short terms.

With electricity prices around USD 30/MWh, a 5% change in prices could give rise to an impact of EUR ±4 million on operating results.

Renewables business - Mexico

In Mexico the business now has an installed capacity of 367 MW in operational onshore wind plants, with two sale schemes: a) fixed-price sale to the CFE on a long-term contract and b) sale to third parties with a discount on the official price published by the CFE. In addition, 326 MW wind and 270 MW solar plants are being constructed.

The new tariff methodology approved in December 2017 reduces the business' exposure to market prices of different commodities in international markets.

Renewables business - Brazil

In Brazil the business now has an installed capacity of 516 MW in onshore wind plants, all operating on long-term contracts (PPAs) with a fixed price for the country's distributors. Excesses and shortages in the production contracted with the distributor are settled over periods of four years, and excesses must be offered and shortages purchased at market prices.

Renewables business in other European countries

The offshore wind farm Wikinger (Germany) is highlighted, with startup forecast for the first quarter of 2018. Pursuant to German regulations, the new Wikinger plant will have a fixed price for the energy it produces over the first 15 years of operation on a CfD contract, similar to the aforementioned setup in the UK.

Installed capacity is currently 605 MW in wind plants and 6 MW in photovoltaic facilities operational in other European countries. Regulations in these countries make a distinction between two energy sale schemes: sales at the tariff (Portugal, Greece, Cyprus and Hungary), or sales at market price (Romania).

4.5.4. Generation and Retail Businesses

The activities of the Group's deregulated businesses are subject to a range of market, credit, operating, business and regulatory risks, coming from the uncertainty of the main variables that affect them, such as: fluctuations in commodity prices, changes in hydroelectric and wind energy production (of both the Group's and of third parties), changes in electricity and gas demand, and plant availability.

The main variable that affects IBERDROLA's result in terms of raw materials' market price is the electricity price. However, in many countries, electricity prices are strongly correlated with the price of the fuels used in its production. Therefore, risk studies are carried out on fuel price trends and CO₂. These price risks are not only made patent in the electricity generation and retailing business but also in the following activities, with a much lower weight in the business' total results.

- The gas retailing business, in which a large portion of the IBERDROLA Group's operating expenses relate to the purchase of gas for customer supplies. The IBERDROLA Group is therefore exposed to the risk of variations in the price of gas.
- Unhedged energy transactions (discretionary trading).

To a large extent, the mutual closing out of positions by the generation business and retailing business mitigates the market risk to which the Group is exposed. The remaining risk is mitigated by diversifying sale and purchase agreements, and specific clauses therein, as well as by arranging derivatives.

Deregulated and retail businesses in Spain

Commodities' Price risk

Given current market conditions, the production price of the coal-fired power plants defines, to a large extent, the price of electricity in Spain since coal is the marginal technology necessary to cover electricity demand. Consequently, the price of coal conditions revenues from the other less expensive technologies which are used to cover demand. With coal prices around USD 90 per tonne, a 5% change in the prices could give rise to an impact of EUR ±20 million on operating results.

The price of CO₂ influences the cost of production in coal-fired power plants. With coal prices around EUR 7 per tonne, a 5% change in the prices could give rise to an impact of EUR ±4 million on operating results.

The majority of gas supplied in Spain is paid indexed to the price of oil by means of complex formulas. IBERDROLA Group has another type of agreements of fixed-price supply and with prices not indexed to the market price of oil. These agreements are used for electricity generation, for the consumption of its final customers and for sale to other intermediaries. Due to the fact that the electricity generation margin is covered by the contracting formulas of the system operator, only residual risk remains in sales to final customers and third parties. The risk assumed is reduced and depends on the correlation between the price of oil and the European and international gas prices. In the event of a 5% fluctuation in the oil price, the risk would be EUR ±1million.

Hydraulic risk

Despite having a large water storage capacity, IBERDROLA Group's results depend significantly on the flow contributions. The changes in output with respect to the average value can be up to -4,000 GWh in a dry year and +5,000 GWh in a wet year, the variability would be between EUR ±190 million. The loss of profit is not covered as it is an IBERDROLA Group's inherent risk.

Demand risk

Given the current market condition, where price is primarily determined by the generation cost of coal-fired plants, which make up around 15% of the generation mix, it is not considered that demand fluctuations will impact on marginal technology in the market. The impact on the market price of a 1% change in demand is therefore limited, amounting to approximately EUR 0.25 per MWh.

A moderate drop in demand in Spain does not affect the scheduled output of the Group's nuclear, hydroelectric and wind power plants, since there is a mandatory electricity market in Spain guaranteeing the efficient dispatch of output from all technologies.

Nevertheless, there could be an impact if a drop in electricity demand entails an equivalent reduction in the Group's retail sales and consequent narrowing of margin. This is mitigated to some extent by increasing sales of own energy on the wholesale market.

Taking both effects into account, it is estimated that a 1% fluctuation in demand would have an impact of EUR ±8.5 million overall.

Operational risk

From the perspective of its impact on business results, the main risk arises from nuclear power plant outages (due to stoppages for fuel reloading, in accordance with a pre-established schedule) and hydroelectric power plant outages which are not associated with a large storage reservoir (flow facilities, in which water is not storable). As a result of such outages, production and, therefore, the margin associated with this production are lost. This risk is managed through excellence in the operating and maintenance practices of the plants and a culture focused on total quality and the reduction of operational risks, which allow the impact of this risk to be kept low.

Deregulated and retail businesses in UK

Commodities' Price risk

The IBERDROLA Group does not count on having coal plants in the UK after the closure of current plant Longannet at the end of March 2016. The generation capacity in said country is comprised of 2,000 MW combined cycles and 566 MW hydraulics plants.

In the British market, geared towards thermal power generation, the clean spark spread has become the appropriate index to follow the uncertainty of the margins of coal-fired power plants. Despite the fact that commodities (coal, CO₂ and electricity) are listed separately, the uncertainty of the unit margin is studied since it has been detected that it is a better indicator of the uncertainty of the results. With clean spark spread levels around GBP 4 per MWh, a 5% change in the spreads could give rise to an impact of EUR 7 million on operating results.

IBERDROLA Group does no longer have long-term agreements at a fixed price.

Recently, the British government has decided to set a maximum price for the gas and electricity tariffs which a mode of customers pay a "standard variable tariff". Throughout 2018, the British government will carry out a question and answer procedure on the calculation method of said maximum price, which is not expected to enter into effect until 2019. In any case, the setting of this maximum price is expected to negatively affect the retail business results of the Group in the UK.

Demand risk

Electricity consumption demand is usually one of the most significant risk factors for any company. However, IBERDROLA currently purchases from third parties a significant portion of the energy it sells (12 TWh in 2017, of a total amount of electricity sold of approximately 22 TWh/year), since it is more profitable to do so under current market conditions than IBERDROLA producing it and using its own thermal power plants. From a business perspective, fluctuations in electricity demand mean that additional amounts of electricity need to be purchased or that these acquisitions need to be reduced. In any case, the profit or loss IBERDROLA obtains from this intermediation is low and much lower than that obtained from its own output. Thus, demand fluctuations have a small impact on profit or loss of EUR ±10 million for every 1% fluctuation in customer demand.

Operational risk

From the perspective of its impact on business results, the main risk arises from the combined cycle power plants outages (due to stoppages for fuel reloading, in accordance with a pre-established schedule) . With regard to these outages, all profit or loss obtained from production is committed, although the high operating and maintenance standards of the plants and a culture focused on total quality and the reduction of operational risks, allow the impact on this risk to be kept low.

Deregulated and retail businesses in Mexico

Commodities' Price risk

Electricity generation at Iberdrola Generación Mexico is gas-intensive. Gas prices therefore comprise an essential component of this risk.

Approximately 82% of the electricity generated in Mexico is sold through long-term sales agreements (to CFE and, to a lesser extent, other major industrial customers), whereby the risk associated with the price of gas for generating this electricity is passed on.

The remaining energy is sold to customers at a price linked to the official tariffs published by CFE. Said tariffs depend on the cost of the inherited contracts (originating before the Electricity Sector's recent reform) and on the market price of electricity.

Demand risk

The structure of the agreements IBERDROLA has entered into in Mexico isolates the business results from electricity demand fluctuations. Revenues come mainly from plant availability and only the sales indexed at the official Mexican tariff are subject to a certain extent by the fluctuation in demand. Nonetheless, most of the plants have committed sales exceeding their production capacity and therefore a shift in demand would not have an impact on their operations or results as the electricity generated would be sold to another customer. Changes in electricity demand in Mexico therefore have no effect on results.

Operational risk

From the perspective of its impact on business results, the main risk arises from the combined cycle power plants outages (due to stoppages for fuel reloading, in accordance with a pre-established schedule) . With regard to these outages, all profit or loss obtained from production is committed, although the high operating and maintenance standards of the plants and a culture focused on total quality and the reduction of operational risks, allow the impact on this risk to be kept low.

Deregulated and retail businesses in Brazil

The Group had 2,113 MW hydraulic generation installed and 533 MW combined cycle in Brazil at year-end, of which approximately 80% of the hydraulics and 100% of the combined cycle generation are contracted long-term with electricity distributors in countries through PPA contracts.

The rest of the production is sold to qualified customers with an expectation of between one and two years, according to Brazilian market prices. With market prices in the area of 220 R\$/MWh, a price fluctuation of 5% would affect the results by some EUR 4 million.

Gas supply operations

The IBERDROLA Group maintains an adequate balance in the global mix, both in terms of the number of supplier countries and the type of supply (gas via pipelines or GNL), which is demonstrated in that it has five suppliers from different areas (Norway, Nigeria, United States and Lybia, among others).

In the Spanish case, gas supply is guaranteed through long-term agreements. The 23% of this mix of agreements is at a fixed price and the remainder is linked to the prices of various fuels on international markets.

Gas supply in Mexico is secured through long-term agreements with PEMEX and CFE at a price linked to international natural gas prices in the US or contracting in the United States and, therefore, with price that depends on the same gas prices in that country.

Unhedged energy transactions (discretionary trading)

Discretionary trading of electricity, gas, emissions allowances and other fuels and associated products performed by some of the Group's businesses is residual and the overall risk thereof is mitigated using individual stop-loss limits, whose total aggregate can never exceed 2% of the Consolidated net profit for the period, pursuant to the market risk policy approved by IBERDROLA, S.A.'s Board of Directors.

IBERDROLA has reduced discretionary trading in recent years in line with the widespread move away from market speculation. At the end of December 2017, the notional value of derivatives used in speculative trading (calculated in accordance with the criteria set forth in the European Market Infrastructure Regulation (EMIR)) was below EUR 83 million versus EUR 91 million at 31 December 2017. In any case, these values are much lower than EUR 3,000 million and 1,000 million threshold that is set for non-financial companies in the European regulation (EMIR).

4.5.5 Other operational risks

All of the IBERDROLA Group's activities, direct or indirect losses may arise as a result of inadequate internal procedures, technical failures, human error or external factors.

Specifically, the IBERDROLA Group is also exposed to the following operational risks:

- Risk of malfunctions, explosions, fire, toxic spillages or polluted emissions in gas and electricity distribution networks and generating plants.
- Risks concerning extreme meteorological conditions and other instances of force majeure.
- Risk of sabotage and/or terrorism.

Any of these risks could cause damage or destruction to the IBERDROLA Group's facilities, as well as injuries to third parties or damage to the environment, along with the ensuing lawsuits, especially in the event of power outages caused by accidents at our distribution networks and possible penalties imposed by the authorities.

Although many of these risks are unpredictable, the IBERDROLA Group mitigates them by carrying out the necessary investments, implementing operation and maintenance procedures and programmes (supported by quality control systems), planning appropriate employee training, and taking out the required insurance covering both material damages and civil liability.

In relation to the insurance cover, IBERDROLA has international insurance programmes to cover equity (insurance for material damages, machinery breakdowns, loss of profits, damages from natural disasters and risks arising from construction work) and third-party liabilities (general civil liability, liability for environmental risks, professional civil liability, etc.).

However, this insurance does not completely eliminate operational risk, since it is not always possible, or it is not in its interest to pass such risk on to insurance companies. In addition, cover is always subject to certain limitations.

Risks in connection with nuclear business

The IBERDROLA Group's nuclear power plants in Spain are also exposed to risks relating to their operations and risks arising from the storage and handling of radioactive materials.

- Constitutional Spanish law caps the liability of nuclear power plant operators in the event of a nuclear accident at EUR 700 million. This liability for a nuclear accident must be compulsorily insured by the operator of Spanish nuclear power plants. The IBERDROLA Group meets this obligation by taking out Nuclear Civil Liability insurance policies for each plant. However, Law 12/2011, of 27 May, concerning civil liability for nuclear damage or damage caused by radioactive materials, will increase the operator's liability ceiling and the consequent ceiling on mandatory insurance to EUR 1,200 million for nuclear power plants. The law will enter into force when all signatories of the Paris and Brussels Agreements ratify the 2004 Amendment Protocols, as established in these agreements.
- Accordingly, it is important to point out the indirect economic risk to which the aforementioned power plants are exposed as a result of a possible serious incident in Spain or in other country could affect the periodic renewals of their compulsory operating licences and the increase in their safety investments.

Environmental and climate change risks

IBERDROLA accepts that the environment places constraints on all human activities and is a factor of companies' competitiveness, and it is committed to promoting innovation in this field and also eco-efficiency, to gradually reducing the environmental impact of its activities, facilities, products and services, and striving to ensure that its activities are congruent with future generations' legitimate right to an appropriate environment.

The Group undertakes and promotes this commitment through its policies. IBERDROLA currently has three specific policies in order to manage environmental issues: environmental policy, anti-climate change policy and biodiversity policy (available at www.iberdrola.com), which set forth the principles through which the Company will continue to improve its environmental management.

Moreover, once again IBERDROLA featured on the global Dow Jones Sustainability a worldwide benchmark for recognising corporate contributions to sustainable development, and also on other internationally renowned sustainability indexes. It is the only utility to have earned this distinction since the Index was created in 1999.

With regard to climate change, the Group recognises the gravity of the threat that global warming implies, to which governments, multi-lateral agencies, the private sector, and society as a whole must necessarily confront jointly and in a coordinated manner. In this regard, the Company promises to assume a leadership role in the fight against climate change and develop, among others, the following guiding principles: i) prevent pollution [by] gradually reducing the intensity of emissions, ii) promote electrification, energy efficiency and smart grids, iii) support international negotiation procedures and significant participation of the private sector to fulfil goals 7 and 13 of the SDG approved by the UN, and the climate goal included in the Paris Climate Summit, iv) support an emissions market that creates a strong and sustainable price signal, and v) support a tax system that incorporates the "polluter pays" principle that not only includes the electricity production sector.

Climate change may translate into the following risks in the medium-term:

- More extreme climate situations that impact the generation and distribution assets, such as greater operation and maintenance costs, and insurance premiums.
- Fluctuations in wind and hydraulic resources
- Fluctuation in the gas and electricity demand levels (due to the effects of temperatures)
- Decrease of the profits forecasted for existing thermal plants (due to regulatory restrictions, CO2 prices, operational events...)
- Impact in wholesale electricity market due to massive development of renewables
- Legislative and regulatory changes

Operational risk of operations in markets

Market trading conducted by the Group's various energy trading desks and treasury dealers is also exposed to operational risk due to possible inappropriate processes, technological faults, human error, fraud or any other external or internal event.

This risk is mitigated by following the operational risk policy when trading on the market based on a robust risk control culture, a proper segregation of duties, the publication of clear processes and policies and secure and flexible information systems. This policy sets specific thresholds and guidelines applicable to all trades performed in accordance with the principle of proportionality.

Risks in connection with cybersecurity

IBERDROLA Group companies may be affected by threats and vulnerabilities in connection with information, control systems or information and communications systems used by the Group, or by any consequences of unauthorised access to or the use, disclosure, degradation, interruption, modification or destruction of information or information systems, including the consequences of acts of terrorism.

These risks are managed in accordance with the basic principles of the cybersecurity policy, which takes the necessary measures to guarantee secure usage of information and communications systems and other cyber-assets, bolstering detection, prevention, defence and response capacities to counter cyberattacks.

The IBERDROLA Group currently has specific insurance protection against cyber risks under the terms allowed by the market, and will be regularly reviewed in view of the rapid evolution and extensive variety of cyber risks.

4.5.6 Legal risks

The IBERDROLA Group companies are part of a certain in-court and out-of-court disputes within the ordinary course of their activities, the final result of which, in general, is uncertain. An adverse result, or an out-of-court resolution thereof or other proceedings in the future could have a material adverse effect on our business, financial situation, operating results and cash flows. However, the Group's legal advisers believe that the outcome of the aforementioned disputes will not have a significant effect.

Notes 6.b. and 45 of the Consolidated financial statements contain a more detailed description of the most significant matters.

4.6. Risks materialised during the year

For further details, see the section E of *Control systems and risk management* of the Corporate Governance Report 2017.

5. SIGNIFICANT SUBSEQUENT EVENTS TO YEAR END

Subsequent events to year end are described in Note 52 of the financial statements.

6. RESEARCH AND DEVELOPMENT ACTIVITIES

IBERDROLA is now a leading multinational group which has become the utility of the future thanks to its innovative strategy which encompasses all its business units and areas of activity. Thanks to a constant commitment to innovation, Iberdrola is now Spain's most innovative utility and the third most innovative in Europe in the European Commission's classification.

In 2017, Iberdrola spent more than EUR 246 million on R&D&i activities, 17% more than in the previous year. These resources were basically directed at projects relating to clean energy, smart grids, the development of customised solutions for customers and the digital transformation.

Looking ahead, commitment to innovation will continue to be a priority to assure sustainability, efficiency and competitiveness and keep IBERDROLA at the forefront of development of the new products, services and business models that are transforming the sector:

- **Disruptive technologies**, which are increasingly efficient, sustainable and respectful of the environment, enabling the functioning of facilities and processes to be optimised, and competitive innovative products and services that meet customers' needs with a greater degree of personalisation of contents and offerings;
- **Digitisation and automation** in all businesses and processes, to create value in the management of the life cycle of assets, optimisation and aggregation of the grid and the design of integrated services for the new digital customer profile. The digital transformation will be based on new technologies such as blockchain, big data, the Internet of Things, virtual reality, artificial intelligence, etc. at all levels of the company.
- **Innovation with start-ups, entrepreneurs and suppliers** with the aim of developing new disruptive business models, promoting the exchange of know-how and exerting a pull effect on their employees:
 - o Iberdrola Ventures – PERSEO, IBERDROLA's start-up programme, was created ten years ago with the aim of promoting the development of a dynamic ecosystem of start-ups and entrepreneurs in the electricity sector.
 - o Innovation programme with suppliers based on three paths of action: facilitating access to financing mechanisms, pushing firms' joint creation, and favouring innovative purchasing from SMEs.
- **Culture of innovation and talent**: Iberdrola promotes a culture of innovation by means of knowledge transfer, attracting talent and promoting the entrepreneurial spirit:
 - o Iberdrola Universities Programme. In 2017 the Universities Programme was launched, with the aim of attracting talent, transferring knowledge and contributing to society. In the context of the programme, Iberdrola has signed agreements with the major universities of the countries in which it is present: Universidad de Salamanca, Universidad Pontificia de Comillas, Massachusetts Institute of Technology - MIT, Instituto Tecnológico de Monterrey and University of Strathclyde. The programme comprises the following lines of action: Chairs, R&D projects, training of students, in-house training and young entrepreneurs. During 2017 the first initiatives were carried out with young entrepreneurs of the reference universities: MIT SANDBOX, Comillas Emprende, Emprende Salamanca, Iberdrola- SP Entrepreneurial and Energy Business Model Challenge. In all, five hackathons or boot camps were held, with 800 entrepreneurs and with the collaboration of more than 100 mentors. We also held more than 25 workshops and delivered more than 2,500 hours of mentoring.
 - o Accelerator Project. Through this initiative, IBERDROLA expresses its faith in the in-house talent of its employees and their ability to identify the key factors that will make the company the world's biggest utility within ten years. It was led by a multi-discipline group of young employees from Spain, the UK, the US, Mexico and Brazil which over a two-year period carried out a detailed analysis of the development and trajectory of a number of successful start-ups that were the brainchildren of millennials like themselves in various thematic areas such as cultural change, smart living, customer experience and networks. Many of the resulting ideas are already being successfully implemented in the various departments of Iberdrola.

The following are some of the most notable innovative initiatives classified by broad area.

6.1. Renewable energies

In 2017, Innovation activities in Renewables focused primarily on:

- Improving operating and maintenance cost efficiency of wind farms, the outstanding example being the European ROMEO project, coordinated by IBERDROLA, which seeks to develop new models and tools for the early detection of defects based on big data techniques.
- Improving the integration of energy from renewable sources, several initiatives having been carried out in the area of energy storage.
- Innovation in offshore wind projects is essential to reduce costs and to limit risks in ongoing and future projects. During 2017 we completed the installation of the piles, the jacket foundations and the turbines of the Wikinger offshore wind farm, as well as the commissioning of the sub-station, with its innovative design featuring a six-legged pre-piled jacket.

We also continue to collaborate on the 'Best Paths' and 'PROMOTIoN' European projects in which HVDC (high-voltage direct current) grids are studied with a view to facilitating the connection of large volumes of offshore wind-produced electricity to the grid. Another notable project is 'BRIO', which studies the wind farm at the end of its useful life and the valorisation of its high added value components.

In Brazil we would highlight the play on solar energy in the form of the construction of a pilot CSTP (concentrating solar thermal power) system with storage in the city of Bahía. IBERDROLA is also constructing new wind and photovoltaic facilities in various Mexican states.

6.2. Clean generation technologies

During 2017, efforts in the area of generation focused on operating efficiency and flexibility, environmental protection, and the improvement of plant safety.

Operating efficiency and flexibility and plant safety: The PREXES project to develop a model to predict expansion in hydraulic concrete structures was completed. Work continued on the VIDAGEN project to design and develop a tool to manage the global lifespan of pressurised equipment.

In the area of nuclear generation, the prominent projects are FILTRONUC and OPD. The goal of this first project ended in 2017 is to research and develop a new containment filtered venting system for maximising filtering performance on the venting line without compromising the safety and integrity of the facilities. And the second one seeks to develop an open phase detection system for start-up transformers in nuclear generating stations to establish a solution ensuring optimal functionality as a significant element of safety and reliability.

Environmental: Iberdrola remains firmly committed to reducing the environmental impact of its generating plants, backing an ambitious project life entitled CO2FORMARE to find a solution to the problem of macrofouling in the cooling systems of electricity generating plants in a sustainable manner and mitigating the environmental impact both emissions into the atmosphere and the aquatic environment.

6.3. Commercial Area - New projects and services

Innovation is essential in commercial activity, in order to offer customers the products and services best suited to their needs. Thus in 2017 IBERDROLA launched the following:

- New initiatives to boost the customer experience:
 - o Planes a Tu Medida (Customised Plans): new functionalities have been included in the Plan Elige 8 Horas (Choose-8-Hours-Plan). Customers can now choose the 8 hours that best match their consumption, and they can be different 8-hour periods every day of the week.
 - o App de Clientes: (Customer App): Improvements in performance and redesign of the application, with launch dates of year-end 2017 on Android and early 2018 on iPhone. This version will include improvements in user experience and new functionalities.
- New Smart Home products: Consumption Monitors and Smart Lamps:

In 2017 we launched a product called Riego Inteligente (Smart Irrigation) which allows customers to schedule and control when they water their gardens from their smartphones or tablets. This product rounds out the range of smart home products: smart thermostats, electricity meters that break down the consumption of the main domestic appliances, and smart LED light bulbs that can be controlled from a smartphone.

As for Smart Solar, a distributed generation solution for self-consumption, in 2017 the following functionalities were improved: "online offer" thanks to consumption curves and location, and querying of production, possible storage and grid demand.

IBERDROLA also continues to take part in Green Mobility projects such as REMOURBAN and CIRVE. REMOURBAN is developing a public recharging network in the city of Valladolid and has designed methodology for evaluating the sustainability of urban environments, which will be installed in several cities participating in the project. The CIRVE project also began in 2016, in which Iberdrola assists with the development of rapid-recharge infrastructure corridors for electric cars, to boost electric mobility and connect Spain to France and Portugal.

6.4. Smart grids

As regards smart grids and digitisation of the grid, the following may be highlighted in Spain and in the rest of Europe:

- In Europe, the three-year UPGRID led by IBERDROLA DISTRIBUCIÓN came to an end. It succeeded in strengthening the operation and maintenance of low-voltage grids in anticipation of technical problems associated with the large-scale integration of distributed generation. In 2017 the European Commission financed the ASSURED project, the objective of which is to develop solutions for quick recharging of heavy electric goods vehicles. Additionally, through EDSO4SG, IBERDROLA continues to participate in the INTENSIS4EU project, which seeks a new R&D approach to the smart grid and energy storage in order to face the new integrated energy challenges in which the consumer is at the centre of the energy system.
- in Spain, we would highlight the GRIDSTORAGE project, in which an advanced microgrid model is being developed, with storage for distribution grids.

- In the UK, the Fusion and LV Engine were financed. Both of them aim to optimise low-voltage grids, which present some of the most significant opportunities and challenges in progress towards a more flexible system. This financing comes on top of that recently obtained for the innovative SPEN project, designed to manage restrictions on the high-voltage grid in the Dumfries and Galloway power stations. Work also continues on developing sustainable solutions for the deployment of the new smart grid, with the FITNESS project. Other notable projects include VISOR, which is implementing the first wide area monitoring system (WAMS) in the nationwide IT infrastructure, and Assess Late, which analyses the future impacts of distributed generation, electric vehicles and increased demand on the grid.
- In Brazil, two of the projects to develop domestic technology for smart networks were BID MONITOR, a backup system for decision-making concerning sales of electricity, and CIUDADE INTELIGENTE, to implement an urban reference model based on Smart Grids, should be highlighted. Moreover, for the project Micro Redes GD, the impact of distributed generation on the grid and coupling points has been assessed.
- In the United States, notable initiatives include those forming part of the Energy Smart Community (ESC) programme to improve management of the grid and distributed energy resources, ability to respond to demand and user experience. Also, as part of the Reforming the Energy Vision (REV) initiative, notable projects are Energy Marketplace, a platform facilitating transactions between suppliers of distributed generation and customers, and Flexible Interconnect Capacity Solution, which seeks to define less costly and faster means of connecting to distributed energy resources.
- As regards the Qatar Technological Centre, we would highlight the development of technological consultancy activities on smart grids and the implementation of metering systems, the launch of various R&D projects and test benches for the integration of distributed renewable energy and the management of demand.

6.5. IBERDROLA Ventures – PERSEO

IBERDROLA Ventures – PERSEO is IBERDROLA's Corporate Venture Capital programme.

The programme focuses on the technologies and business models that allow improvements in the sustainability of the energy model by means of a greater degree of electrification and decarbonisation of the economy. The most notable activities in 2017 included:

- IBERDROLA was named by the European Commission as one of the companies that works best with start-ups in the context of the Start-up Europe Partnership initiative. Iberdrola was the only Spanish energy company selected, and it also received the special Start-up Procurement Award for its Innovation with Suppliers programme.
- Internationally, we note the taking of an equity stake in the US company Innowatts, which focuses on the development of digital solutions and innovation for the energy sector by means of its analytical platform using artificial intelligence, which has data from more than 14 million smart meters.
- Within the area of social investment, we would highlight the investment in Ilumexico, dedicated to lighting and electrification in rural areas of Mexico. It is estimated that more than 250,000 people may benefit from this initiative in the next few years. It is Perseo's second investment in high-impact social projects, and forms part of IBERDROLA's 'Electricity for All' programme.

7. ACQUISITION AND DISPOSAL OF TREASURY SHARES

The Group's treasury share policy establishes the following:

Treasury share transactions are considered those transactions carried out by the Company, whether directly or through any of the Group's companies, the object of which are Company shares, as well as financial instruments or agreements of any type, traded or not in the stock market or other organised secondary markets, which grant the right to acquire from, or the underlying security of which are, Company shares.

Treasury share transactions will always have legitimate purposes, such as, among others, to provide investors with liquidity and sufficient depth in the trading of Company shares, to execute treasury share purchase programmes approved by the Board of Directors or General Shareholders' Meeting resolutions, to fulfil legitimate commitments undertaken in advance or any other acceptable purposes in accordance with applicable regulations. Under no circumstances shall the purpose of the treasury share transaction be to interfere with the free establishment of prices. In particular, any conduct referred to in article 83.ter.1 of the Securities Market Law and article 2 of the Royal Decree 1333/2005, of 11 November, implementing the Securities Market Law related to matters of market abuse.

The Group's treasury share transactions will not be carried out, under any circumstances, based on insider information.

Treasury shares will be managed providing full transparency as regards relationships with market supervisors and regulatory organisations.

Note 21 of the Consolidated financial statements presents the movements of IBERDROLA's shares in the Group companies' portfolios in the last years. Likewise, other information on transactions in 2017 and 2016 is presented in the following chart:

Treasury Stock	No. of shares	Nominal value (thousands of euros)	Cost (thousands of euros) Treasury stock	Average price (euros)	Total shares	% Capital
01.01.2016	67,636,166	50,728	405,458	5.99	6,336,870,000	1.07
Additions	245,721,539	184,292	1,450,724	5.90		
Share capital reduction	(157,197,000)	(117,898)	(946,566)	6.02		
<i>Iberdrola dividendo flexible</i> ⁽¹⁾	1,504,604	1,128	–	–		
<i>Iberdrola dividendo flexible</i> ⁽²⁾	–	–	(1,992)	–		
Disposals	(6,440,532)	(4,830)	(38,687)	6.01		
31.12.2016	151,224,777	113,420	868,937	5.75	6,362,079,000	2.38
Additions	154,508,438	115,881	1,002,731	6.49		
Share capital reduction	(219,990,000)	(164,993)	(1,280,176)	5.82		
<i>Iberdrola dividendo flexible</i> ⁽¹⁾	1,896,638	1,422	–	–		
<i>Iberdrola dividendo flexible</i> ⁽²⁾	–	–	(9,379)	–		
Disposals	(11,929,704)	(8,947)	(74,937)	6.28		
31.12.2017	75,710,149	56,783	507,176	6.70	6,317,515,000	1.20

(1) Shares received

(2) Free of charges allocation rights disposed.

Treasury shares of Scottish Power	No. of shares	Nominal value (thousands of euros)	Cost (thousands of euros) Treasury stock	Average price (euros)	Total shares	% Capital
01.01.2016	1,638,563	1,229	10,163	6.20	6,336,870,000	0.03
Additions	404,154	303	2,464	6.10		
<i>Iberdrola dividendo flexible</i>	56,040	42	–	–		
Disposals	(724,352)	(543)	(3,047)	4.21		
31.12.2016	1,374,405	1,031	9,580	6.97	6,362,079,000	0.02
Additions	318,172	238	2,159	6.79		
<i>Iberdrola dividendo flexible</i>	95,524	72	–	–		
Disposals	(631,238)	(473)	(3,322)	5.26		
31.12.2017	1,156,863	868	8,417	7.28	6,317,515,000	0.02

During 2017 and 2016, treasury shares held by the IBERDROLA Group were below the legal limit.

Finally, the conditions and time periods of the current mandate of the Board of Directors to acquire or transfer treasury shares are detailed below.

At the General Shareholders' Meeting on 28 March 2014, shareholders expressly agreed to delegate powers to the Board of Directors, with powers of substitution, pursuant to the provisions of the Spanish Corporations Law, to carry out derivative acquisition of shares in Iberdrola, S.A. under the following conditions:

- Acquisitions may be made directly by IBERDROLA or indirectly through their subsidiary companies. The subsidiary companies which develop regulated activities as prescribed in the electric sector and hydrocarbon laws are excluded.
- Acquisitions may be made by purchase transactions, swaps or any other form permitted by law.
- Acquisitions may be made up to the maximum legal threshold (i.e. 10% of share capital).

- d) Such acquisitions may not be made at a price higher than the market price or lower than the nominal value of the share.
- e) Authorisation was granted for a maximum period of five years since approval of the resolution.
- f) A restricted reserve shall be created in equity in the purchasing company equivalent to the value of the parent's shares under assets. This reserve must be maintained as long as the shares are not disposed of or cancelled in accordance with the Spanish Corporations Law.

Shares acquired under these powers can be transferred or cancelled or used for the compensation systems as provided for in the Spanish Corporations Law. They may also be used to develop programmes that encourage participation in the Company's share capital such as the dividend reinvestment plan, loyalty bonuses and other similar instruments.

Stock market data

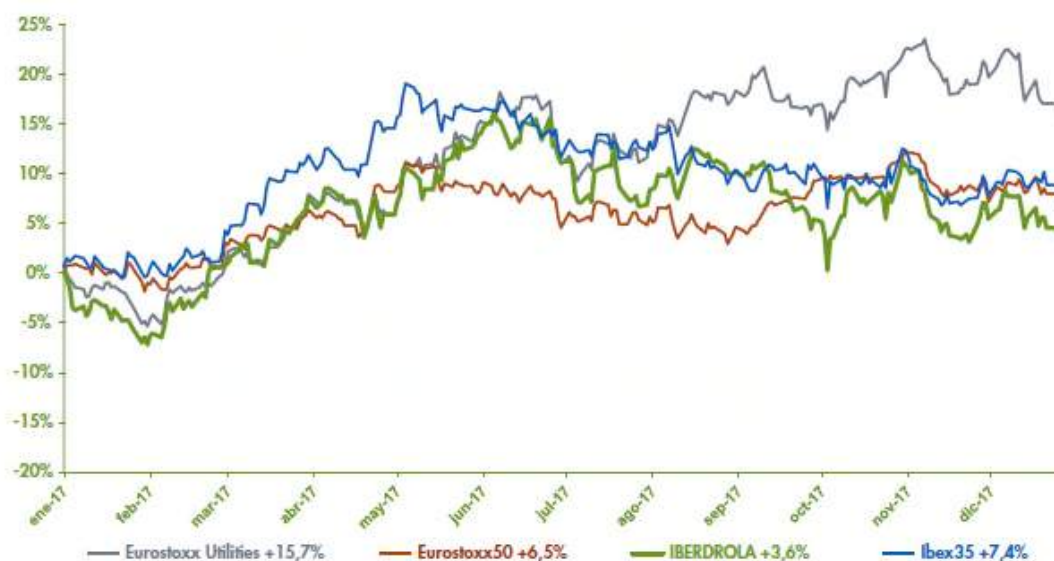
		2017	2016
Stock market capitalisation (*)	Millions of euros	40,811	39,661
Earnings per share continuing operations	Euros	0.478	0.423
P.E.R. (share price at year end/profit per share)	Times	13.51	14.74
Price / Carrying amount (capitalisation on carrying amount at year end) (**)	Times	1.14	1.08

(*) 6,317,515,000 and 6,362,079,000 shares as of 31 December 2017 and 2016, respectively.

(**)Capitalisation at 31 December 2017 (40,811) / Equity of the parent company (35,509); Capitalisation at 31 December 2016 (39,636) / Equity of the parent company (36,690).

The IBERDROLA share

Stock market performance of IBERDROLA compared to the indexes in 2017 is as follows:



	2017	2016
Number of shares outstanding	6,317,515,000	6,362,079,000
Share price at year end	6.46	6.23
Average share price for the year	6.62	6.01
Average daily volume	20,870,406	25,843,622
Maximum volume (06/04/2017 - 16/12/2016)	122,920,322	117,034,016
Minimum volume (28/08/2017 - 16/05/2016)	4,636,525	4,444,650
Dividends paid (euros)	0.317	0.286
- Gross interim dividend (23/01/2017 - 29/01/2016) ⁽¹⁾	0.135	0.127
- Gross complementary dividend (07/07 and 21/07/2017 - 08/07 and 22/07/2016) ⁽²⁾	0.177	0.154
Attendance premium	0.005	0.005
Dividend yield ⁽³⁾	4.91%	4.59%

(1) Purchase price of rights guaranteed by IBERDROLA.

(2) Complementary dividend in cash (07/07/2017 and 08/07/2016 = EUR 0.03 and purchase price of rights guaranteed by IBERDROLA: 21/07/2017 =0.147 and 22/07/2016 =0.124).

(3) Interim dividend, complementary dividend and attendance bonus for attending the General Shareholders' Meeting/share price at period end.

8. FURTHER RELEVANT INFORMATION

8.1. Environmental issues and sustainability

8.1.1. Environmental issues

IBERDROLA accepts that the environment places constraints on all human activities and is a factor of companies' competitiveness, and it is committed to promoting innovation in this field and also eco-efficiency, to gradually reducing the environmental impact of its activities, facilities, products and services, and striving to ensure that its activities are congruent with future generations' legitimate right to an appropriate environment.

The Group undertakes and promotes this commitment through its policies. IBERDROLA currently has three specific policies in order to manage environmental issues: environmental policy, anti-climate change policy and biodiversity policy, which set forth the principles through which the Company will continue to improve its environmental management.

Moreover, for the thirteenth consecutive year IBERDROLA featured on the global Dow Jones Sustainability Index, a worldwide benchmark for recognising corporate contributions to sustainable development, and also on other internationally renowned sustainability indexes. It is the only utility to have earned this distinction since the Index was created in 1999.

8.1.2. Sustainability

IBERDROLA's contribution to sustainable development takes form in certain social responsibility practices which address the needs and expectations of their stakeholders, with which the Company maintains a series of lines of communication and dialogue open through which it is able to: communicate objectives, initiatives and achievements obtained in the three areas of sustainable development (economic, environmental and social) and receive evaluations and requests from the interested parties.

Sustainability indicators	2017	2016
Contribution to GDP (Gross Margin) (*)	0.42%	0.54%
Contribution to GDP (Revenue) (*)	1.15%	1.23%
CO ₂ Emissions in the period (gr. CO ₂ /kWh): Total	187	176
CO ₂ Emissions in the period (gr. CO ₂ /kWh): Spain	108	84
CO ₂ Emissions in the period (gr. CO ₂ /kWh): SPW	237	328
CO ₂ Emissions in the period (gr. CO ₂ /kWh): Avangrid	53	58
CO ₂ Emissions in the period (gr. CO ₂ /kWh): Brazil	119	136
CO ₂ Emissions in the period (gr. CO ₂ /kWh): Mexico	362	356
Total production free of emissions (GWh)	65,406	75,674
Production in Spain free of emissions (GWh)	41,515	53,713
Production free of emissions out of total production (%)	51.8	57.2
Production in Spain free of emissions out of total production (%)	82.7	87.4
Total installed capacity free of emissions (MW)	30,232	28,326
Total installed capacity in Spain free of emissions (MW)	18,740	18,738
Total installed capacity free of emissions (MW)	65.6	65.5
Total installed capacity in Spain free of emissions (MW)	73.2	73.2
Specific SO ₂ emission Global mix (g/kWh)	0.074	0.050
Specific particles emission Global mix (g/kWh)	0.007	0.005
Specific NOx emission Global mix (g/kWh)	0.261	0.185

8.2. IBERDROLA Foundation

In 2017, the Group allocated EUR 14,566 thousand to financing the various foundations (EUR 13,515 thousand to Group foundations and EUR 1,051 thousand to associations and entities whose goals are in the interest of the general public).

The main recipient of the funding was Iberdrola Foundation, which received EUR 7,555 thousand. Information on its goals and activities is available at: www.fundacioniberdrola.org. IBERDROLA Foundation is a private, non-profit, cultural foundation, founded by the Company. Its mission is to develop initiatives which effectively contribute to improving the quality of life of the people in the regions and countries where the Group acts, especially in the areas of energy sustainability, art and culture, as well as solidarity and social initiatives. The foundation may act independently to achieve its goals and is fully functional and autonomous. Without prejudice to its collaboration with other entities, Iberdrola Foundation coordinates and executes the Group's corporate social responsibility strategy, so that it is in line with the purpose for which it was created and as assigned there to by the Board of Directors.

Iberdrola Foundation coordinates its welfare work in the United Kingdom through the Scottish Power Foundation, which was granted EUR 2,175 thousand. In the United States, this work is carried out through the Avangrid Foundation with a budget of EUR 3,306 thousand, and in Brazil through the Instituto Iberdrola Brasil, receiving EUR 479 thousand.

In 2018, the Group intends to follow a policy aimed at financing activities of interest to the general public in line with that followed in 2018 as regards amount and allocation.

ANNUAL CORPORATE GOVERNANCE REPORT

**ANNUAL CORPORATE GOVERNANCE REPORT
OF LISTED COMPANIES**

Data identifying issuer

Ending date of reference financial year	31/12/2017
Tax Identification Code	A-48010615
Registered name	IBERDROLA, S.A.
Registered address	Plaza Euskadi número 5, Bilbao 48009 Bizkaia España

A. OWNERSHIP STRUCTURE**A.1. Complete the following table about the share capital of the company:**

Date of last change	Share capital (€)	Number of shares	Number of voting rights
21/07/2017	4,738,136,250	6,317,515,000	6,317,515,000

State whether there are different classes of shares with different rights attaching thereto:

Yes ☐ No ☒

Class	Number of shares	Nominal value per share	Number of voting rights per share	Different rights

A.2. Breakdown of direct and indirect holders of significant shareholdings in the company as of the end of the financial year, excluding directors:

Individual or company name of the shareholder	Number of direct voting rights	Indirect voting rights		% of total voting rights
		Direct holder of the interest	Number of voting rights	
QATAR INVESTMENT AUTHORITY	-	QATAR HOLDING LUXEMBOURG II, S.À.R.L.	541,378,280	8.57
NORGES BANK	202,762,459	-	-	3.21
Capital Research and Management Company (CRMC)		CRMC GROUP	195,735,221	3.10
BLACKROCK, INC.	-	BLACKROCK GROUP	191,563,600	3.03

State the most significant changes in the shareholding structure that have occurred during the financial year:

Individual or company name of the shareholder	Date of transaction	Description of transaction
KUTXABANK, S.A.	12/04/2017	Decrease to below 3% of share capital
NORGES BANK	10/07/2017	Decrease to below 3% of share capital
NORGES BANK	27/07/2017	Increase to above 3% of share capital
CAPITAL RESEARCH AND	23/03/2017	Increase to above 3% of share capital

MANAGEMENT COMPANY		
CAPITAL RESEARCH AND MANAGEMENT COMPANY	16/05/2017	Decrease to below 3% of share capital
CAPITAL RESEARCH AND MANAGEMENT COMPANY	07/06/2017	Increase to above 3% of share capital

A.3. Complete the following tables about members of the board of directors of the company who have voting rights attaching to shares of the company:

Individual or company name of director	Number of direct voting rights	Indirect voting rights		% of total voting rights
		Direct holder of the interest	Number of voting rights	
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	5,433,431	-	-	0.14
	-	ROYAL PARK 2000, S.L.	3,558,967	
MR IÑIGO VÍCTOR DE ORIOL IBARRA	1,225,083	-	-	0.02
MS INÉS MACHO STADLER	64,485	-	-	0.00
MR BRAULIO MEDEL CÁMARA	29,037	-	-	0.00
MS SAMANTHA BARBER	1,848	-	-	0.00
MS MARÍA HELENA ANTOLÍN RAYBAUD	3,247	-	-	0.00
MR ÁNGEL JESÚS ACEBES PANIAGUA	6,377	-	-	0.00
MS GEORGINA KESSEL MARTÍNEZ	4,277	-	-	0.00
MS DENISE MARY HOLT	541	-	-	0.00
MR JOSÉ WALFREDO FERNÁNDEZ	0	-	-	0.00
MR MANUEL MOREU MUNAIZ	23,695	-	-	0.00
	-	MS MARÍA GAMAZO TRUEBA	23,695	
MR XABIER SAGREDO ORMAZA	0	-	-	0.00

MR JUAN MANUEL GONZÁLEZ SERNA	42,451	GRUPO SIRO CORPORATIVO, S.L.	374,507	0.01
MR FRANCISCO MARTÍNEZ CÓRCOLES	303,423	-	-	0.00

Total percentage of voting rights held by the board of directors	0.15
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Complete the following tables about members of the company's board of directors who hold rights to shares of the company:

Individual or company name of director	Number of direct rights	Indirect rights		Number of equivalent shares	% of total voting rights
		Direct holder	Number of voting rights		
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	2,921,192	MR JOSÉ IGNACIO SÁNCHEZ GALÁN	2,921,192	2,921,192	0.05
MR FRANCISCO MARTÍNEZ CÓRCOLES	541,862	MR FRANCISCO MARTÍNEZ CÓRCOLES	541,862	541,862	0.00

A.4. State, if applicable, the family, commercial, contractual or corporate relationships between significant shareholders, to the extent known to the company, unless they are immaterial or result from the ordinary course of business:

Related individual or company name	Type of relationship	Brief description

A.5. State, if applicable, the commercial, contractual, or corporate relationships between significant shareholders and the company and/or its group, unless they are immaterial or result from the ordinary course of business:

Related individual or company name	Type of relationship	Brief description

A.6. State whether any private (paracorporate) shareholders' agreements affecting the company pursuant to the provisions of sections 530 and 531 of the Companies Act (*Ley de Sociedades de Capital*) have been reported to the company. If so, briefly describe them and list the shareholders bound by the agreement:

Yes ☐ No ☒

Participants in the private shareholders' agreement	% of share capital affected	Brief description of the agreement

State whether the company is aware of the existence of concerted actions among its shareholders. If so, briefly describe them:

Yes ☐ No ☒

Participants in concerted action	% of share capital affected	Brief description of the concerted action

Expressly state whether any of such agreements, arrangements, or concerted actions have been modified or terminated during the financial year:

Not applicable.

A.7. State whether there is any individual or legal entity that exercises or may exercise control over the company pursuant to section 5 of the Securities Market Act (*Ley del Mercado de Valores*). If so, identify it:

Yes ☐ No ☒

Individual or company name
Comments

A.8. Complete the following tables about the company's treasury shares:

As of year-end:

Number of direct shares	Number of indirect shares (*)	Total % of share capital
75,710,149	0	1.198

(*) Through:

Individual or company name of direct holder of the interest	Number of direct shares
Total:	

Explain any significant changes, pursuant to the provisions of Royal Decree 1362/2007, that have occurred during the financial year:

Explain any significant changes
<p>The Company sent to the CNMV three updates to its treasury share position in 2017 as a result of a change in the number of voting rights arising from corporate transactions:</p> <ul style="list-style-type: none"> - notices of direct acquisitions of a total of 21,605,738 shares (0.334%) were provided on 30 January, coinciding with the increase in capital resulting from the "Iberdrola Flexible Dividend" programme. - notices of direct acquisitions of a total of 52,670,619 shares (0.844%) were provided on 1 June, coinciding with the reduction in capital; and - notices of direct acquisitions of a total of 18,424,109 shares (0.292%) were provided on 31 August, coinciding with the increase in capital resulting from the "Iberdrola Flexible Dividend" programme. <p>During financial year 2017, the Company also provided a notice arising from consecutive direct acquisitions of own shares due to said acquisitions exceeding 1% of voting rights since the preceding notice:</p> <ul style="list-style-type: none"> - notices of direct acquisitions of a total of 69,572,560 shares (1.094%) were provided on 4 January 2017.

A.9. Describe the terms and conditions and the duration of the powers currently in force given by the shareholders to the board of directors in order to issue, repurchase, or transfer own shares of the company:

<p>The shareholders acting at the General Shareholders' Meeting held on 28 March 2014 resolved to expressly authorise the Board of Directors, with the power of substitution, pursuant to the Companies Act (<i>Ley de Sociedades de Capital</i>), to carry out the derivative acquisition of the shares of Iberdrola on the following terms:</p> <ol style="list-style-type: none"> Purchases may be made by Iberdrola directly, or indirectly through its subsidiaries. Subsidiaries carrying out regulated activities are excluded pursuant to the provisions of the Electricity Industry Act (<i>Ley del Sector Eléctrico</i>) and the Hydrocarbons Act (<i>Ley de Hidrocarburos</i>). Purchases shall be made by means of a purchase and sale agreement, a swap arrangement, or any other transaction permitted by law. Purchases may be made up to the maximum sum permitted by law (i.e. 10% of the share capital). Purchases may not be made at a higher price than that quoted on the Stock Exchange or at a price lower than the share's nominal value. The authorisation was granted for a period not to exceed five years as from the approval of the resolution. The acquiring company shall establish a restricted reserve in shareholders' equity equal to the amount of the shares of the controlling company recorded under assets. Such reserve shall be maintained for so long as the shares are not transferred or retired, in compliance with the provisions of the Companies Act. <p>The shares, if any, purchased as a result of the aforementioned authorisation could be used for either transfer or retirement or could be applied to the remuneration systems provided for in the Companies Act; added to the foregoing alternatives was the possible development of programmes fostering the acquisition of interests in the Company, such as, for example, dividend reinvestment plans, loyalty bonds or similar instruments.</p> <p>Furthermore, at the General Shareholders' Meeting held on 8 April 2016, the shareholders resolved to authorise the Board of Directors to increase share capital upon the terms and within the limits set forth in section 297.1.b) of the Companies Act, with the power to exclude preemptive rights, limited to a maximum nominal amount of 20% of the share capital.</p>
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A.9.bis Estimated free-float:

	%
Estimated free-float:	80.72

A.10. State whether there are any restrictions on the transfer of securities and/or any restrictions on voting rights. In particular, disclose the existence of any restrictions that might hinder a takeover of the company through the acquisition of its shares in the market.Yes ☒ No ☐

Description of restrictions
<p>Those having an interest equal to or greater than 3% of the capital or voting rights of two or more companies that have the status of Principal Operator in certain markets or sectors (including the generation and supply of electricity) may not exercise rights in excess of such percentage in more than one entity.</p> <p>Article 29.2 of the By-Laws provides that no shareholder may cast a number of votes greater than those corresponding to shares representing 10% of the share capital.</p> <p>According to article 28, a shareholder may not exercise their right to vote at the General Shareholders' Meeting if it deals with a resolution intended to: (a) relieve the shareholder of an obligation or grant the shareholder a right; (b) provide the shareholder with any kind of financial assistance, including the provision of guarantees in favour thereof; or (c) release the shareholder, if a director, from obligations arising from the duty of loyalty as provided by law.</p> <p>Article 50 of the By-Laws provides that the by-law restrictions against the exercise of voting rights by shareholders affected by conflicts established in article 28 above and the limitation on the maximum number of votes that may be cast by a single shareholder contained in sections 2 and 4 of article 29 above shall be deprived of effect upon the occurrence of certain circumstances in the case of a takeover bid.</p> <p>Furthermore, section 527 of the Companies Act provides that at listed companies (<i>sociedades anónimas cotizadas</i>), the by-law provisions that directly or indirectly set, as a general rule, the maximum number of votes that may be cast by the same shareholder, by the companies belonging to the same group or by those acting in concert with the foregoing shall be of no effect when, following a takeover bid, the bidder has reached a percentage that is equal to or greater than 70% of the voting share capital, unless such bidder is not subject to equivalent breakthrough measures or has not adopted them.</p> <p>Pursuant to U.S. law, due to the business carried out by Avangrid, Inc. (a company belonging to the Iberdrola group) in that country, the acquisition of an interest giving rise to the holding of 10% or more of the share capital of Iberdrola will be subject to the prior approval of certain U.S. regulatory authorities.</p>

A.11. State whether the shareholders acting at a general shareholders' meeting have approved the adoption of breakthrough measures in the event of a takeover bid pursuant to the provisions of Law 6/2007.Yes ☐ No ☒

If applicable, explain the approved measures and the terms on which the restrictions will become ineffective.

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A.12. State whether the company has issued securities that are not traded on a regulated market within the European Community.

Yes ☐ No ☒

If applicable, specify the different classes of shares, if any, and the rights and obligations attaching to each class of shares.

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B. GENERAL SHAREHOLDERS' MEETING

B.1. State and, if applicable, describe whether there are differences with the minimum requirements set out in the Companies Act in connection with the quorum needed to hold a valid general shareholders' meeting.

Yes ☒ No ☐

	Quorum % different from that established in section 193 of the Companies Act generally	Quorum % different from that established in section 194 of the Companies Act for the special circumstances described in section 194.
Required quorum upon 1 st call	-	66.67
Required quorum upon 2 nd call	-	60.00

Description of differences
As the only exception to the rules provided for in the Companies Act, article 21.2 of the By-Laws increases the quorum required to hold a valid meeting "in order to adopt resolutions regarding a change in the object of the Company, transformation, total split-off, dissolution of the Company, and the amendment of this section 2", in which case "shareholders representing two-thirds (2/3) of subscribed share capital with voting rights must be in attendance at the first call to the General Shareholders' Meeting, and shareholders representing sixty (60%) per cent of such share capital must be in attendance at the second call".

B.2. State and, if applicable, describe any differences from the rules set out in the Companies Act for the adoption of corporate resolutions:

Yes ☒ No ☐

Describe how they differ from the rules provided by the Companies Act.

	Qualified majority other than that established in section 201.2 of the Companies Act for the cases set forth in section 194.1 of the Companies Act	Other instances in which a qualified majority is required
% established by the entity for the adoption of resolutions	75.00%	75.00%

Describe the differences
Article 52 of the By-Laws provides that all resolutions intended to eliminate or amend the provisions contained in title IV (breakthrough of restrictions in the event of takeover bids), in article 28 (conflicts of interest), and in sections 2 to 4 of article 29 (limitation upon the maximum number of votes that a shareholder may cast), shall require the affirmative vote of three-fourths (3/4) of the share capital present in person or by proxy at a General Shareholders' Meeting.

- B.3. State the rules applicable to the amendment of the by-laws of the company. In particular, disclose the majorities provided for amending the by-laws, and any rules provided for the protection of the rights of the shareholders in the amendment of the by-laws.**

In addition to the provisions of section 285 *et seq.* of the Companies Act, the *By-Laws* of Iberdrola contain articles 21.2 (qualified quorum) and 52 (qualified majority) mentioned in sections B.1 and B.2 above.

- B.4. State the data on attendance at the general shareholders' meetings held during the financial year referred to in this report and those of the prior financial year:**

Attendance data					
Date of general shareholders meeting	% of shareholders present in person	% of shareholders represented by proxy	% absentee voting		Total
			Electronic voting	Other	
08/04/2016	8.00	69.68	0.19	0.04	77.91
31/03/2017	4.33	71.92	0.82	0.13	77.20

- B.5. State whether there are any by-law restrictions requiring a minimum number of shares to attend the general shareholders' meeting.**

Yes ☐ No ☒

Number of shares required to attend the general shareholders' meeting	
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- B.6. Section deleted.**

- B.7. State the address and method for accessing the company's website to access information regarding corporate governance and other information regarding general shareholders' meetings that must be made available to the shareholders through the Company's website.**

www.iberdrola.com > Corporate Governance.

Information regarding past general shareholders' meetings of the Company can be accessed at the same address: www.iberdrola.com > Corporate Governance > General Shareholders' Meeting.

C. STRUCTURE OF THE COMPANY'S MANAGEMENT**C.1. Board of directors****C.1.1. Maximum and minimum number of directors set forth in the by-laws:**

Maximum number of directors	14
Minimum number of directors	9

C.1.2. Complete the following table identifying the members of the board:

Individual or company name of the director	Representative	Type of director	Position on the board	Date of first appointment	Date of last appointment	Election procedure
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	-	EXECUTIVE	CHAIRMAN/CEO	21/05/2001	27/03/2015	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR IÑIGO VÍCTOR DE ORIOI IBARRA	-	OTHER EXTERNAL	DIRECTOR	26/04/2006	08/04/2016	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MS INÉS MACHO STADLER	-	INDEPENDENT	DIRECTOR	07/06/2006	08/04/2016	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR BRAULIO MEDEL CÁMARA	-	INDEPENDENT	DIRECTOR	07/06/2006	08/04/2016	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MS SAMANTHA BARBER	-	INDEPENDENT	DIRECTOR	31/07/2008	08/04/2016	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MS MARÍA HELENA ANTOLÍN RAYBAUD	-	INDEPENDENT	DIRECTOR	26/03/2010	27/03/2015	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR ÁNGEL JESÚS ACEBES PANIAGUA	-	INDEPENDENT	DIRECTOR	24/04/2012	27/03/2015	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MS GEORGINA KESSEL MARTÍNEZ	-	INDEPENDENT	DIRECTOR	23/04/2013	28/03/2014	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MS DENISE MARY HOLT	-	INDEPENDENT	DIRECTOR	24/06/2014	27/03/2015	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR JOSÉ WALFREDO FERNÁNDEZ	-	INDEPENDENT	DIRECTOR	17/02/2015	27/03/2015	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR MANUEL	-	INDEPENDENT	DIRECTOR	17/02/2015	27/03/2015	GENERAL

MOREU MUNAIZ						SHAREHOLDERS' MEETING RESOLUTION
MR XABIER SAGREDO ORMAZA	-	OTHER EXTERNAL	DIRECTOR	08/04/2016	08/04/2016	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR JUAN MANUEL GONZÁLEZ SERNA	-	INDEPENDENT	DIRECTOR	31/03/2017	31/03/2017	GENERAL SHAREHOLDERS' MEETING RESOLUTION
MR FRANCISCO MARTÍNEZ CÓRCOLES	-	EXECUTIVE	DIRECTOR	31/03/2017	31/03/2017	GENERAL SHAREHOLDERS' MEETING RESOLUTION

Total number of directors	14
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State the vacancies on the board of directors during the reporting period:

Individual or company name of director	Class of director at time of vacancy	Date of vacancy
MR SANTIAGO MARTÍNEZ LAGE	Independent director	31/03/2017
MR JOSÉ LUIS SAN PEDRO GUERENABARRENA	Other external	31/03/2017

C.1.3. Complete the following tables about the members of the board and each member's status:

EXECUTIVE DIRECTORS

Individual or company name of director	Position within the company's structure
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	Chairman & CEO
MR FRANCISCO MARTÍNEZ CÓRCOLES	Business CEO

Total number of executive directors	2
Total % of the board	14.29

EXTERNAL PROPRIETARY DIRECTORS

Individual or company name of director	Individual or company name of the significant shareholder represented by the director or that has proposed the director's appointment
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Total number of proprietary directors	0
Total % of the board	

EXTERNAL INDEPENDENT DIRECTORS

Individual or company name of director	Profile
MS INÉS MACHO STADLER	<p>Bilbao, Spain, 1959</p> <p>She is a professor of Economics in the Economics and Economic History Department of Universidad Autónoma de Barcelona and a professor of the Barcelona Graduate School of Economics. She is also a member of the Council of the French Economic Observatory (<i>Observatoire Français des Conjonctures Économiques</i>) (OFCE), and honorary member of the European Economic Association and of the Spanish Economic Association (<i>Asociación Española de Economía</i>).</p> <p>Academic training</p> <p>Degree in Economics from Universidad del País Vasco, Master in Economics from l'École des Hautes Études en Sciences Sociales, and Doctor in Economics (Ph.D.) from the same academic institution and from l'École Nationale de la Statistique et de l'Administration Économique (ENSAE) (Paris, France).</p> <p>Noteworthy experience in the energy and industrial economy sector</p> <p>She has been a member of the International Scientific Advisory Committee of the Basque Centre for Climate Change (bc3) and has served as chair of the Scientific Committee of the 2011 Conference of the Spanish Association for Energy Economics (<i>Asociación Española para la Economía Energética</i>).</p> <p>Noteworthy experience in other industries</p> <p>She has been president of the Spanish Economic Association, coordinator of the National Agency for Quality Evaluation and Accreditation (<i>Agencia Nacional de Evaluación y Prospectiva</i>), and representative at the European Science Foundation, as well as a member-elect of the Council of the European Economic Association and a member of the Executive Committee of the European Association for Research in Industrial Economics. She has been a member of the Advisory Board of the Research Service of Caja de Ahorros y Pensiones de Barcelona, "la Caixa".</p> <p>She has taught at universities in Germany, Belgium, Brazil, Denmark, France, Portugal, and Spain.</p>
MR BRAULIO MEDEL CÁMARA	<p>Marchena, Spain, 1947</p> <p>Braulio is chair of Fundación Bancaria Unicaja and of Hidralia, S.A., and vice-chair of Confederación Española de Cajas de Ahorros (CECA). He is an independent director of the listed company Acerinox, S.A. and a director of Caja de Seguros Reunidos, Compañía de Seguros y Reaseguros, S.A., as well as a Professor of Public Finance at Universidad de Málaga.</p> <p>Academic training</p> <p>Degree in Economics and Business Administration from Universidad Complutense de Madrid and Doctorate in Economics and Business Administration from Universidad de Málaga.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p>

	<p>He has been a member of the board of Compañía Sevillana de Electricidad, S.A., Retevisión, S.A. and Abertis Infraestructuras, S.A.</p> <p>Noteworthy experience in other industries</p> <p>He has been executive chair of Unicaja Banco, S.A. and chair of Ahorro Corporación, S.A., of Federación de Cajas de Ahorros de Andalucía and of CECA, and a member of the board of Centros Comerciales Carrefour, S.A., and has been a member of the governance bodies of the World Savings and Retail Banking Institute and of the European Savings and Retail Banking Group, of which he was vice-chair.</p> <p>He has also served as Deputy Minister for Economy and Finance of the Autonomous Government of Andalusia and as chair of Consejo Andaluz de Colegios de Economistas. He has also been a member of the board of trustees of the following foundations: Tres Culturas del Mediterráneo, El Legado Andalusi, Doñana 21 and CIEDES (<i>Centro de Investigaciones Estratégicas y Desarrollo Económico y Social</i>).</p>
MS SAMANTHA BARBER	<p>Dunfermline, Scotland, 1969</p> <p>She is chair of Scottish Ensemble, vice-chair of Scotland's 2020 Climate Group, and member of the Board of Scottish Water and its Remuneration Committee, of the GlobalScot Network and of the Advisory Board for the Imperial College London MBA. She also performs advisory and business coaching work.</p> <p>Academic training</p> <p>Bachelor of Arts in Applied Foreign Languages and European Politics from the University of Northumbria, Newcastle (England, United Kingdom) and Post-Graduate degree in EU Law from the University of Nancy (France).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has been a member of the Advisory Council of Scottish Power following the integration of the Scottish company into the Iberdrola group.</p> <p>Noteworthy experience in other industries</p> <p>She has been a consultant within the European Parliament, where she provided support to the Economic and Monetary Affairs Committee, a board member of Business for Scotland, and the chief executive of Scottish Business in the Community.</p> <p>She has also been a member of the Advisory Board of Breakthrough Breast Cancer and of the Board of Directors of Right Track Scotland, an organisation dedicated to advancing educational, training, and employment opportunities for youths at risk of social exclusion.</p> <p>She was chosen as one of the "Top 100 Women to Watch" according to the FTSE list and Cranfield University, and was a finalist and earned second place in the annual Director of the Year Awards 2012 of IoD Scotland NED.</p>
MS MARÍA HELENA ANTOLÍN RAYBAUD	<p>Toulon, France, 1966</p> <p>She is vice-chair of the Board of Directors and member of the Management Committee of Grupo Antolín Irausa, S.A. She is also president of the Spanish Association of Automotive Equipment and Component Manufacturers (<i>Asociación Española de Fabricantes de Equipos y Componentes para Automoción</i>) (Sernauto), vice president of Excellence in Management Club (<i>Club de Excelencia en la Gestión</i>), and a board member of France Foreign Trade (<i>Comercio Exterior de Francia</i>), Spain section.</p> <p>Academic training</p> <p>Degree in International Business and Business Administration from Eckerd College, St. Petersburg, Florida (United States of America), and a Master of Business Administration from Anglia University, Cambridge (United Kingdom) and from Escuela Politécnica de Valencia (Spain).</p>

	<p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has served as an independent director of Iberdrola Renovables, S.A. and a member of its Related-Party Transactions Committee.</p> <p>She has been in charge of the corporate Industrial and Strategy Divisions of Grupo Antolín Irausa, S.A., where she has also been a director of Human Resources and the head of Total Quality for the Group.</p>
MR ÁNGEL JESÚS ACEBES PANIAGUA	<p>Ávila, Spain, 1958</p> <p>He is chairman and founding partner of Grupo MA Abogados Estudio Jurídico, S.L., as well as sole director and professional partner of Doble A Estudios y Análisis, S.L.P. He is also a member of the Advisory Board of Wolters Kluwer España, and a trustee of Fundación para el Análisis y Estudios Sociales (FAES) and of Fundación Universitaria de Ávila, UCAV.</p> <p>Academic training</p> <p>Degree in Law from Universidad de Salamanca.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>As a lawyer, he has advised companies in the energy and technological/industrial sectors, among others. He also has significant knowledge of the regulatory area due to his work as a member of the Council of Ministers of the Government of Spain, a senator, and a national deputy.</p> <p>Noteworthy experience in other industries</p> <p>He has served on the board of Caja Madrid Cibeles, S.A., which manages the investments of Grupo Caja Madrid in other companies with activities in the financial and insurance sectors (like Mapfre Internacional, S.A.) as well as the retail banking sector outside of Spain. After the public listing of Bankia, S.A., he was a member of the board of Banco Financiero y de Ahorros, S.A. ("BFA"), chairing its Audit and Compliance Committee.</p> <p>In the institutional arena, he has been Minister for Public Administrations, Minister of Justice and Minister of the Interior of the Spanish Government.</p>
MS GEORGINA KESSEL MARTÍNEZ	<p>Mexico City, Mexico, 1950</p> <p>She is an independent director and chair of the Audit Committee of Grupo Financiero Scotiabank Inverlat, and a partner of Spectron E&I, as well as a member of the Business Board of Universidad de las Américas Puebla (UDLAP).</p> <p>Academic training</p> <p>Holder of a degree in Economics from Instituto Tecnológico Autónomo de México and of a Master's and Doctor's degree in Economics from Columbia University (New York).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has been chair of the Energy Regulatory Commission (<i>Comisión Reguladora de Energía</i>) and Energy Secretary of the Government of Mexico.</p> <p>She has also been chair of the Board of Directors of Pemex (Petróleos Mexicanos) and of the Board of Directors of the Federal Electricity Commission (<i>Comisión Federal de Electricidad</i>) (CFE).</p> <p>She has participated in the Energy Council of the World Economic Forum and in the United Nations Organization Secretary General's advisory group (Sustainable Energy for All).</p> <p>Noteworthy experience in other industries</p> <p>She has been an adviser to the chair of the Federal Competition Commission (<i>Comisión Federal de Competencia</i>), head of the Quasi-Autonomous Non-Governmental Organisations Investment and Divestment Unit (<i>Unidad de Inversiones y Desincorporación de Entidades Paraestatales</i>) of the Office of</p>

	<p>the Secretary of Finance and Public Credit of Mexico, general manager of the National Mint of Mexico (<i>Casa de Moneda de México</i>), member of the boards of Nacional Financiera (Nafinsa) and of Banco Nacional de Comercio Exterior (Bancomext), and general manager of Banco Nacional de Obras y Servicios Públicos.</p> <p>In the academic field, she has been a professor in the Economics Department of Instituto Tecnológico Autónomo de México, deputy chair of the course towards a Degree in Economics, and chair of the Alumni Association. She was also holder of the Quintana Chair for Research in International Trade and is the author of many papers and specialised articles.</p>
MS DENISE MARY HOLT	<p>Vienna, Austria, 1949</p> <p>She is an independent director and member of the Risk Committee of HSBC Bank plc., chair and independent director of M&S Financial Services Ltd., independent director and member of the Quality and Safety and Compensation Committees of the Board of Directors of Nuffield Health, as well as a member of the Board of the University of Sussex.</p> <p>Academic training</p> <p>Degrees in Spanish Philology, French Philology, and Political Sciences from the University of Bristol and Doctor of Laws from the same university (England, United Kingdom).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>She has been an independent director of Scottish Power Renewable Energy Ltd. and of Scottish Power Energy Networks Holdings Ltd.</p> <p>Noteworthy experience in other industries</p> <p>In her diplomatic career, she has been first secretary of the Embassy of the United Kingdom in Brazil, director of Human Resources, of Migration and of the Overseas Territories at the UK Foreign and Commonwealth Office, and ambassador of the United Kingdom to Mexico, Spain, and Andorra. For her contribution to the British diplomatic service, she was elevated to Dame Commander of the Order of St Michael and St George (DCMG).</p> <p>She has also been chair of the Anglo-Spanish Society and of the Institute of Latin American Studies at the University of London, and has chaired the Nominations Committee of the Alzheimer's Society.</p>
MR JOSÉ WALFREDO FERNÁNDEZ	<p>Cienfuegos, Cuba, 1955</p> <p>He is a partner of Gibson, Dunn & Crutcher and a member of the board of directors of the Council of the Americas and the Center for American Progress.</p> <p>Academic training</p> <p>Degree in History from Dartmouth College (New Hampshire, United States of America), and Juris Doctor from Columbia University (New York, United States of America).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been Assistant Secretary of State for Economic, Energy and Business Affairs for the United States of America. He has also been an independent director of Iberdrola USA, Inc.</p> <p>Noteworthy experience in other industries</p> <p>He has served on the boards of Dartmouth College, NPR Station WBGO-FM, the Middle East Institute, and Ballet Hispánico of New York and of non-governmental institutions such as Acción Internacional. He has also been the State Department's representative on the Committee on Foreign Investment in the United States.</p> <p>In addition, he was named one of the "World's Leading Lawyers" by</p>

	Chambers Global for his M&A work, an “Expert” by the International Financial Law Review, one of the “World’s Leading Privatization Lawyers” by Euromoney, and “Embajador de la Marca España” (Ambassador of the Spain Brand).
MR MANUEL MOREU MUNAIZ	<p>Pontevedra, Spain, 1953</p> <p>He is president of the Seaplace, S.L., sole director of H.I. de Iberia Ingeniería y Proyectos, S.L. and of Howard Ingeniería y Desarrollo, S.L., an independent director of Tubacex, S.A. and a member of the Spanish Committee of Lloyd’s Register EMEA. He is also a professor of the Master’s Programme in Oil (ETSIN) at Universidad Politécnica de Madrid - ETSIN, of the Maritime Master’s Programme of Instituto Marítimo Español and of Universidad Pontificia Comillas.</p> <p>Academic training</p> <p>Doctorate in naval engineering from Escuela Técnica Superior de Ingenieros Navales (ETSIN) of the Universidad Politécnica de Madrid, and Master’s degree in Oceanic Engineering from the Massachusetts Institute of Technology (MIT).</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been an independent director of Iberdrola Renovables, S.A., and an independent director and member of the Audit and Compliance Committee of Gamesa Corporación Tecnológica, S.A.</p> <p>Noteworthy experience in other industries</p> <p>He has been a member of the board of Metalships and Docks, S.A., Neumáticas de Vigo, S.A. and Rodman Polyships, S.A., dean of the Colegio Oficial de Ingenieros Navales y Oceánicos de Madrid y de España and president of the Instituto de Ingeniería de España.</p>
JUAN MANUEL GONZÁLEZ SERNA	<p>Madrid, Spain, 1955</p> <p>He is the chairman of SIRO Group, a business group in the food sector, and a member of the Governing Board of the Spanish Commercial Coding Association (<i>Asociación Española de Codificación Comercial</i>) (AECOC).</p> <p>He is also a founding trustee and chairman of Fundación Grupo SIRO as well as a member of the Executive Committee and trustee of Fundación SERES, an honorary member of the General Assembly of the Spanish Paralympics Committee, a trustee of the Fundación Casa Ducal de Medinaceli, and honorary president of Empresa Familiar de Castilla y León.</p> <p>Academic training</p> <p>Degree in Law, Economics and Business Studies from the Instituto Católico de Administración y Dirección de Empresas (ICADE) of Universidad Pontificia Comillas (Madrid) and a Masters in Business Administration (MBA) from the Escuela de Dirección del Instituto de Estudios Superiores de la Empresa de la Universidad de Navarra (IESE Business School) in Barcelona.</p> <p>Noteworthy experience in the energy and industrial engineering sector</p> <p>He has been an independent director of Iberdrola España, S.A.U. and of Iberdrola Renovables, S.A., as well as chair of the Appointments and Remuneration Committee of the latter company.</p> <p>Noteworthy experience in other industries</p> <p>Apart from the food sector, he also has extensive experience in the finance, venture capital and health sectors: he is a member of the advisory board of Rabobank in Spain and Europe and has been a member of the board of Banco Urquijo Sabadell Banca Privada, S.A. and of Sociedad para el Desarrollo Industrial de Castilla y León, Sociedad de Capital Riesgo, S.A. (SODICAL, now Ade Capital Social, Sociedad de Capital Riesgo de Régimen Común, S.A.). He is also a member of the board of directors of the HM</p>

	Hospitales Group.
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Total number of independent directors	10
Total % of the board	71.43

State whether any director classified as independent receives from the company or its group any amount or benefit for items other than director remuneration, or maintains or has maintained during the last financial year a business relationship with the company or with any company of its group, whether in the director's own name or as a significant shareholder, director, or senior officer of an entity that maintains or has maintained such relationship. If applicable, include a reasoned statement of the director regarding the reasons for which it is believed that such director can carry out the duties thereof as an independent director.

Not applicable.

OTHER EXTERNAL DIRECTORS

Identify the other external directors and describe the reasons why they cannot be considered proprietary or independent directors as well as their ties, whether with the company, its management, or its shareholders:

Individual or company name of director	Reasons	Company, officer, or shareholder with which the director has ties
MR IÑIGO VÍCTOR DE ORIOL IBARRA	A company tied to the director billed the Iberdrola group for services during financial year 2016. The related-party transaction was fully reported in the Annual Corporate Governance Report for financial year 2015.	IBERDROLA
MR XABIER SAGREDO ORMAZA	He is chair of the Board of Trustees of Bilbao Bizkaia Kutxa Fundación Bancaria, the principal shareholder of Kutxabank, S.A. and until April 2017 an indirect holder of a significant interest in the capital of the Company.	KUTXABANK

Total number of other external directors	2
Total % of the board	14.29

State the changes, if any, in the class of each director during the period:

Individual or company name of director	Date of change	Former class	Current class

C.1.4. Complete the following table with information regarding the number of female directors for the last 4 financial years, as well as the status of such directors:

	Number of female directors				% of total directors of each class			
	Year t	Year t-1	Year t-2	Year t-3	Year t	Year t-1	Year t-2	Year t-3
Executive	-	-	-	-	-	-	-	-
Proprietary	-	-	-	-	-	-	-	-
Independent	5	5	5	5	50.00	50.00	50.00	50.00
Other external	-	-	-	-	-	-	-	-
Total	5	5	5	5	35.71	35.71	35.71	35.71

C.1.5. Explain any measures adopted to include on the board of directors a number of women that allows for a balanced presence of men and women.

Explanation of measures
<p>The Company's Corporate Governance System, and particularly the <i>Board of Directors Diversity and Director Candidate Selection Policy</i>, entrusts the Appointments Committee with the duty to ensure that when new vacancies are filled or new directors are appointed, the selection procedures are free from any implied bias entailing any kind of discrimination and, in particular, that such procedures do not hinder the selection of female directors. The goals thereof include ensuring that female directors continue to account for at least 30% of the Board of Directors by the year 2020.</p> <p>Five of the fourteen members of the Board of Directors are currently women.</p> <p>On 7 June 2006, the Board of Directors appointed Ms Inés Macho Stadler as independent director on an interim basis to fill a vacancy; such appointment was ratified by the shareholders at the General Shareholders' Meeting held on 29 March 2007, where the shareholders also approved her re-election for a five-year period. On 22 September 2009, Ms Inés Macho Stadler was appointed as lead independent director (<i>consejera coordinadora</i>), which position she has continuously held through the date hereof.</p> <p>At its meeting of 31 July 2008, the Board of Directors resolved to appoint Ms Samantha Barber as an independent director on an interim basis to fill a vacancy; such appointment was ratified by the shareholders at the General Shareholders' Meeting held on 20 March 2009. Ms Barber has also chaired the Corporate Social Responsibility Committee since 24 April 2012.</p> <p>The shareholders at the General Shareholders' Meeting held on 26 March 2010 approved the proposed appointment of Ms María Helena Antolín Raybaud, with the classification of external independent director.</p> <p>On 23 April 2013, Iberdrola's Board of Directors approved the interim appointment of Ms Georgina Kessel Martínez as an external independent director, which appointment was subsequently ratified by the shareholders at the General Shareholders' Meeting held on 28 March 2014. Furthermore, Ms Kessel Martínez was appointed chair of the Audit and Risk Supervision Committee on 17 February 2015.</p> <p>On 24 June 2014, the Board of Directors approved the interim appointment of Ms Denise Mary Holt as an external independent director. This appointment was ratified by the shareholders at the General Shareholders' Meeting held on 27 March 2015.</p> <p>Finally, the Appointments and Remuneration Committee was split into two separate committees on 27 March 2015. The appointment of Ms María Helena Antolín Raybaud and of Ms Inés Macho Stadler as chairs of the Appointments Committee and the Remuneration Committee, respectively, was approved for these purposes.</p> <p>As a result of the foregoing, all consultative committees of the Board of Directors are chaired by women.</p> <p>It should also be noted that the Board of Directors, at its meeting held on 19 December 2017, approved a</p>

Board of Directors Diversity and Director Candidate Selection Policy, the new name of the former *Director Candidate Selection Policy*, which is intended to cause the composition of the Board of Directors to reflect a maximum diversity of skills and viewpoints with special emphasis on issues such as age, gender, disability, training and professional experience. This Policy is available on the corporate website (www.iberdrola.com) where the Activities Report of the Board and of the Committees thereof can also be found. Among other issues, this Report details the professional skills and experience of the directors and is a good example of the application of the Policy.

C.1.6. Explain any measures approved by the appointments committee in order for selection procedures to be free of any implied bias that hinders the selection of female directors, and in order for the company to deliberately search for women who meet the professional profile that is sought and include them among potential candidates:

Explanation of measures
<p>The <i>Board of Directors Diversity and Director Candidate Selection Policy</i> ensures that the proposed appointments of directors are based on a prior analysis of the needs of the Board of Directors. In particular, the candidates must be respectable and qualified persons, widely recognised for their expertise, competence, experience, qualifications, training, availability and commitment to their duties. They must be irreproachable professionals, whose professional conduct and background is aligned with the principles set forth in the Directors' Code of Ethics and the corporate values contained in the Mission, Vision and Values of the Iberdrola group.</p> <p>In the selection of candidates, it also endeavours to ensure a diverse and balanced composition of the Board of Directors overall, such that decision-making is enriched and multiple viewpoints are contributed to the discussion of the matters within its power. To this end, the selection process shall promote a search for candidates with knowledge and experience in the main countries and sectors in which the group does or will do business. The directors must also have sufficient knowledge of the Spanish and English languages to be able to perform their duties.</p> <p>In turn, the Board has entrusted to the Appointments Committee the responsibility of ensuring that when new vacancies are filled or new directors are appointed, the selection procedures are free from any implied bias entailing any kind of discrimination and, in particular, from any bias that might hinder the selection of female directors.</p>

If there are few or no female directors despite any measures adopted, describe the reasons for such result:

Explanation of reasons
Not applicable.

C.1.6.bis Explain the conclusions of the appointments committee regarding verification of compliance with the director selection policy. Particularly explain how said policy is promoting the goal that the number of female directors represents at least 30% of all members of the board of directors by 2020.

The *Board of Directors Diversity and Director Candidate Selection Policy* conforms to the most stringent domestic and international corporate governance practices regarding appointments, seeking diversity of knowledge, experience, origin, nationality and gender within the Board of Directors. The Policy specifies the Company's commitment to eliminate any implied bias that hinders the selection of female directors, who currently represent more than 35% of the members of the Board of Directors, having already exceeded the commitment set out in the policy stating that the number of female directors would represent at least thirty per cent of all members of the Board of Directors by 2020. Finally, the Policy promotes the inclusion within the Board of Directors of candidates with experience on boards of directors of subsidiaries of the Iberdrola group, who thus contribute their knowledge of the Company's business through such subsidiaries.

C.1.7. Explain the form of representation on the board of shareholders with significant holdings.

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C.1.8. Explain, if applicable, the reasons why proprietary directors have been appointed at the proposal of shareholders whose shareholding interest is less than 3% of share capital.

Individual or company name of the shareholder	Reason

State whether there has been no answer to formal petitions for presence on the board received from shareholders whose shareholding interest is equal to or greater than that of others at whose proposal proprietary directors have been appointed. If so, describe the reasons why such petitions have not been answered:

Yes ☐ No ☒

Individual or company name of the shareholder	Explanation

C.1.9. State whether any director has withdrawn from the position as such before the expiration of the director's term of office, whether the director has given reasons to the board and by what means, and in the event that the director gave reasons in writing, describe at least the reasons given thereby:

Name of director	Reason for withdrawal
MR SANTIAGO MARTÍNEZ LAGE	Sole Transitional Provision of the Regulations of the Board of Directors.
MR JOSÉ LUIS SAN PEDRO GUERENABARRENA	Sole Transitional Provision of the Regulations of the Board of Directors.

C.1.10. State any powers delegated to the CEO(s):

Individual or company name of director	Brief description
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	The chairman & chief executive officer, as an individual decision-making body, has all the powers that may be delegated under the law and the <i>By-Laws</i> .

C.1.11. Identify any members of the board who are directors or officers of companies within the listed company's group:

Individual or company name of director	Name of entity within the group	Position	Does he/she have executive duties?
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	SCOTTISH POWER LTD.	Chairman	NO
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	AVANGRID, INC.	Chairman	NO
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	NEOENERGIA, S.A.	Chairman	NO
MR FRANCISCO MARTÍNEZ CÓRCOLES	IBERDROLA ESPAÑA, S.A.	Chairman	NO
MR FRANCISCO MARTÍNEZ CÓRCOLES	IBERDROLA MÉXICO, S.A. DE C.V.	Director	NO

C.1.12. Identify the directors of your company, if any, who are members of the board of directors of other companies listed on official stock exchanges other than those of your group, which have been reported to your company:

Individual or company name of the director	Name of listed company	Position
MR BRAULIO MEDEL CÁMARA	ACERINOX, S.A.	Director
MS GEORGINA KESSEL MARTÍNEZ	GRUPO FINANCIERO SCOTIABANK INVERLAT, S.A. DE C.V.	Director
MS DENISE MARY HOLT	HSBC BANK PLC.	Director
MR MANUEL MOREU MUNAIZ	TUBACEX, S.A.	Director

C.1.13. State and, if applicable, explain whether the regulations of the board have established rules regarding the maximum number of boards of which its directors may be members:

Yes ☒ No ☐

Explanation of rules
Pursuant to the Regulations of the Board of Directors, individuals or legal entities serving as directors in more than five companies, of which no more than three may have shares trading on domestic or foreign stock exchanges, may not be appointed as directors. Positions within holding companies are excluded from the calculation. Furthermore, companies belonging to the same group shall be deemed to be a single company.

C.1.14. Section deleted.**C.1.15. State the overall remuneration of the board of directors:**

Remuneration of the board of directors (thousands of euros)	16,686
Amount of pension rights accumulated by the current directors (thousands of euros)	0
Amount of pension rights accumulated by former directors (thousands of euros)	0

C.1.16. Identify the members of the company's senior management who are not executive directors and state the total remuneration accruing to them during the financial year:

Individual or company name	Position(s)
MR JOSÉ SAINZ ARMADA	Chief Financial and Resources Officer (CFO)
MS SONSOLES RUBIO REINOSO	Director of Internal Audit
MR PEDRO AZAGRA BLÁZQUEZ	Director of Corporate Development
MR JUAN CARLOS REBOLLO LICEAGA	Director of Administration and Control
MR SANTIAGO MARTÍNEZ GARRIDO	Chief Legal Officer

Total senior management remuneration (in thousands of euros)	16,062
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C.1.17. State the identity of the members of the board, if any, who are also members of the board of directors of significant shareholders and/or in entities of their group:

Individual or company name of director	Company name of the significant shareholder	Position

Describe any significant relationships, other than the ones contemplated in the prior item, of the members of the board of directors linking them to significant shareholders and/or companies within their group:

Individual or company name of related director	Individual or company name of related significant shareholder	Description of relationship

C.1.18. State whether the regulations of the board have been amended during the financial year:

Yes ☒ No ☐

Description of amendments
<p>Set out below are the main amendments to the Regulations of the Board of Directors during financial year 2017:</p> <ul style="list-style-type: none"> – The powers of the Board of Directors are updated to refer to its duties regarding the definition of the group's organisational model and the supervision of compliance and development thereof, and those regarding the appointment, removal and establishment of the basic terms of the contracts with officers are clarified. – References to the <i>Activities Report of the Board of Directors and of the Committees thereof</i> are added, particularly including the powers of the consultative committees. – A provision is included to the effect that communications and forms that the directors must send to the Company are generally sent through the directors' website, giving these communications the same effects as if signed copies were sent. – The definition of the position of senior officer (<i>alto directivo</i>) is homogenised with the one set out in other provisions of the Corporate Governance System. – The functions of the Office of the Secretary of the Board of Directors are strengthened regarding the coordination of the consultative committees as to the meeting schedules, agendas and appearances. – When there is an approval of minutes as a group at the next meeting, a portion of the minutes can be approved at the end of the meeting, provided that the text being approved has been published on the directors' website prior to the meeting or has been read aloud prior to adjournment of the meeting. – There is an inclusion of the best practices contained in the <i>Technical Guide 3/2017 on Audit Committee at Public Interest Entities</i> published by the National Securities Market Commission on 27 June 2017.

C.1.19. State the procedures for the selection, appointment, re-election, evaluation, and removal of directors. Describe the competent bodies, the procedures to be followed, and the criteria applied in each of such procedures.

1. APPOINTMENT AND RE-ELECTION OF DIRECTORS

The appointment, re-election, and removal of directors is within the purview of the shareholders at the General Shareholders' Meeting.

Vacancies that occur may be filled by the Board of Directors on an interim basis until the next General Shareholders' Meeting.

The Appointments Committee must advise the Board of Directors regarding the most appropriate configuration thereof and of its committees as regards size and equilibrium among the various classes of directors existing at any time. This is in any event based on the conditions that candidates for director must meet pursuant to the *Board of Directors Diversity and Director Candidate Selection Policy*.

The following may not be appointed as directors or as individuals representing a corporate director:

- Domestic or foreign companies competing with the Company in the energy industry or other industries, or the directors or senior officers thereof, or such persons, if any, as are proposed by them in their capacity as shareholders.
- Individuals or legal entities serving as directors in more than five companies, of which no more than three may have shares trading on domestic or foreign stock exchanges.
- For purposes of the provisions of the preceding paragraph, positions within holding companies are excluded from the calculation. Furthermore, companies belonging to the same group shall be deemed to be a single company.
- Persons who, during the two years prior to their appointment, have occupied high-level positions in Spanish government administrations that are incompatible with the simultaneous performance of the duties of a director of a listed company under Spanish national or autonomous community law, or positions of responsibility with entities regulating the energy industry, the securities markets, or other

industries in which the Group operates.

Individuals or legal entities that are under any other circumstance of disqualification or prohibition governed by provisions of a general nature, including those that have interests in any way opposed to those of the Company or the Group.

The Board of Directors and the Appointments Committee, within the scope of their powers, shall endeavour to ensure that the candidates proposed are respectable and qualified persons, widely recognised for their expertise, competence, experience, qualifications, training, availability, and commitment to their duties.

It falls upon the Appointments Committee to propose the independent directors, as well as to report upon the proposals relating to the other classes of directors.

If the Board of Directors deviates from the proposals and reports of the Appointments Committee, it shall give reasons for so acting and shall record such reasons in the minutes.

2. EVALUATION OF DIRECTORS

The Board of Directors annually evaluates: (i) its operation and the quality of its work; (ii) the performance of their duties by the chairman of the Board of Directors, by the CEO and by the Business CEO, based on the report submitted thereto by the Appointments Committee; and (iii) the operation of its committees, in view of the report submitted thereto by such committees. For such purpose, the chairman of the Board of Directors shall organise and coordinate the aforementioned evaluation process with the chair of each committee. The following section reports on the evaluation process during financial year 2017.

3. REMOVAL OF DIRECTORS

Directors "shall serve in their position for a term of four (4) years, so long as the shareholders acting at the General Shareholders' Meeting do not resolve to remove them and they do not resign from their position".

The Appointments Committee shall inform the Board of Directors regarding proposed removals due to breach of the duties inherent to the position of director or due to a director becoming affected by supervening circumstances of mandatory resignation or withdrawal. In addition, the Committee may propose the removal of directors in the event of disqualification, structural conflict of interest, or any other reason for resignation or withdrawal, pursuant to law or the Company's Corporate Governance System.

The Board of Directors may propose the removal of an independent director before the passage of the period provided for in the By-Laws only upon sufficient grounds, evaluated by the Board of Directors after a report from the Appointments Committee, or as a consequence of takeover bids, mergers, or other similar corporate transactions resulting in a significant change in the structure of the Company's share capital, as recommended by the Good Governance Code of Listed Companies.

C.1.20 Explain the extent to which the self-evaluation of the board has given rise to significant changes in its internal organisation and regarding the procedures applicable to its activities:

Description of amendments
<p>The Iberdrola group has an on-going commitment to the development of its corporate governance. In order to continue to permanently improve, Iberdrola evaluates the operation of its governance bodies on an annual basis, and based on the conclusions obtained, identifies the principal areas of work for the coming year.</p> <p>More than 95% of the work areas defined in the evaluation process from the prior year were met during 2017. Specifically, significant advancements were made in the following areas:</p> <ol style="list-style-type: none"> Renewal of the composition of governance bodies: <ul style="list-style-type: none"> Strengthening of the checks-and-balances system with the appointment of Mr Francisco Martínez Córcoles as Business CEO (<i>consejero-director general de Negocios</i>). Maintenance of a high percentage of independent directors (71%) after the appointment of Mr Juan Manuel González Serna as independent director. Update and new name of the <i>Board of Directors Diversity and Director Candidate Selection</i>

Policy.

2. Operation:

- Conformance of the Audit and Risk Supervision Committee and the Company's Corporate Governance System to the recommendations contained in Technical Guide 3/2017 on audit committees at public-interest entities published by the National Securities Market Commission.
- Adaptation of the training programmes for the directors to their own needs and to critical areas of the market and improvement of the orientation programme for new directors.
- Development and approval of an annual work plan for each of the consultative committees.
- Expansion of the evaluation to include the opinion of the directors regarding the operation of the consultative committees.
- Holding of several meetings of the Board of Directors in Scotland and of the Executive Committee in Mexico.

3. Remuneration:

- Publication of the weighting of each group of targets in the annual variable remuneration of the executive directors.
- Inclusion of clawback clauses in the 2017-2019 Strategic Bonus.

4. Transparency and stakeholder engagement:

- Measurement of the group's social contribution through the *Iberdrola group's economic, social and environmental impact on the world* report, prepared by an external expert.
- Update of the *Stakeholder Relations Policy* and of the *Policy on Respect for Human Rights*.

C.1.20 bis Describe the process of self-evaluation and the areas evaluated by the board of directors, as it may be assisted by an external consultant, regarding diversity in its composition and powers, the operation and composition of its committees, the performance of the chairman of the board and chief executive officer, and the performance and contribution of each director.

The Board of Directors evaluates its performance on an annual basis, and on 24 October 2017 it approved the commencement of the process of evaluation of the Board of Directors itself, the Executive Committee, its consultative committees, the chairman & CEO, the Business CEO and the other directors. The evaluation of the chairman & CEO was led by the lead independent director. The process concluded at the meeting of the Board of Directors held on 20 February 2018, which approved the results of the evaluation of financial year 2017 and the Continuous Improvement Plan for financial year 2018.

In order to align the Company with best international practices, it was decided to hire PricewaterhouseCoopers Asesores de Negocios, S.L. ("PwC") as an external adviser in the evaluation process.

The evaluation process verifies compliance with legal provisions and the Company's Corporate Governance System. It also includes a comparative analysis with more than 20 domestic and international companies and monitors the most advanced corporate governance trends. In addition, it evaluates the achievement of the areas of work identified in the evaluation from the prior year.

The evaluation also serves as an instrument to perfect corporate governance practices, as it allows for identification of opportunities for improvement that are specified in the Continuous Improvement Plan.

The conclusions of the evaluation process reflect absolute compliance with the indicators relating to mandatory legal rules and regulations and an alignment of more than 90% with the latest international trends and with the application of the areas for improvement identified during prior years.

The Continuous Improvement Plan 2018 deriving from the evaluation process focuses on continuing to advance in four areas, principally:

1. Supervision of critical issues like risks arising from climate change and the group's actions having an impact on the Social Dividend.
2. Continued evolution in the composition of the Board of Directors, improving the rationale for the

proposed appointments of new directors.

3. Progress in shareholder engagement and in the information published on issues discussed with the shareholders.
4. Continue the comparison of market trends on remuneration and transparency in remuneration.

C.1.20 *ter* List any business relationships of the consultant or any company of its group with the company or any company of its group.

The business relationships of the consultant and the companies of its group with the Company and the group in 2017 came to the aggregate amount of 10.7 million euros, and were mainly focused on the following:

- Support in the tax area.
- Advice on systems.
- Support to the Board and to the Secretary of the Board of Directors.
- Expert reports.
- Pensions.

C.1.21. State the circumstances under which the resignation of directors is mandatory.

Directors must submit their resignation from the position and formally resign from their position upon the occurrence of any of the instances of disqualification from or prohibition against performing the duties of director provided by law or by Iberdrola's Corporate Governance System.

In this connection, the Regulations of the Board of Directors provide that the directors must submit their resignation to the Board of Directors in the following cases:

- a) When, due to supervening circumstances, they are involved in any circumstance of disqualification or prohibition provided by law or the Corporate Governance System.
- b) When, as a result of any acts or conduct attributable to the director, serious damage is caused to the value or reputation of the Company or there is a risk of criminal liability for the Company or any of the companies of the group.
- c) When they cease to deserve the respectability or to have the capability, expertise, competence, availability or commitment to their duties required to be a director of the Company.

In particular, when the activities carried out by the director, or the companies directly or indirectly controlled by the director, or the individuals or legal entities that are shareholders of or related to any of them, or the individual representing a corporate director, may compromise the competence of the director.
- d) When they are seriously reprimanded by the Board of Directors because they have breached any of their duties as directors, by resolution adopted by a two-thirds majority of the directors.
- e) When their continuance in office on the Board of Directors may for any reason, either directly, indirectly, or through persons related thereto, jeopardise the faithful and diligent performance of their duties in furtherance of the corporate interest.
- f) When the reasons why the director was appointed cease to exist and, in particular, in the case of proprietary directors, when the shareholder or shareholders who proposed, requested, or decided the appointment thereof totally or partially sell or transfer their equity interest, with the result that such equity interest ceases to be significant or sufficient to justify the appointment.
- g) When an independent director unexpectedly falls under supervening circumstances that prevent the director from being considered as such pursuant to the provisions of law.

The resignation provisions set forth under f) and g) above shall not apply when, after a report from the Appointments Committee, the Board of Directors believes that there are reasons that justify the director's

<p>continuance in office, without prejudice to the effect that the new supervening circumstances may have on the classification of the director.</p>
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C.1.22. Section deleted.**C.1.23. Are qualified majorities, different from the statutory majorities, required to adopt any type of decision?**Yes ☒ No ☐

If so, describe the differences.

Description of differences
<p>The Regulations of the Board of Directors require a majority of at least two-thirds of the directors present at the meeting in person or by proxy to approve the amendment thereof.</p> <p>The serious reprimand of a director for having breached any of the duties entrusted thereto as director under the Regulations of the Board of Directors requires a majority of two-thirds of the directors.</p>

C.1.24. Explain whether there are specific requirements, other than the requirements relating to directors, to be appointed chairman of the board of directors.Yes ☐ No ☒

Description of requirements

C.1.25. State whether the chair has a tie-breaking vote:Yes ☒ No ☐

Matters on which a tie-breaking vote may be cast
<p>In the event of a tie, the chairman has a tie-breaking vote on any matter unless he becomes subject to a conflict of interest, in which case he must abstain from participating in the deliberation and voting stages of the respective resolution.</p>

C.1.26. State whether the by-laws or the regulations of the board set forth any age limit for directors:Yes ☐ No ☒

Age limit for the chair	-
Age limit for the CEO	-
Age limit for directors	-

C.1.27. State whether the by-laws or the regulations of the Board establish any limit on the term of office for independent directors that is different than the term provided by regulatory provisions:

Yes ☐ No ☒

Maximum number of terms	
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C.1.28. State whether there are formal rules for proxy-voting at meetings of the board of directors, the manner of doing so, and especially the maximum number of proxies that a director may hold, as well as whether any restriction has been established regarding the categories of directors to whom proxies may be granted beyond the restrictions imposed by law. If so, briefly describe such rules.

Pursuant to the By-Laws, all of the directors may cast their vote and give their proxy in favour of another director, provided, however, that non-executive directors may only do so in favour of another non-executive director. The Regulations of the Board of Directors require that directors attend the meetings of the Board of Directors. When directors are unable to attend in person for well-founded reasons, they shall endeavour to give a proxy to another director, to whom they shall give any appropriate instructions, but may not grant a proxy in connection with matters in respect of which they are involved in a conflict of interest.

The proxy granted shall be a special proxy for the Board meeting in question and may be communicated by any means allowing for the receipt thereof.

There is no maximum number of proxies provided per director.

C.1.29. State the number of meetings that the board of directors has held during the financial year. In addition, specify the number of times the board has met, if any, at which the chair was not in attendance. Proxies granted with specific instructions shall be counted as attendance

Number of meetings of the board	9
Number of meetings of the board at which the chair was not in attendance	0

If the chair is an executive director, state the number of meetings held without the presence in person or by proxy of any executive director and chaired by the lead independent director.

Number of meetings	0
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State the number of meetings held by the different committees of the board of directors during the financial year:

Number of meetings of the Executive Committee	14
Number of meetings of the Audit and Risk Supervision Committee	11
Number of meetings of the Appointments Committee	7
Number of meetings of the Remuneration Committee	8
Number of meetings of the Corporate Social Responsibility Committee	8

C.1.30. State the number of meetings that the board of directors has held during the financial year with the attendance of all of its members. Proxies granted with specific instructions shall be counted as attendance:

Number of meetings with the attendance of the directors	9
% in attendance of total votes during the financial year	100%

C.1.31. State whether the annual individual accounts and the annual consolidated accounts that are submitted to the board for approval are previously certified:

Yes ☒ No ☐

Identify, if applicable, the person/persons that has/have certified the annual individual and consolidated accounts of the company for preparation by the board:

Name	Position
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	Chairman & CEO
MR JUAN CARLOS REBOLLO LICEAGA	Director of Administration and Control

C.1.32. Explain the mechanisms, if any, adopted by the board of directors to avoid any qualifications in the audit report on the annual individual and consolidated accounts prepared by the board of directors and submitted to the shareholders at the general shareholders' meeting.

Articles 3 and 6 of the *Regulations of the Audit and Risk Supervision Committee* provide that it shall have the following duties, among others:

- Supervise the process of preparing and presenting regulated financial information relating to the Company, both individual and consolidated with its subsidiaries, reviewing compliance with legal requirements, the proper delimitation of the scope of consolidation and the correct application of accounting standards, and submit recommendations or proposals to the Board of Directors to safeguard the integrity thereof.
- Establish appropriate relationships with the auditor to receive information regarding matters that might entail a threat to the independence thereof, for examination by the Committee, and any other information related to the development of the audit procedure, as well as such other communications as are provided for in the laws on auditing of accounts and in other legal provisions on auditing. The Committee must receive written confirmation from the statutory auditors on an annual basis of their independence in relation to the Company or entities directly or indirectly related thereto, as well as a detailed breakdown of information on additional services of any kind provided to and the corresponding fees received from such entities by such statutory auditors or by persons or entities related thereto, pursuant to the legal provisions governing the auditing of accounts.
- On an annual basis, prior to the audit report, issue a report that will express an opinion on whether the independence of the statutory auditors is compromised, which shall be made available to the shareholders upon the terms set forth in the Regulations for the General Shareholders' Meeting. This report shall contain a reasoned assessment of the provision of each and every one of the additional services other than the legal audit referred to in the preceding point, considered individually and as a whole, and in relation to the rules on independence or the legal provisions regarding the auditing of accounts.
- Report in advance to the Board of Directors regarding the financial information that the Company must disclose on a regular basis because of its status as a listed company; the Committee shall make sure that the interim accounts are prepared in accordance with the same accounting standards as the annual accounts and, for such purpose, it shall consider the appropriateness of a limited

review by the auditor.

- Review the contents of the audit reports on the accounts and of the reports on the limited review of interim accounts, if any, as well as other mandatory reports to be prepared by the auditor, prior to the issuance thereof, in order to avoid qualified reports.
- Evaluate the results of each audit of accounts and supervise the responses of the senior officers to the recommendations thereof.
- Act as a channel of communication between the Board of Directors and the auditors, causing them to hold an annual meeting with the Board of Directors to report thereto on the work performed and the accounting status and risks of the Company.

Article 51 of the *Regulations of the Board of Directors* provides, among other things, that:

- The Board of Directors shall meet with the auditors at least once per year in order to receive information regarding the work performed and regarding the accounting status and risks of the Company.
- The Board of Directors shall use its best efforts to definitively prepare the accounts such that there is no room for qualifications by the auditors. However, when the Board of Directors believes that its opinion must prevail, it shall provide a public explanation of the content and scope of the discrepancy.

Pursuant to the above-cited articles, the Audit and Risk Supervision Committee reports on the financial information of the Company throughout the financial year and prior to the approval thereof by the Board of Directors and its submission to the National Securities Market Commission (*Comisión Nacional del Mercado de Valores*). The reports of the Committee, which the chair thereof presents to the full Board of Directors, are mainly intended to disclose such aspects, if any, as may give rise to qualifications in the audit report of Iberdrola and its consolidated group, making the appropriate recommendations to avoid any such qualifications.

Accordingly, the Committee submitted to the Board of Directors the following reports regarding the annual and half-yearly financial reports and the interim management statements of the Company for financial year 2017:

- Report dated 24 April 2017 on the interim management statement for the first quarter of 2017.
- Report dated 17 July 2017 on the economic/financial report for the first half of 2017.
- Report dated 3 November 2017 on the interim management statement for the third quarter of 2017.
- Report dated 19 February 2018 regarding the annual accounts of Iberdrola and its consolidated group for financial year 2017.

As disclosed in the information about Iberdrola posted on the website of the National Securities Market Commission (www.cnmv.es), the audit reports on the individual and consolidated annual accounts prepared by the Board of Directors have historically been issued without qualifications.

C.1.33. Is the secretary of the board a director?

Yes ☐ No ☒

If the secretary is not a director, complete the following table.

Individual or company name of the secretary	Representative
MR JULIÁN MARTÍNEZ-SIMANCAS SÁNCHEZ	-

C.1.34. Section deleted.

C.1.35. State the mechanisms, if any, used by the company to preserve the independence of auditors, financial analysts, investment banks, and rating agencies.

1. MECHANISMS TO PRESERVE THE INDEPENDENCE OF THE AUDITOR

The *Regulations of the Audit and Risk Supervision Committee* and the *Auditor Contracting and Relations Policy*, contained within the Company's Corporate Governance System, provide that:

- The relations of the Committee with the statutory auditor of the Company shall respect the independence thereof, in accordance with the provisions of the Corporate Governance System.
- The Audit and Risk Supervision Committee shall receive information from the auditor regarding matters that might entail risks to the independence thereof.
- The Committee shall request of the auditor, on an annual basis, a certificate of independence of the firm as a whole and of the team members participating in the process of auditing the annual accounts of the Group, as well as information regarding additional services of any kind provided by the auditors or by persons related thereto pursuant to the provisions of the laws on auditing of accounts. In addition, the auditor shall include in the annual certification that it sends to the Committee a statement in which it reports on compliance with the application of the internal procedures of quality assurance and protection of independence that have been implemented.
- The auditor shall provide to the Committee annual information regarding the profiles and the track record of the persons making up the audit teams of the Company and of the Iberdrola Group, stating the changes in the composition of such teams compared to the preceding financial year.
- The Committee shall issue, on an annual basis and prior to the issuance of the audit report, a report setting forth an opinion on the independence of the auditor. This report shall in any case pass upon the impact on the independence of the auditor of the provision of services additional to auditing and shall attach a reasoned assessment thereof.
- The Committee shall monitor the quality assurance and independence safeguarding internal procedures implemented by the auditor.
- The Committee shall not submit a proposal to the Board of Directors, which in turn shall not submit a proposal to the shareholders at a General Shareholders' Meeting, for appointment of firms as auditor when it has evidence that they are affected by a lack of independence, a prohibition, or pursuant to the law on auditing. In particular, if the fees accrued from the provision of audit services and services other than audit that the Company and any other entity of the Iberdrola Group expect to pay the auditor or audit firm or a member of its network during each of the last three consecutive financial years represent more than fifteen per cent of the total annual income of the auditor or audit firm and of said network.

The Audit and Risk Supervision Committee has also established a restrictive policy on the services provided by the statutory auditor to the Iberdrola group that are susceptible to being authorised.

As regards 2017:

- Iberdrola's statutory auditor appeared on nine occasions before the Audit and Risk Supervision Committee (three by "Ernst & Young" ("EY") and six by "KPMG Auditores, S.L." ("KPMG")) and EY on one occasion before the Board of Directors to report on various matters relating to the audit process. During these appearances, the auditor did not report issues that might put its independence at risk.
- On 15 February 2017 EY sent written confirmation of its independence with regard to the audit of financial information for financial year 2016.
- On 17 July 2017 KPMG sent written confirmation of its independence with regard to the limited review of financial information through 30 June 2017.
- On 19 February 2018 KPMG sent written confirmation of its independence with regard to the audit of financial information for financial year 2016.
- In the aforementioned letters, the corresponding auditor represents that it has implemented the internal procedures necessary to ensure its independence.
- The hiring of the auditor for services other than auditing is authorised in advance by the Committee. The hiring is supported by the respective letters of the partner responsible for the audit confirming the non-existence of restrictions on independence to perform this work.
- In its written confirmation of 19 February 2018, KPMG reported that it had no evidence that any

member of the teams participating in the audit of the financial statements at 31 December 2017 of the significant components of the Iberdrola group had joined as an employee of the Company or of its related companies. The Audit and Risk Supervision Committee believes that these hirings do not affect the independence of the auditor, as they involve professionals with short-term professional experience and who held positions of medium/low responsibility at the audit firm.

- On 19 February 2018 the Committee issued its report to the Board of Directors regarding the independence of the Company's statutory auditor. The Committee concluded that the auditor performed its audit work with independence from the Company or entities related thereto.

2. MECHANISMS TO PRESERVE THE INDEPENDENCE OF FINANCIAL ANALYSTS, INVESTMENT BANKS, AND RATING AGENCIES

The principles which form the basis of the relations of the Company with financial analysts, investment banks, and rating agencies are contained in the Policy regarding Communication and Contacts with Shareholders, Institutional Investors, and Proxy Advisors and are transparency, non-discrimination, truthfulness, and trustworthiness of the information supplied. The Finance and Resource Division, through the Investor Relations Division, manages their requests for information and requests submitted by institutional or retail investors (in the case of retail investors, through the Office of the Shareholder). The Finance and Resource Division gives mandates to investment banks. The Development Division gives the appropriate advisory mandates to investment banks within the scope of its activities, in coordination with the Finance and Resource Division.

The independence of financial analysts is protected by the Investor Relations Division, which ensures the objective, fair, and non-discriminatory treatment thereof.

To actualise the principles of transparency and non-discrimination, always in strict compliance with regulations regarding the Securities Market, the Company has a number of communication channels:

- Personalised assistance for analysts, investors, and rating agencies.
- Publication of the information relating to quarterly results and other specific events, such as those relating to the submission of the Business Prospects or to corporate transactions.
- E-mail through the corporate website (accionistas@iberdrola.com) and a toll-free line for shareholders (+34 900 100 019).
- In-person and broadcasted presentations.
- Release of announcements and news.
- Visits to Company facilities.

C.1.36. State whether the Company has changed the external auditor during the financial year. If so, identify the incoming and the outgoing auditor:

Yes ☒ No ☐

Outgoing auditor	Incoming auditor
Ernst & Young, SA.	KPMG Auditores, S.L.

If there has been any disagreement with the outgoing auditor, provide an explanation thereof:

Yes ☐ No ☒

Description of the disagreement

C.1.37. State whether the audit firm performs other non-audit work for the company and/or its group. If so, state the amount of the fees paid for such work and the percentage they represent of the aggregate fees charged to the company and/or its group:

Yes ☐ No ☒

C.1.38. State whether the audit report on the annual accounts for the prior financial year has observations or qualifications. If so, state the reasons given by the chair of the audit committee to explain the content and scope of such observations or qualifications.

Yes ☐ No ☒

Explanation of reasons

C.1.39. State the consecutive number of years for which the current audit firm has been auditing the annual accounts of the company and/or its group. In addition, state the percentage represented by such number of financial years audited by the current audit firm with respect to the total number of financial years in which the annual accounts have been audited:

	Company	Group
Number of continuous financial years	1	1

	Company	Group
Number of years audited by the current audit firm / Number of years in which the company has been audited (%)	4.00	4.00

C.1.40. State whether there is any procedure for directors to hire external advisory services, and if so, describe it:

Yes ☒ No ☐

Describe the procedure
<p>Pursuant to the Regulations of the Board of Directors, in order to be assisted in the performance of the duties entrusted thereto, any director may request the hiring of legal, accounting, technical, financial, commercial or other expert advisers, whose services shall be paid for by the Company.</p> <p>The assignment must deal with specific issues of certain significance and complexity arising during the performance of the director's duties.</p> <p>The request for an expert to be hired shall be channelled through the secretary of the Board of Directors, who may subject it to the prior approval of the Board of Directors; such approval may be denied in well-founded instances, including the following circumstances:</p> <ul style="list-style-type: none"> a) That it is not necessary for the proper performance of the duties entrusted to the directors. b) That the cost thereof is not reasonable in light of the significance of the issues and the assets and income of the Company. c) That the technical assistance sought may be adequately provided by the Company's own experts

and technical personnel.

- d) That it may entail a risk to the confidentiality of the information that must be made available to the expert.

Furthermore, the Regulations of the Audit and Risk Supervision Committee, the Regulations of the Appointments Committee, the Regulations of the Remuneration Committee and the Regulations of the Corporate Social Responsibility Committee provide that such committees may seek advice from outside professionals, who shall submit their reports directly to the chair of the relevant committee. It shall also be ensured that conflicts of interest do not undermine the independence of any external advice received.

C.1.41. State whether there is any procedure for directors to obtain sufficiently in advance the information required to prepare for meetings of management-level decision-making bodies and, if so, describe it:

Yes ☒ No ☐

Describe the procedure

Section 16 of the General Corporate Governance Policy provides that "the Company has a programme to provide directors with information and updates in response to the need for professionalisation, diversification and qualification of the Board of Directors.

In order to improve their knowledge of the group, presentations are made to the directors regarding the businesses thereof. In addition, a portion of each meeting of the Board of Directors tends to be dedicated to a presentation on economic, legal or political/social issues of importance to the group.

The directors have access to a specific application, the directors' website, that facilitates performance of their duties and the exercise of their right to receive information. This website includes information deemed appropriate for preparation of the meetings of the Board of Directors and the committees thereof in accordance with the agenda, as well as training materials intended for the directors and presentations made to the Board of Directors.

In addition, the directors shall be given access through the directors' website to the minutes of the meetings of the Board of Directors and the committees thereof, as well as to any other information that the Board of Directors decides to include".

Pursuant to the Regulations of the Board of Directors, there shall be an inclusion on the directors' website of such information as is deemed appropriate for preparation of the meetings of the Board of Directors and the committees thereof, in accordance with the agenda included in the calls to meeting, as well as access to materials relating to director training programmes.

In addition, the Regulations of the Board of Directors provide that a director is specifically required to "properly prepare the meetings of the Board of Directors and, if applicable, the meetings of the Executive Committee or of the committees of which the director is a member, for which purposes the director must diligently become apprised of the running of the Company and the matters to be discussed at such meetings".

C.1.42. State whether the company has established any rules requiring directors to inform the company —and, if applicable, resign from their position— in cases in which the credit and reputation of the company may be damaged, and if so provide a detailed description:

Yes ☒ No ☐

Explain the rules

The General Corporate Governance Policy sets out the obligations and duties of the directors, including, as a statement of the duty of loyalty, the duty to submit their resignation to the Board of Directors in the event of supervening disqualification, lack of competence, prohibition against holding office as a director,

and other instances provided for in the Company's Corporate Governance System.

As provided by the Regulations of the Board of Directors, the director must inform the Company of any judicial, administrative or other proceedings instituted against the director which, because of their significance or characteristics, may seriously reflect upon the reputation of the Company. In particular, if a director is subject to investigation or an order for further criminal prosecution upon indictment, or if an order for the commencement of an oral trial is issued against the director for the commission of any of the crimes contemplated in section 213 of the Companies Act, such director shall give notice thereof to the Company, through the chairman of the Board of Directors. In such instance, the Board of Directors shall review this circumstance as soon as practicable and, following a report of the Appointments Committee, shall adopt the decisions it deems fit taking into account the interests of the Company.

In addition, the director must inform the Company of any fact or event that may be relevant to the holding of office as a director.

Directors must also submit their resignation to the Board of Directors and formally resign from their position in the events set forth in the Regulations of this body, particularly:

- a) When, due to supervening circumstances, they are involved in any circumstance of disqualification or prohibition provided by law or the Corporate Governance System.
- b) When, as a result of any acts or conduct attributable to the director, serious damage is caused to the value or reputation of the Company or there is a risk of criminal liability for the Company or any of the companies of the Group.
- c) When they cease to deserve the respectability or to have the capability, expertise, competence, availability, or commitment to their duties required to be a director of the Company.

In particular, when the activities carried out by the director, or the companies directly or indirectly controlled by the director, or the individuals or legal entities that are shareholders of or related to any of them, or the individual representing a corporate director, may compromise the competence of the director.

- d) When they are seriously reprimanded by the Board of Directors because they have breached any of their duties as directors, by resolution adopted by a two-thirds majority of the directors.
- e) When their continuance in office on the Board of Directors may for any reason, either directly, indirectly, or through persons related thereto, jeopardise the faithful and diligent performance of their duties in furtherance of the corporate interest.
- f) When the reasons why the director was appointed cease to exist and, in particular, in the case of proprietary directors, when the shareholder or shareholders who proposed, requested, or decided the appointment thereof totally or partially sell or transfer their equity interest, with the result that such equity interest ceases to be significant or sufficient to justify the appointment.
- g) When an independent director unexpectedly falls under supervening circumstances that prevent the director from being considered as such pursuant to the provisions of law.

In any of the aforementioned instances, the Board of Directors shall request the director to resign from such position and, if applicable, shall propose the director's removal from office to the shareholders at the General Shareholders' Meeting.

By way of exception, the resignation provisions set forth in letters f) and g) above shall not apply if the Board of Directors believes that there are reasons that justify the director's continuance in office, after a report of the Appointments Committee, without prejudice to the effect that the new supervening circumstances may have on the classification of the director.

C.1.43. State whether any member of the board of directors has informed the company that such member has become subject to an order for further criminal prosecution upon indictment or that an order for the commencement of an oral trial has been issued against such member for the commission of any of the crimes contemplated in section 213 of the Companies Act:

Yes ☒ No ☐

Name of director	Criminal case	Comments
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ÁNGEL JESÚS ACEBES PANIAGUA	Alleged crime of false accounting as an independent director of Bankia, S.A.	Commencement of oral criminal trial ordered against various directors of Bankia, S.A., including Mr Acebes Paniagua, on 17 November 2017 by Central Investigative Court (Juzgado Central de Instrucción) number 4 of the National High Court (Audiencia Nacional).

State whether the board of directors has analysed the case. If so, provide a duly substantiated explanation of the decision adopted regarding whether or not the director should remain in office or, if applicable, describe the actions taken by the board of directors through the date of this report or that it plans to take.

Yes ☒ No ☐

Decision made / action taken	Duly substantiated explanation
It is considered that Mr Ángel Acebes meets the criteria set out in the Regulations of the Board of Directors to continue holding the position of director.	Both the Office of the Public Prosecutor (<i>Ministerio Fiscal</i>) and the Fund for the Orderly Restructuring of the Banking Sector (<i>Fondo de Reestructuración Ordenada Bancaria</i>) (FROB) requested dismissal of the case against him.

C.1.44. Describe the significant agreements entered into by the company that go into effect, are amended or terminate in the event of a change in control at the company as a result of a takeover bid, and effects thereof.

Not applicable.

C.1.45. Identify on an aggregate basis and provide a detailed description of the agreements between the company and its management level and decision-making positions or employees that provide for indemnities, guarantee or “golden parachute” clauses upon resignation or termination without cause, or if the contractual relationship is terminated as a result of a takeover bid or other type of transaction.

Number of beneficiaries	34
Type of beneficiary	Executive directors, officers, and employees

Description of agreement
<p>1. EXECUTIVE DIRECTORS</p> <p>Pursuant to the provisions of his contract, the chairman & chief executive officer has the right to receive a severance payment in the event of termination of his relationship with the Company, provided that such termination is not the consequence of a breach attributable thereto or exclusively due to his own decision to withdraw. The amount of the severance payment is three times annual salary. In the case of the Business CEO, the severance is two times annual salary.</p> <p>Furthermore, in consideration for the executive directors' non-compete commitment for a period of between</p>

one and two years, they shall be entitled to severance equal to the remuneration for such period.

2. OFFICERS

Some employment contracts with officers of Iberdrola include specific severance clauses. The purpose of such clauses is to obtain an effective and sufficient level of loyalty for the management of the Company and thus avoid a loss of experience and knowledge that might jeopardise the achievement of strategic objectives, more so for positions deemed to decisively contribute to the creation of value due to the responsibilities thereof. The amount of the severance is determined based on length of service and the reasons for the officer's withdrawal from office, up to a maximum of five times annual salary.

Notwithstanding the foregoing, the Senior Officer Remuneration Policy provides since 2011 that the limit on the amount of the severance under new contracts with senior officers shall be two times their annual salary.

3. EMPLOYEES

The contracts of employees linked to Iberdrola by an ordinary employment relationship do not generally include specific severance clauses and, accordingly, the general provisions of labour law shall apply in the event of termination of the employment relationship.

State whether such agreements must be reported to and/or approved by the decision-making bodies of the company or its group:

	Board of directors	General Shareholders' Meeting
Decision-making body approving the provisions	X	

	Yes	No
Is information about these provisions provided to the shareholders at the general shareholders' meeting?	X	

C.2. Committees of the board of directors

C.2.1. Describe all of the committees of the board of directors, the members thereof, and the proportion of executive, proprietary, independent, and other external directors of which they are comprised:

EXECUTIVE COMMITTEE

Name	Position	Class
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	CHAIRMAN	Executive director
MS INÉS MACHO STADLER	MEMBER	Independent director
MR ÁNGEL JESÚS ACEBES PANIAGUA	MEMBER	Independent director
MR MANUEL MOREU MUNAIZ	MEMBER	Independent director
MS SAMANTHA BARBER	MEMBER	Independent director

% executive directors	20.00
% proprietary directors	0
% independent directors	80.00
% other external	0

Explain the duties assigned to this committee, describe the procedures and rules of organisation and operation thereof, and summarise the most significant activities thereof during the year.

The Executive Committee is assigned all the powers of the Board of Directors, except for those powers that may not be delegated pursuant to legal or by-law restrictions. The chairman of the Board of Directors and the chief executive officer, if any, are members in all cases. The secretary of the Board of Directors acts as secretary of the Committee.

The Executive Committee shall meet as many times as deemed necessary by the chair thereof. It shall also meet when so requested by a minimum of two of the directors forming part thereof.

Resolutions of the Committee shall be adopted by absolute majority of its members who are present at the meeting in person or by proxy.

The duties of this Committee consist of making proposals to the Board of Directors regarding strategic decisions, investments and divestitures that are significant for the Company or the group, assessing their conformity to the budget and the strategic plans and analysing and monitoring business risks. It also provides assistance to the Board of Directors in the ongoing supervision of compliance with the principles governing the organisation and coordination of the group and the strategic goals thereof.

The duties of the Committee are provided in article 38 of the By-Laws and are further developed in article 25 of the Regulations of the Board of Directors.

State whether the composition of the executive committee reflects the participation of the different directors within the board based on their class.

Yes ☒ No ☐

If no, explain the composition of your executive committee

AUDIT AND RISK SUPERVISION COMMITTEE

Name	Position	Class
MS GEORGINA KESSEL MARTÍNEZ	CHAIR	Independent director
MS DENISE MARY HOLT	MEMBER	Independent director
MR JOSÉ WALFREDO FERNÁNDEZ	MEMBER	Independent director
MR XABIER SAGREDO ORMAZA	MEMBER	Other external director

% executive directors	0
% proprietary directors	0
% independent directors	75.00
% other external	25.00

Explain the duties assigned to this committee, describe the procedures and rules of organisation and operation thereof, and summarise the most significant activities thereof during the year.

The Audit and Risk Supervision Committee is an internal informational and consultative body.

A majority of its members shall be independent, and at least one of them shall be appointed taking into account the knowledge and experience thereof in the areas of accounting, audit, and risk management.

The Board of Directors shall appoint a chair of the Committee from among the independent directors forming part thereof, as well as its secretary, who need not be a director.

The members of the Audit and Risk Supervision Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length. The chair shall hold office for a maximum period of four years, after which period the director who has held office as such may not be re-elected until the passage of at least one year from ceasing to act as such.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are provided in article 39 of the By-Laws and are further developed in article 26 of the Regulations of the Board of Directors, as well as in the Regulations of the Audit and Risk Supervision Committee.

Identify the director who is a member of the audit committee and who has been appointed taking into account the director's knowledge and experience in the areas of accounting, audit, or both, and report the number of years that the chair of this committee has held office.

Name of director with experience	MS GEORGINA KESSEL MARTÍNEZ
Number of years during which chair has held the position	3

APPOINTMENTS COMMITTEE

Name	Position	Class
MS MARÍA HELENA ANTOLÍN RAYBAUD	CHAIR	Independent director
MR IÑIGO VÍCTOR DE ORIOL IBARRA	MEMBER	Other external director
MR ÁNGEL JESÚS ACEBES PANIAGUA	MEMBER	Independent director

% executive directors	0
% proprietary directors	0
% independent directors	66.67
% other external	33.33

Explain the duties assigned to this committee, describe the procedures and rules of organisation and operation thereof, and summarise the most significant activities thereof during the year.

The Appointments Committee is an internal informational and consultative body.

A majority of the members of the Appointments Committee must be classified as independent. The Board also appoints the chair thereof from among the independent directors forming part thereof, as well as its secretary, who need not be a director.

The members of the Appointments Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are set out in article 27 of the Regulations of the Board of Directors, as well as in the Regulations of the Appointments Committee.

REMUNERATION COMMITTEE

Name	Position	Class
MS INÉS MACHO STADLER	CHAIR	Independent director
MR IÑIGO VÍCTOR DE ORIOL IBARRA	MEMBER	Other external director
MR JUAN MANUEL GONZÁLEZ SERNA	MEMBER	Independent director

% executive directors	0
% proprietary directors	0
% independent directors	66.67
% other external	33.33

Explain the duties assigned to this committee, describe the procedures and rules of organisation and operation thereof, and summarise the most significant activities thereof during the year.

The Remuneration Committee is an internal informational and consultative body.

A majority of the members of the Remuneration Committee must be classified as independent. The Board

also appoints the chair thereof from among the independent directors forming part thereof, as well as its secretary, who need not be a director.

The members of the Remuneration Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are set out in article 28 of the Regulations of the Board of Directors, as well as in the Regulations of the Remuneration Committee.

CORPORATE SOCIAL RESPONSIBILITY COMMITTEE

Name	Position	Class
MS SAMANTHA BARBER	CHAIR	Independent director
MR BRAULIO MEDEL CÁMARA	MEMBER	Independent director
MR MANUEL MOREU MUNAIZ	MEMBER	Independent director

% executive directors	0
% proprietary directors	0
% independent directors	100.00
% other external	0

Explain the duties assigned to this committee, describe the procedures and rules of organisation and operation thereof, and summarise the most significant activities thereof during the year.

The Corporate Social Responsibility Committee is an internal informational and consultative body.

A majority of the members of the Corporate Social Responsibility Committee must be classified as independent. The Board of Directors shall appoint a chair of the Committee from among the members forming part thereof, as well as its secretary, who need not be a director.

The members of the Corporate Social Responsibility Committee shall be appointed for a maximum term of four years and may be re-elected on one or more occasions for terms of the same maximum length.

A valid quorum shall be established with the attendance at the meeting, in person or by proxy, of a majority of its members, and resolutions shall be adopted by an absolute majority of votes of the members present at the meeting in person or by proxy.

The duties of the Committee are provided in article 41 of the By-Laws and are further developed in article 29 of the Regulations of the Board of Directors, as well as in the Regulations of the Corporate Social Responsibility Committee.

C.2.2. Complete the following table with information regarding the number of female directors comprising the committees of the board of directors for the last four financial years:

Number of female directors

	Financial Year 2017		Financial Year 2016		Financial Year 2015		Financial Year 2014	
	Number	%	Number	%	Number	%	Number	%
Executive Committee	2	40.00	1	20.00	1	20.00	1	20.00
Audit and Risk Supervision Committee	2	66.66	2	66.66	2	66.66	2	50.00
Appointments Committee	1	33.33	1	33.33	1	33.33	1	33.33
Remuneration Committee	1	33.33	1	33.33	1	33.33	1	33.33
Corporate Social Responsibility Committee	1	33.33	1	33.33	1	33.33	2	66.66

C.2.3. Section deleted.

C.2.4. Section deleted.

C.2.5. State, if applicable, the existence of regulations of the board committees, where such regulations may be consulted, and the amendments made during the financial year. Also state if any annual report of the activities performed by each committee has been voluntarily prepared.

1. AUDIT AND RISK SUPERVISION COMMITTEE

The Audit and Risk Supervision Committee has its own Regulations, which may be viewed by interested parties on the Company's website (www.iberdrola.com).

Article 23 of the *Regulations of the Audit and Risk Supervision Committee* provides that, pursuant to the provisions of the *Regulations of the Board of Directors*, the *Activities Report of the Board of Directors and of the Committees thereof*, which shall include information regarding the operation and the activities of the Committee during the preceding financial year, shall be made available to the shareholders and the other stakeholders for purposes of the call to the General Shareholders' Meeting. In particular, the section of the *Activities Report of the Board of Directors and of the Committees thereof* regarding the Committee must allow the shareholders and other interested parties to understand the activities performed by the Committee during the financial year in question.

As to financial year 2017, the Audit and Risk Supervision Committee approved the section corresponding to its report for inclusion in the *Activities Report of the Board of Directors and of the Committees thereof*.

2. APPOINTMENTS COMMITTEE

The Appointments Committee has its own Regulations, which may be viewed by interested parties on the Company's corporate website (www.iberdrola.com).

Article 26 of the *Regulations of the Appointments Committee* provides that, pursuant to the provisions of the *Regulations of the Board of Directors*, the *Activities Report of the Board of Directors and of the Committees thereof*, which shall include information regarding the operation and the activities of the Committee during the preceding financial year, shall be made available to the shareholders and the other stakeholders for purposes of the call to the General Shareholders' Meeting. In particular, the section of the *Activities Report of the Board of Directors and of the Committees thereof* regarding the Committee must allow the shareholders and other interested parties to understand the activities performed by the Committee during the financial year in question.

As to financial year 2017, the Appointments Committee approved the section corresponding to its report

for inclusion in the *Activities Report of the Board of Directors and of the Committees thereof*.

3. REMUNERATION COMMITTEE

The Remuneration Committee has its own Regulations, which may be viewed by interested parties on the Company's corporate website (www.iberdrola.com).

Article 22 of the *Regulations of the Remuneration Committee* provides that within three months following the end of the Company's financial year, the Committee shall submit to the Board of Directors for approval a report detailing its work for the financial year covered by the report.

As to financial year 2017, the Remuneration Committee approved the section corresponding to its report for inclusion in the *Activities Report of the Board of Directors and of the Committees thereof*.

4. CORPORATE SOCIAL RESPONSIBILITY COMMITTEE

The Corporate Social Responsibility Committee has its own Regulations, which may be viewed by interested parties on the Company's corporate website (www.iberdrola.com).

Article 22 of the *Regulations of the Corporate Social Responsibility Committee* provides that, pursuant to the provisions of the *Regulations of the Board of Directors*, the *Activities Report of the Board of Directors and of the Committees thereof*, which shall include information regarding the operation and the activities of the Committee during the preceding financial year, shall be made available to the shareholders and the other stakeholders for purposes of the call to the General Shareholders' Meeting. In particular, the section of the *Activities Report of the Board of Directors and of the Committees thereof* regarding the Committee must allow the shareholders and other interested parties to understand the activities performed by the Committee during the financial year in question.

As to financial year 2017, the Corporate Social Responsibility Committee approved the section corresponding to its report for inclusion in the *Activities Report of the Board of Directors and of the Committees thereof*.

An Activities Report of the Board of Directors and of the Committees thereof for financial year 2017 is published for purposes of the call to the General Shareholders' Meeting.

This innovation is based on the Company's commitment to good corporate governance practices and transparency and to the growing demand by shareholders and proxy advisors for companies to report on the activities of their governance bodies.

C.2.6. Section deleted.

D. RELATED-PARTY TRANSACTIONS AND INTRAGROUP TRANSACTIONS

D.1. Explain any procedures for approving related-party and intragroup transactions.

Procedure for the approval of related-party transactions

The Regulations of the Board of Directors provide that:

1. Any transaction by the Company or the companies forming part of its Group with directors, with shareholders that directly or indirectly own a shareholding interest that is equal to or greater than that legally regarded as significant at any time or that have proposed or caused the appointment of any of the directors of the Company, or with the respective related persons ("Related-Party Transactions"), shall be subject to the approval of the Board of Directors, or in urgent cases, of the Executive Committee, following a report from the Appointments Committee.
2. In the event that authorisation has been granted by the Executive Committee due to the urgency of the matter, the Executive Committee shall give notice thereof to the Board of Directors at its next

meeting in order for it to be ratified.

3. The authorisation of Related-Party Transactions must be approved by the shareholders at the General Shareholders' Meeting in the instances provided by law, and particularly if it relates to a transaction having a value of more than ten per cent of the corporate assets.
4. As an exception, Related-Party Transactions with any of the listed companies of the Group (as is the case of Avangrid, Inc.) or with the subsidiaries thereof shall not be subject to the provisions of article 43, provided that they have corporate governance rules similar to those of the Company.
5. The execution of a Related-Party Transaction puts the director engaging in said transaction or who is related to the person engaging in the transaction in a conflict of interest, for which reason the provisions of article 39 of the Regulations of the Board of Directors shall apply, to the extent applicable.
6. The Board of Directors, through the Appointments Committee, shall ensure that Related-Party Transactions are carried out under arm's length conditions and with due observance of the principle of equal treatment of shareholders in the same situation. In the case of transactions to be carried out by companies of the Group, the scope of authorisation of the Board of Directors, or that of the Executive Committee, if applicable, referred to in the preceding sections, shall be circumscribed to the verification of compliance with such particulars.
7. In the case of customary and recurring Related-Party Transactions in the ordinary course of business, it shall be sufficient for the Board of Directors to give prior generic approval of the kind of transaction and of the conditions for performance thereof, following a report from the Appointments Committee.
8. If a Related-Party Transaction entails the successive performance of different transactions, of which the second and subsequent transactions are mere acts of execution of the first transaction, the provisions of article 43 shall only apply to the first transaction carried out.
9. The authorisation shall not be required in connection with transactions that simultaneously satisfy the following three conditions: that they are conducted under contracts whose terms and conditions are standardised and apply on an across-the-board basis to a large number of customers; that they are conducted at prices or rates established generally by the party acting as supplier of the goods or services in question, and that the amount thereof does not exceed one per cent of the consolidated annual income of the Group.
10. The Company shall report Related-Party Transactions in the Half-Yearly Financial Report and in the Annual Corporate Governance Report, in the cases and to the extent provided by law. Likewise, the Company shall include in the notes accompanying the annual accounts information regarding the transactions by the Company or by the companies of the Group with the directors and with those persons who act for the account of the latter when such transactions are conducted other than in the ordinary course of the Company's business or other than under normal arm's length conditions.

To this end, the directors must give written notice to the secretary of the Board of Directors, on a semi-annual basis, within the first week of January and July of each year, regarding the Related-Party Transactions that they have engaged in. If they are not carried out, the directors shall so report. The secretary of the Board of Directors shall send a notice to the directors on a semi-annual basis requesting the appropriate information that must be sent to the Company.
11. The notice must include the following information: the nature of the transaction; the date on which the transaction originated; the conditions and periods for payment; the name of the person who carried out the transaction and the relationship, if any, with the director; the amount of the transaction; and other aspects, such as pricing policies, guarantees given and received, and any other feature of the transactions that allows for a proper assessment thereof, particularly such information as allows for verification that it has been carried out on arm's length conditions and in compliance with the principle of equal treatment.
12. The secretary of the Board of Directors shall prepare a register of Related-Party Transactions. The information set forth in such register shall be made available to the Compliance Unit when it so requests, and shall also periodically be made available to the Audit and Risk Supervision Committee through the Internal Audit Area Division.

D.2. Describe those transactions that are significant due to the amount or subject-matter thereof between the company or entities of its group and the company's significant shareholders:

Individual or company name of the significant shareholder	Individual or company name of the company or entity within its group	Nature of the relationship	Type of transaction	Amount (thousands of euros)
QATAR INVESTMENT AUTHORITY	IBERDROLA, S.A.	Corporate	Dividends and other distributed benefits	18,948

D.3. Describe those transactions that are significant due to the amount or subject-matter thereof between the company or entities of its group and the company's directors or officers:

Individual or company name of directors or officers	Individual or company name of related party	Relation	Nature of the relationship	Amount (thousands of euros)

D.4. Report the significant transactions made by the company with other entities belonging to the same group, provided they are not eliminated in the preparation of the consolidated accounts and they are not part of the ordinary course of business of the company as to their purpose and conditions.

In any case, report any intragroup transaction with entities established in countries or territories considered to be tax havens:

Name of the entity within the group	Brief description of the transaction	Amount (thousands of euros)
SIEMENS GAMESA RENEWABLE ENERGY GROUP	Purchase of material assets	365,038
SIEMENS GAMESA RENEWABLE ENERGY GROUP	Receipt of services	55,445
SIEMENS GAMESA RENEWABLE ENERGY GROUP	Purchase of goods (finished or in progress)	1,836

D.5. State the amount of transactions with other related parties.

Amount (thousands of euros)	
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D.6. Describe the mechanisms used to detect, determine, and resolve potential conflicts of interest between the company and/or its group, and its directors, officers, or significant shareholders.

1. CONFLICTS OF INTEREST BETWEEN THE COMPANY AND THE DIRECTORS

Pursuant to the Regulations of the Board of Directors, a conflict of interest shall be deemed to exist in those situations provided by law, particularly when the interests of the director, either for their own or another's account, directly or indirectly conflict with the interest of the Company or of companies within the Group and their duties to the Company. An interest of a director shall exist when a matter affects the director or a person related thereto or, in the case of a proprietary director, when it also affects the shareholder or shareholders that proposed or caused the appointment thereof or persons directly or indirectly related thereto.

Such article contains a list of persons deemed to be related for such purposes, distinguishing between an individual and a corporate director.

Conflicts of interest shall be governed by the following rules:

- a) Communication: once a director becomes aware of being in a situation of conflict of interest, the director must give written notice of the conflict to the Board of Directors, in the person of the secretary thereof. The secretary shall periodically submit a copy of the notices received to the Appointments Committee, in the person of the secretary thereof.

The notice shall contain a description of the situation giving rise to the conflict of interest, with a statement as to whether it is a direct conflict or an indirect conflict through a related person, in which case the latter person must be identified.

The description of the situation must describe, as applicable, the subject matter and the principal terms of the transaction or the planned decision, including the amount thereof or an approximate financial assessment thereof. If the situation giving rise to the conflict of interest is a Related-Party Transaction (as this term is defined in article 43), the notice shall also identify the department or person of the Company or of any of the companies of the Group with which the respective contacts were made.

Any question as to whether a director might be involved in a conflict of interest must be forwarded to the secretary of the Board of Directors, and the director must refrain from taking any action until it is resolved.

- b) Abstention: if the conflict arises from an operation, transaction, or circumstance that requires any kind of operation, report, decision, or acceptance, the director must refrain from taking any action until the Board of Directors studies the case and adopts and informs the director of the appropriate decision.

To this end, the director shall leave the meeting during the deliberation and voting on those matters in which the director is affected by a conflict of interest, and shall not be counted in the number of members attending for purposes of the calculation of a quorum and majorities.

At each meeting of the Board of Directors and of the committees thereof, the secretary reminds the directors, before dealing with the agenda, of the abstention rule established in this article.

- c) Transparency: whenever required by law, the Company shall report any cases of conflict of interest in which the directors have been involved during the financial year in question and of which the Company is aware by reason of notice given thereto by the director affected by such conflict or by any other means.

However, if the conflict of interest situation is, or may reasonably be expected to be, of a structural and permanent nature, it shall be deemed that there is a loss of the competence required to hold office. In this regard, the Regulations of the Board of Directors provide that a loss of competence is an event of resignation, removal and cessation of the director.

2. CONFLICTS OF INTEREST BETWEEN THE COMPANY AND THE SENIOR OFFICERS AND OTHER PERSONS SUBJECT TO CONFLICT OF INTEREST RULES

The Procedure for Conflicts of Interest and Related-Party Transactions with Senior Officers subjects these kinds of conflicts to the same rules of communication, abstention, and transparency.

3. CONFLICTS OF INTEREST BETWEEN THE COMPANY AND SIGNIFICANT SHAREHOLDERS

Transactions between companies forming part of the group with significant shareholders or shareholders that have proposed the appointment of any of the directors and their respective related persons are also dealt with in the Regulations of the Board of Directors mentioned in section D.1. They must be carried out on arm's-length conditions and be previously approved by the Board of Directors. Thus, approval by the shareholders at a General Shareholders' Meeting shall be required if the value of the transaction exceeds 10% of the corporate assets, and all transactions shall be reported in the Annual Corporate Governance Report and in the Annual Financial Report.

4. CONFLICTS OF INTEREST WITH OTHER EMPLOYEES

The Code of Ethics, which dedicates a specific section to conflicts of interest, applies to all professionals within the group, regardless of rank.

D.7. Is more than one company of the group listed in Spain?

Yes ☐ No ☒

Identify the subsidiaries listed in Spain:

Listed subsidiaries

State whether they have publicly and accurately defined their respective areas of activity and any possible business relationships among them, as well as those between the listed dependent company and the other companies within the group:

Yes ☐ No ☐

Describe the possible business relationships between the parent company and the listed subsidiary, and between the subsidiary and the other companies within the group

--

Identify the mechanisms established to resolve possible conflicts of interest between the listed subsidiary and the other companies within the group:

Mechanisms for the resolution of possible conflicts of interest

E. RISK CONTROL AND MANAGEMENT SYSTEMS

E.1. Explain the scope of the company's Risk Management System, including the system for managing tax risks.

The General Risk Control and Management Policy and the Risk Policies that further develop such risks apply to all companies over which the Company has effective control, within the limits established by the laws applicable to the regulated activities carried out by the group in the various countries in which it operates.

The *General Risk Control and Management Policy* and the basic principles underpinning it are implemented by means of a comprehensive risk control and management system, supported by a Corporate Risk Committee and based upon a proper definition and allocation of duties and responsibilities at the operating level and upon supporting procedures, methodologies, and tools, suitable for the various stages and activities within the system, including:

- a) The ongoing identification of significant risks and threats based on their possible impact on key management objectives and the accounts (including contingent liabilities and other off-balance sheet risks).
- b) The analysis of such risks, both at each corporate business or function and taking into account their combined effect on the Group as a whole.
- c) The establishment of a structure of policies, guidelines and limits, and risk indicators, as well as of the corresponding mechanisms for the approval and implementation thereof, which effectively contribute to risk management being performed in accordance with the Company's risk appetite.
- d) The measurement and monitoring of risks, by following consistent procedures and standards that are common to the Group as a whole
- e) The analysis of risks associated with new investments, as an essential element of decision-making based upon profitability/risk.
- f) The maintenance of an internal system for monitoring compliance with policies, guidelines, and limits, by means of appropriate procedures and systems, including the contingency plans needed to mitigate the impact of the materialisation of risks.
- g) The periodic monitoring and control of profit-and-loss account risks in order to control the volatility of the annual income of the Group.
- h) The ongoing evaluation of the suitability and efficiency of applying the system and the best practices and recommendations in the area of risks for eventual inclusion thereof in the model.
- i) The audit of the system by the Internal Audit Division.

Developed in accordance with the following basic action principles:

- a) Integrate the risk/opportunity vision into the Company's management, through a definition of the strategy and the risk appetite and the incorporation of this variable into strategic and operating decisions.
- b) Segregate functions, at the operating level, between risk-taking areas and areas responsible for the analysis, control, and monitoring of such risks, ensuring an appropriate level of independence.
- c) Guarantee the proper use of risk-hedging instruments and the maintenance of records thereof as required by applicable law.
- d) Inform regulatory agencies and the principal external players, in a transparent fashion, regarding the risks facing the Group and the operation of the systems developed to monitor such risks, maintaining suitable channels that favour communication.
- e) Ensure appropriate compliance with the corporate governance rules established by the Company through its Corporate Governance System and the update and continuous improvement of such system within the framework of the best international practices as to transparency and good governance, and implement the monitoring and measurement thereof.
- f) Act at all times in compliance with the law and the Company's Corporate Governance System and, specifically, with due observance of the values and standards of conduct reflected in the Code of Ethics and the principles and good practices reflected in the *Corporate Tax Policy*, under the principle

of zero tolerance towards the commission of unlawful acts and situations of fraud set forth in the *Crime Prevention Policy* and in the *Anti-Corruption and Anti-Fraud Policy*.

Excluded from the scope of this policy are listed country subholding companies and the subsidiaries thereof which, pursuant to their own special framework of strengthened autonomy, have their own risk policies approved by their competent bodies. In any event, said risk policies must be in accord with the principles set forth in this *General Risk Control and Management Policy* and in the other *Risk Policies* of the Company.

At those companies in which the Company has an interest but which do not belong to the Group, the Company shall promote principles, guidelines and risk limits consistent with those established in the *General Risk Control and Management Policy* and in its supplemental *Risk Policies* and shall maintain appropriate channels of information to ensure a proper understanding of risks.

E.2. Identify the decision-making bodies of the company responsible for preparing and implementing the Risk Management System, including the system for managing tax risks.

1. BOARD OF DIRECTORS

Within the scope of its powers, and with the support of the Audit and Risk Supervision Committee, the Board of Directors undertakes to develop all of its capabilities in order for the significant risks to all the activities and businesses of the Group to be adequately identified, measured, managed and controlled, and to establish through the *General Risk Control and Management Policy* the mechanisms and basic principles for appropriate management of the risk/opportunity ratio. By virtue thereof, it defines the risk strategy and profile and approves the Group's *Risk Policies*.

2. EXECUTIVE COMMITTEE

In order to align the risk impact with the established risk appetite, the Executive Committee of the Board of Directors, acting at the proposal of the business or corporate divisions involved and upon a prior report from the Group's Risk Committee, annually reviews and approves specific guidelines regarding the risk limits from the *Corporate Risk Policies*.

3. AUDIT AND RISK SUPERVISION COMMITTEE

As a consultative body of the Board of Directors, it is vested with the following powers, among others, regarding the internal control and risk management systems:

- Directly supervise the Risk Division and maintain an appropriate relationship therewith and with the audit and compliance committees of the other companies of the Group.
- Continuously review the internal control and risk management systems, such that the principal risks are properly identified, managed, and reported.
- Supervise the effectiveness of the internal control and risk management systems, making proposals for improvement.
- Obtain information regarding any significant deficiency in internal control that the auditor detects while carrying out its audit work.
- Ensure that the Group's risk control and management system identifies at least:
 - The various risk factors to which the Company is exposed.
 - The establishment and review of the risk map and the risk levels deemed acceptable.
 - The measures in place to mitigate the potential impact of identified risks.
 - The internal control and reporting systems to be used to control and manage such risks.
- Promote (within the limits of its powers) a culture in which risk is a factor that is taken into account in the decisions of the Company.
- Identify and evaluate emerging risks, like those arising from technological, climactic, social and regulatory risks, as well as existing alert mechanisms, periodically evaluating the effectiveness thereof.
- Obtain creditable information as to whether the most significant risks are managed and

maintained within the tolerance figures that have been established, and evaluate the various risk tolerance levels established in the *Risk Policies*, proposing the adjustment thereof based on information received from the various divisions and areas.

- Annually receive the heads of the businesses of the Group for them to report on the trends of their respective businesses and the risks associated therewith.
- Report in advance on the risks of the Group to be included in the Company's *Annual Corporate Governance Report*.
- (Specifically in the tax area) Receive from the Company's tax director information on the tax guidelines used by the Company during the financial year and, in particular, on the level of compliance with the *Corporate Tax Policy*, and report to the Board of Directors on the tax policies applied and, in the case of transactions or matters that must be submitted to the Board of Directors for approval, regarding the tax consequences thereof when such consequences represent a significant issue.

4. BOARDS OF DIRECTORS OF COUNTRY SUBHOLDING COMPANIES OF THE PRINCIPAL COUNTRIES IN WHICH THE GROUP OPERATES

The country subholding companies adopt the Group's risk policies and specify the application thereof, approving the guidelines on specific risk limits based on the nature and particularities of the businesses in each country.

The management decision-making bodies of the head of business companies of each country must approve the specific risk limits applicable to each of them and implement the control systems required to ensure compliance therewith.

Pursuant to their framework of strengthened autonomy, Avangrid and Neoenergia have their own risk policies.

5. CORPORATE RISK COMMITTEE

The Risk Committee of the Iberdrola Group is a technical body chaired by the chief financial officer, and which performs executive duties in connection with customary risk management and gives advice to the Group's governance bodies.

The Committee meets at least once per month, with the participation of the Group's Director of Risk Management, those responsible for risks at the corporate businesses and areas that have a Risk Management function, the Internal Audit Division and the Administration and Control Division.

The Group's Risk Committee is complemented with the Corporate Credit Risk and Market Risk Committees, which report to said Risk Committee and which meet on a fortnightly and monthly basis, respectively, to discuss and decide on credit and market (financial and commodities) risk issues.

This Committee reviews the various risks and issues a *Group Quarterly Risk Report*, which includes the main risk positions, a report on compliance with limits and indicators, and an update of the key risk maps.

E.3. Point out the principal risks, including tax risks, that could affect the achievement of business goals.

The group is subject to various risks inherent in the different countries, industries and markets in which it does business and in the activities it carries out, which may prevent it from achieving its objectives and successfully implementing its strategies.

The section entitled "Main risks and uncertainties" of the *Management Report* within the *Annual Report for financial year 2017* provides a detailed description of the principal risks associated with the activities carried out by the main businesses of the group, as well as the risks of the corporation.

Owing to its universal and dynamic nature, the comprehensive risk system allows for the consideration of new risks that may affect the group following changes in its operating environment or revisions of objectives and strategies, as well as adjustments resulting from ongoing monitoring, verification, review and supervision activities.

Pursuant to the definitions established by the *General Risk Control and Management Policy*, at the group level, risks are classified as follows:

- a) Corporate Governance Risks: the Company accepts the need to achieve the fulfilment of the corporate interest and the sustained maximisation of the economic value of the Company and its long-term success, in accordance with the Group's corporate interest, culture and corporate vision, taking into account the legitimate public and private interests that converge in the conduct of all business activities, particularly those of the various stakeholders and the communities and regions in which the Company and its employees act. A fundamental requirement for the foregoing is compliance with the Company's Corporate Governance System, made up of the *By-Laws*, the *Mission, Vision and Values of the Iberdrola group*, the *Corporate Policies*, the internal corporate governance rules and the other internal codes and procedures approved by the competent decision-making bodies of the Company and inspired by the good governance recommendations generally recognised in international markets.
- b) Market Risks: understood as the exposure of the Group's results and assets to changes in market prices and other variables, such as exchange rates, interest rates, commodity prices (electricity, gas, CO2 emission allowances, other fuel, etc.), prices of financial assets and others.
- c) Credit Risks: defined as the possibility that a counterparty fails to perform its contractual obligations, thus causing an economic or financial loss to the Group. Counterparties can be end customers, counterparties in financial or energy markets, partners, suppliers or contractors.
- d) Business Risks: defined as the uncertainty regarding the performance of key variables inherent in the different activities of the Group through its businesses, such as the characteristics of demand, weather conditions and the strategies of different players.
- e) Regulatory and Political Risks: are those arising from regulatory changes made by the various regulators, such as changes in compensation of regulated activities or in the required conditions of supply, or in environmental or tax regulations, including risks relating to political changes that might affect legal security and the legal framework applicable to the businesses of the Group in each jurisdiction, nationalisation or expropriation of assets, the cancellation of operating licences and the early termination of government contracts.
- f) Operational, Technological, Environmental, Social and Legal Risks: are those related to direct or indirect economic losses resulting from external events, inadequate internal procedures, technical failures, human error and/or fraud, including those relating to climate change, information technology, cybersecurity and the risk of technological obsolescence.
- g) Reputational Risks: potential negative impact on the value of the Company resulting from conduct on the part of the Company that is below the expectations created among various stakeholders, as defined in the *Stakeholder Relations Policy*.

E.4. Identify whether the entity has a risk tolerance level, including one for tax risk.

The Company's Board of Directors annually reviews and approves the acceptable risk tolerance levels for the group. The *General Risk Control and Management Policy*, together with the policies that develop and complement it, qualitatively and quantitatively establish, in sufficiently detailed form, the risk appetite that is annually accepted both at the Group level and at the level of each of its main businesses and corporate functions.

By way of supplement, once such limits and guidelines are considered in order to verify the risk assumed globally in the annual profit and loss account, the Administration and Control Division engages in a comprehensive probability analysis of the remaining global risk for the year at the time of approving the annual budget.

In addition, all new multi-year plans are accompanied by their associated risk analysis.

The *General Risk Control and Management Policy* is developed and supplemented through the following policies, which are also approved by the Company's Board of Directors:

Corporate risk policies and limits:

- *Corporate Credit Risk Policy*
- *Corporate Market Risk Policy*
- *Operational Risk in Market Transactions Policy*

- *Insurance Policy*
- *Investment Policy*
- *Financing and Financial Risk Policy*
- *Treasury Share Policy*
- *Risk Policy for Equity Interests in Listed Companies*
- *Reputational Risk Framework Policy*
- *Procurement Policy*
- *Information Technologies Policy*
- *Cybersecurity Risk Policy*

Risk policies for the various businesses of the Group:

- *Risk Policy for the Networks Businesses of the Iberdrola Group*
- *Risk Policy for the Renewable Energy Businesses of the Iberdrola Group*
- *Risk Policy for the Liberalised Businesses of the Iberdrola Group*
- *Risk Policy for the Real Estate Business*

The limits and indicators of the risk policies must be consistent with the annual Budget and the objectives established in the multi-annual investment plans. The numeric values of the limits and indicators set out in the various policies are based on probabilities or of a deterministic nature (like VaR or at-risk EBITDA) and are expressed in monetary units, indices or references upon which volumetric risk and/or figures are based, including:

- Limits on maximum global credit risk exposure by type of counterparty
- Limits to market risk proportional to the volume of activity of each business
- Strict global limit on discretionary energy trading
- Limits on operational risk through preventive maintenance programmes and insurance programmes
- Strict limits on activities not associated with the main energy business

The *Corporate Tax Policy* establishes the limits on tax risk by setting the tax strategy, principles of conduct and good tax practices assumed by the Company.

The *General Risk Control and Management Policy*, as well as a summary of the supplementary risk policies, are available on the corporate website (<https://www.iberdrola.com/corporate-governance/corporate-governance-system/corporate-policies>).

E.5. State what risks, including tax risks, have materialised during the financial year.

The group has been negatively affected during the year by events described further below, although these events have been offset at the net profit level by the following positive events:

- The merger of Gamesa Corporación Tecnológica with Siemens Wind Power, which contributed 255 million euros to net profit, including 198 million euros for the extraordinary merger dividend. As a result of this merger, the Company holds an 8.071% interest in the merged entity.
- The positive impact on the consolidated accounts of the group of 1,284 million euros after taxes as a result of the tax reform approved in the United States of America at the end of 2017.

Risks that have materialised include:

- The major drought that affected Spain during 2017, with the decrease in the Group's hydroelectric production to 7.9 TWh, compared to 18.3 TWh produced in 2016 (an exceptionally good year) and the steep drop in the Group's hydrological reserves, which were at historical minimums as at 31

December 2017.

- The adverse regulatory and market environment faced by the retail electricity and gas business in the United Kingdom.
- The recording in financial year 2017 results of extraordinary expenses in the amount of 129 million euros with respect to EBITDA as a result of the major storms affecting the networks businesses in the United States of America during the year (which expenses should be recovered in subsequent years, according to the applicable regulatory frameworks).
- The writeoff of 512 million euros after taxes for the gas storage and transport businesses in the United States of America and in Canada.
- The adverse performance of some of the projects of Iberdrola Engineering & Construction, the activities of which are now classified as discontinued operations, with a negative contribution to the consolidated net profit of the group in 2017 of 253 million euros after taxes.
- The required tax payment communicated in November 2017 by the Spanish Tax Agency in the amount of 665 million euros in enforcement of the obligation established in Commission Decision (EU) 2015/314 on the recovery of aid declared to be incompatible with the internal market (tax amortisation of goodwill generated by the acquisitions of Scottish Power, Energy East and Rokas). The payment of this amount is provisionally suspended by decision of the General Court of the European Union after the appeal of said Decision by Iberdrola. Most of this amount is covered by passive deferred taxes recorded in accordance with accounting rules, as the tax incentive is considered to be a temporary difference. It need not be provisioned to the extent that the Company, its tax advisors and its external auditors find the arguments used to be sound, which gives confidence in the future favourable resolution of the appeal that was filed.
- The international ransomware cyberattack that occurred on 12 May 2017, which only partially affected some of the Iberdrola group's activities in Spain. The cybersecurity measures implemented at all businesses and corporate functions and the current action protocols ensured that no critical service, operation or customers were at any time significantly affected.

Finally, it should be noted that activities in financial year 2018 will be subject to the following risk factors:

- Possible acceleration of the withdrawal of the monetary stimulus scheme of the European Central Bank, with the resulting risk of increases in interest rates, and thus in financial expenses.
- The process of negotiation of the exit of the United Kingdom from the European Union and the impact thereof on macroeconomic conditions in that country and on the pound/euro exchange rate.
- In Mexico, developments in the NAFTA negotiations among Mexico, the United States of America and Canada, and the potential impact thereof on the Mexican economy.
- In Brazil, the general elections to be held in October 2018 and the potential impact thereof on the strengthening of the economic recovery that began in 2017.
- A possible prolongation of the period for recovering the group's dam levels in Spain after the major drought in 2017, with the resulting impact on hydroelectric production capacity forecast for financial year 2018.
- The difficult regulatory and market environment that the retail electricity and gas business will continue to face in the United Kingdom after the announcement of the imposition of a future maximum value on "standard variable tariff" contracts.
- Growing competition in renewables auctions in various jurisdictions, due to the entry of new players that submit aggressive offers, which can make it difficult to obtain the award of new projects that are attractive in terms of profitability.
 - Changes in the prices of electricity and commodities in the various countries in which it operates.

E.6. Explain the plans for responding to and supervising the entity's main risks, including tax risks.

The Comprehensive Risk System, together with the Company's control and management policies and systems that develop it, including the Group's Risk Committee and the Company's Operating Committee, have allowed for the identification of new risks and threats sufficiently in advance, and to establish appropriate mitigation plans.

The Company's Operating Committee meets on close to a weekly basis.

The Group's Risk Committee meets on a monthly basis, reviews the various risks, and on a quarterly basis approves a Quarterly Risk Report of the Group, which includes the main risk positions, a report on compliance with policies and limits, and an update of the key risk maps.

The Audit and Risk Supervision Committee of the Board of Directors periodically monitors the evolution of the Company's risks at least on a quarterly basis:

- It reviews the Quarterly Risk Reports of the Group, which include monitoring compliance with risk limits and indicators and updated key risk maps, submitted by the Group's director of Corporate Risks.
- It coordinates and reviews Risk Reports sent periodically (at least half-yearly) by the audit and compliance committees of the country subholding companies and head of business companies of the Group.
- It prepares a Risk Report for the Board of Directors at least half-yearly.

F. INTERNAL RISK CONTROL AND MANAGEMENT SYSTEMS IN CONNECTION WITH THE PROCESS OF ISSUING FINANCIAL INFORMATION (ICFRS)

Describe the mechanisms making up the risk control and management systems with respect to the process of issuing the entity's financial information (ICFRS)

F.1. Control environment at the entity

Indicate at least the following, specifying the main features thereof:

F.1.1. What bodies and/or functions are responsible for: (i) the existence and maintenance of an adequate and effective internal control over financial reporting system (ICFRS); (ii) the implementation thereof; and (iii) oversight thereof.

The Board of Directors has the ultimate responsibility for the existence of an adequate and effective internal control over financial reporting system (ICFRS) lies with the Board of Directors of Iberdrola. The Boards of Directors of the country subholding companies and the head of business companies also have this responsibility within their various purviews.

The persons in charge of the country subholding companies and the head of business companies, together with the respective control officers, as well as the directors of the global corporate areas, are responsible for the design and implementation of the ICFRS. Such responsibility is expressly set forth in the certifications signed by such persons on a half-yearly basis in connection with the financial information for their respective areas of responsibility.

Pursuant to article 26.6.d of the *Regulations of the Board of Directors*, the Audit and Risk Supervision Committee has the power to monitor the effectiveness of the internal control of the Company and its Group. The Committee draws on the support of the Internal Audit Area Division to discharge such responsibility. Any audit and compliance committees at the country subholding and head of business companies have this power within their respective purviews.

F.1.2. Whether any of the following are in place, particularly as regards the financial information preparation process:

- **Departments and/or mechanisms in charge of: (i) the design and revision of the organisational structure; (ii) clearly defining the lines of responsibility and authority, with an appropriate distribution of work and duties; and (iii) ensuring that there are sufficient procedures for the proper dissemination thereof at the entity.**

The Board of Directors of Iberdrola defines the top-level organisational structure. The heads of such top-level organisations, together with the Human Resources Division, are responsible for deployment within their respective areas.

Each top-level division prepares a proposed organisation structure, including a description of the mission, duties and responsibilities of the various organisations deployed, which must then be validated by the Human Resources and General Services Division, as well as by the Finance and Resources Division.

Primary responsibility for the preparation of financial information lies with the corporate Administration and Control Division. This division proposes the structure of those responsible for Control at the country subholding and head of business companies and is in charge of coordinating and supervising their activities.

- **Code of conduct, body that approves it, degree of dissemination and instruction, principles and values included (indicating whether the recording of transactions and**

the preparation of financial information are specifically mentioned), body in charge of reviewing breaches and of proposing corrective actions and penalties.

The Iberdrola Group has a Code of Ethics, approved by the Board of Directors.

According to article 2.1 thereof, “the principles and guidelines for conduct contained in the Code of Ethics apply to all of the Group’s professionals, regardless of seniority, geographic or functional location, or the company of the Group for which they provide their services”. The Code of Ethics is communicated to and disseminated among the professionals of the Iberdrola Group in accordance with the plan approved for such purpose by the Compliance Unit.

Article 31 of the *Code of Ethics* expressly provides as follows:

“The Group shall provide true, proper, useful and consistent information regarding its programmes and actions. The transparency of the information required to be disclosed is a basic principle that must govern the actions of Group professionals.

The economic/financial information of the Group (especially the annual accounts) shall faithfully reflect its economic and financial position and its net worth, in accordance with generally accepted accounting principles and applicable international financial reporting standards. For such purposes, no professional shall conceal or distort the information set forth in the accounting records and reports of the Group, which shall be complete, accurate and truthful.

A lack of honesty in the communication of information, whether internally within the Group (to employees, subsidiaries, departments, internal bodies, management decision-making bodies, etc.) or outside the Group (to auditors, shareholders and investors, regulatory entities, the media, etc.) is a breach of the *Code of Ethics*. This includes delivering incorrect information, organising it in an incorrect manner or seeking to confuse those who receive it”.

Control of the application of the Company’s Compliance System is a duty of the Compliance Unit, a body linked to the Corporate Social Responsibility Committee of the Company’s Board of Directors, with duties in the area of regulatory compliance and the Company’s Corporate Governance System. This Unit approves the *General Compliance System Framework of the Iberdrola group*, which contains the basic principles of structure and operation of the Group’s Compliance System as well as the duties and responsibilities of the various bodies involved. The Unit also evaluates and prepares an annual report on the effectiveness of the Compliance System of the Company and of the other companies of the Group. The report is submitted to the Corporate Social Responsibility Committee, which renders its opinion and forwards it to the Board of Directors.

The Compliance Unit also has the duty to determine whether a Group professional has conducted activities in violation of the law or of the *Code of Ethics* and, if applicable, to direct the Human Resources Division, or the Division responsible for the human resources function at the relevant group company, to apply disciplinary measures in accordance with the rules on breach of duties and penalties contained in the collective bargaining agreement to which the professional belongs or in applicable labour law provisions.

Pursuant to article 41.1 thereof, the professionals of the Group expressly accept the rules of conduct established in the *Code of Ethics*.

In addition, pursuant to article 41.2, professionals who join or become part of the Group in the future shall expressly accept the principles and rules of conduct set forth in the *Code of Ethics*, which document shall be attached to their respective employment contracts.

- **Reporting channel that makes it possible to report any irregularities of a financial or accounting nature to the audit committee, as well as any possible breach of the code of conduct and irregular activities at the organisation, specifying, if appropriate, whether it is confidential.**

Iberdrola has a procedure in place that must be followed by all employees of the Group who wish to report potentially significant irregularities of a financial and accounting nature and that allows them to report such irregularities, by e-mail or regular mail, to the chair of the Audit and Risk Supervision Committee.

As established in the procedure itself, the Company’s Board of Directors guarantees that the name of the

reporting person and the irregularity reported shall be treated in the strictest confidence, both in the reporting process and in any process for the assessment and clarification of the facts conducted by the Audit and Risk Supervision Committee and the organisations of the Company or third parties participating at the request of such Committee.

In accordance with the above-mentioned procedure, the chair of the Audit and Risk Supervision Committee receives and admits the report for further processing. Such admission is made on the basis of the requirements established in the procedure (name of the sender, sufficiently detailed information on the situation reported, need for the report to fall within the scope of the channel, confidentiality guarantee, personal data protection, etc.).

No reports were received during financial year 2017.

- **Regular training and update programmes for personnel involved in the preparation and review of financial information, as well as in the evaluation of the internal control over financial reporting system, covering at least accounting standards, auditing, internal control and risk management.**

Personnel involved in the preparation and review of financial information, as well as in the evaluation of the internal control over financial reporting system, receives regular training on accounting standards, auditing, internal control, and risk management, according to its specific responsibilities.

In accordance with the organisational structure of the Iberdrola Group, the divisions that have a direct relationship with these types of duties are the Internal Audit Division, the Administration and Control Division and the Finance and Resources Division.

During financial year 2017, the personnel involved in these duties received 8,013 hours of training in these areas, which are further described below:

	Training Sessions	Participants	Total Hours
Brazil	18	88	739
United States	24	801	1,094
Spain	82	472	3,617
Mexico	20	248	547
United Kingdom	34	815	2,017
Total	178	2,424	8,013

Most of these courses are provided by external entities: business schools, universities or consulting firms specialising in economic/financial issues.

The technical training activities in which these professionals engaged include:

- Payroll Issues for Multi-State Employers
- Income & Sales tax School
- NAMS-PPM training
- UK VAT & International Trade
- VAT & Custom duty control import cost

- Corporate accounts payable model
- Electronic billing
- Audit techniques
- Procurement procedure
- FIDIC Rules (Mexico)

Also noteworthy is attendance at various conferences, symposia and seminars in the areas of accounting, tax and internal audit, at both the local and international levels.

Generally, these professionals have taken various courses to improve their qualifications in the use of the office automation tools required to perform their duties, mainly Excel and the management of databases.

It should be noted that several international meetings were organised during 2017 among the professionals in these areas, like the "XI Global Internal Audit Days", "V-Global Tax Meeting" and "Finance & Treasury Global Meeting".

F.2 Risk assessment of financial information

Indicate at least the following:

F.2.1. What are the main features of the risk identification process, including the process of identifying the risks of error or fraud, with respect to:

- **Whether the process exists and is documented.**

The process for the identification of risks of error in financial information is one of the most important steps in the method for the development of internal control of the financial information of Iberdrola, and the goals, implementation and results thereof are documented.

The method starts with a review of the consolidated financial information of the Iberdrola Group and of the various country subholding companies in order to select the most significant accounts and notes to the accounts, in accordance with both quantitative (materiality) and qualitative (business risk and visibility to third parties) standards. The selected accounts and notes are grouped into management cycles or large processes in which the selected information is generated. The cycles are analysed and a description of each is prepared, as a way of identifying possible risks of error in the financial information, in connection with attributes such as completeness, presentation, assessment, cut-off, recording, and validity. The identified risks are submitted to a process of prioritisation, such that the most significant ones are selected by applying professional judgement on a number of indicators (existence of documented processes and controls, existence of systems that automate the processes, whether there have been any incidents in the past, whether the process is known and mature, or whether judgements need to be made to make estimates). The risks of fraud are not explicitly identified, although they are taken into account to the extent that they might generate material errors in financial information.

Once the most significant risks have been selected, the controls needed to mitigate or manage them are selected and designed; such controls are monitored, documented, and systematically reviewed by the Internal Audit Area.

The risks selected are reviewed at least on an annual basis, within the framework of the assessment of the effectiveness of internal control carried out by the persons or divisions responsible therefor. The purpose of such review is to adjust the risks to the changing circumstances in which the Company operates, particularly in the event of changes in the organisation, information technology systems, regulations, products, or the situation of the markets.

- **Whether the process covers all the objectives of financial information (existence and occurrence; completeness; assessment; presentation, breakdown and comparability, and rights and obligations), whether it is updated, and how often.**

As mentioned above, the cycles or large processes in which financial information is generated are reviewed at least on an annual basis in order to identify possible risks of error, in connection with attributes such as validity (existence and authorisation), completeness, assessment, presentation, cut-off, and recording.

- **The existence of a process for the identification of the scope of consolidation, taking into account, among other matters, the possible existence of complex corporate structures, holding entities, or special purpose entities.**

The scope of consolidation is identified on a monthly basis, and the result thereof is the updated corporate map, which expressly identifies the changes that occurred in each period.

This review covers all companies in which Iberdrola or any of its subsidiaries has an interest, no matter how small.

In accordance with the provisions of section 529 of the *Companies Act*, the *Regulations of the Board of Directors* provide that the Board of Directors has the power to, among other things, approve the creation or acquisition of equity interests in special purpose entities ("SPEs") or entities registered in countries or territories that are considered to be tax havens ("THEs"), as well as any other transactions or operations of a similar nature that, due to their complexity, might diminish the transparency of the Group.

In accordance with the same law, the *Regulations of the Audit and Risk Supervision Committee* of Iberdrola provide that the Audit Committee must report to the Board of Directors prior to such decisions being adopted on the creation or acquisition of said entities.

Accordingly, whenever the Company intends to create a special purpose entity or an entity registered in a tax haven, or to acquire an interest in one, the transaction requires a favourable report of the Audit and Risk Supervision Committee and subsequent approval of the Board of Directors.

There are specific procedures for such purpose, tailored to the current corporate governance model, according to which such initiative is to be taken by the Division of the Group or country subholding company, head of business company or company in which an interest is held through them, that intends to create or acquire a special purpose company or a company registered in a tax haven. In the case of listed country subholding companies of the Group or subsidiaries thereof, the audit and compliance committee or equivalent body of said listed country subholding company will issue the relevant report.

- **Whether the process takes into account the effects of other types of risks (operational, technological, financial, legal, tax, reputational, environmental, etc.) to the extent that they affect the financial statements.**

The process for the identification of risks of error in financial information takes into account the effects of other types of risks (operational, technological, legal, tax, reputational, environmental, etc.) to the extent that they affect the accounts; such risks are assessed and managed by different corporate units such as the Risk Division or Legal Services, among others. However, no express identification of such other types of risks is carried out to identify financial information risks.

- **What governance body of the entity supervises the process.**

The governance body that supervises the process is the Audit and Risk Supervision Committee, which draws on the support of the Internal Audit Area Division to discharge this responsibility.

F.3. Control activities

Indicate whether at least the following are in place and describe their main features:

F.3.1. Procedures for review and authorisation of financial information, and description of the internal control over financial reporting system to be published in the securities market, indicating the persons or divisions responsible therefor, as well as documentation describing the flows of activities and controls (including those relating to risk of fraud) of the various types of transactions that could materially affect the financial statements, including the closing process and the specific review of significant judgements, estimates, assessments, and projections.

The process or structure of certification of financial information, conducted formally on a half-yearly basis, on the dates of the year-end and interim closing processes, reflects the manner in which financial information is generated in the Group.

In such structure, the persons in charge of the country subholding companies and those responsible for the head of business companies, together with the respective directors of control, and the heads of the global corporate areas, certify both the reliability of the financial information in the areas under their responsibility (which is the information they provide for purposes of consolidation at the Group level) and the effectiveness of the internal control system established to reasonably ensure such reliability. Finally, the chairman & chief executive officer, as the highest executive authority, and the director of Administration and Control, as the person responsible for the preparation of financial information, certify the reliability of the consolidated accounts to the Board of Directors.

The Audit and Risk Supervision Committee, with the support of the Internal Audit Area Division, supervises the entire certification process, and submits the conclusions of such review to the Board of Directors at the meetings at which the accounts are formally approved.

As regards the description of the internal control over financial reporting system (ICFRS) to be published in the securities markets, the review and authorisation procedure is the same as that used for all contents of an economic and financial nature of the *Annual Corporate Governance Report*.

The documentation of the internal control over financial reporting system includes high-level descriptions of the cycles of generation of selected significant financial information, as well as detailed descriptions of the prioritised risks of error and of the controls designed to mitigate or manage them. The description of the controls includes the evidence to be obtained in the implementation thereof, which is necessary for its review.

Each of the closing processes performed at the business units is regarded as a cycle, and the same is true of all the closing activities performed at the corporate level, of the global consolidation process, and of the process for preparation of the notes to the accounts. As a result, all such activities are subject to the methodological process described in the section relating to risks.

The specific review of critical accounting judgements and significant estimates, assessments, and projections is subject to specific controls within the model, since this type of matter entails the identification of risks of error in the different cycles in which they are made. In many cases, the evidence of such specific controls is the media supporting such reviews.

Independently of the certification process followed in the countries, businesses, and corporate areas, the Audit and Risk Supervision Committee, again with the support of the Internal Audit Division, performs an overall review of financial information on a quarterly basis, ensuring that the half-yearly financial reports and the quarterly management statements are prepared using the same accounting standards as the annual financial reports, verifying the proper delimitation of the scope of consolidation as well as the proper application of generally accepted accounting principles and international financial reporting standards.

F.3.2. Policies and procedures of internal control over reporting systems (including, among others, security of access, control of changes, operation thereof, operational continuity, and segregation of duties) that provide support for the significant processes of the entity in connection with the preparation and publication of financial information.

The controls used to mitigate or manage the risks of error in financial information include controls relating to the most significant computer applications, such as controls of user access permissions or of the

integrity of the transfer of information between applications, the transaction, and change management.

In addition, the Iberdrola Group has guidelines or regulations as well as procedures for internal control over reporting systems in connection with software acquisition and development, the acquisition of system infrastructure, software installation and testing, change management, service level management, management of the services provided by third parties, system security and access thereto, management of incidents, operation management, continuity of operations, and segregation of duties.

Such guidelines and procedures (which, in some cases, differ according to geographical area or type of solution and are in the process of progressive standardisation) are applied across all information systems supporting significant financial information generation processes, and on the infrastructure required for the operation thereof.

The Iberdrola Group also has an *Information Technologies Policy* that contemplates the management of risks associated with the use, ownership, operation, participation, influence and adoption of specific information technology and the processes for the management and control thereof.

This provides a general controls model integrated with the risk management model that allows for a global evaluation of the risks relating to information technology.

This model includes a periodic evaluation of the effectiveness of the controls on information technologies implemented in the area of the financial systems, adopting the appropriate measures if any incident is detected.

The heads of the Iberdrola Group's information technology systems certify the effectiveness of the internal controls established on financial information systems on an annual basis.

F.3.3. Internal control policies and procedures designed to supervise the management of activities outsourced to third parties, as well as those aspects of assessment, calculation or valuation entrusted to independent experts, which may materially affect the accounts.

Generally speaking, the Iberdrola Group has no significant duties outsourced to third parties that have a direct impact on financial information. The assessments, calculations, or valuations entrusted to third parties that may materially affect the accounts are regarded as significant financial information generating activities that lead, if appropriate, to the identification of high-priority risks of error, which, in turn, entails the design of associated internal controls. Such controls cover the review and internal approval of the basic assumptions to be used, as well as the review of the assessments, calculations, or valuations made by outside parties, by verifying them against calculations made internally.

F.4. Information and communication

Indicate whether at least the following are in place and describe their main features:

F.4.1. A specific function charged with defining and updating accounting policies (accounting policy area or department) and with resolving questions or conflicts arising from the interpretation thereof, maintaining fluid communications with those responsible for operations at the organisation, as well as an updated accounting policy manual that has been communicated to the units through which the entity operates.

The Accounting Practices Division, reporting directly to the director of Administration and Control, is responsible for defining and updating accounting policies, as well as for resolving questions or conflicts stemming from the interpretation thereof. It maintains fluid communications with those responsible for the operation of the organisation and, especially, with those responsible for accounting functions. It publishes a quarterly newsletter, widely disseminated within the Group, on new accounting developments in connection with IFRS, which includes regulation updates (laws and regulations that come into force, drafts issued, laws and regulations enacted, laws approved and pending approval by the European

Union, and expected future laws and regulations) as well as accounting questions asked internally, together with the conclusions in respect thereof.

The Accounting Practices Division is also responsible for continuously updating the Group's accounting practices manual and for the appropriate dissemination thereof.

The accounting manual is updated continuously. For this purpose, the Accounting Practices Division analyses whether new developments or changes in accounting matters have an effect on the Group's accounting policies, as well as the effective date of each of such laws or regulations. When a new law or regulation, or interpretation thereof, is identified as having an effect on the Group's accounting policies, it is included in the manual and is also communicated to those responsible for preparing the Group's financial information by means of the quarterly newsletters mentioned above, and there is an update of the application in which the manual is maintained.

The updated version of the manual is available in an application on the Group's internal network. This application is also accessible by VPN over the internet and can be linked to e-mail. Any change or the inclusion of a document within the manual generates a notice by e-mail to all users.

F.4.2. Mechanisms to capture and prepare financial information with standardised formats, to be applied and used by all units of the entity or the group, supporting the principal accounts and the notes thereto, as well as the information provided on the internal control over financial reporting system.

The mechanism to capture and prepare the information supporting the principal accounts of the Iberdrola Group is based primarily on the use of a unified management consolidation tool (known as BPC) accessible from all geographical areas, currently deployed across the entire Group.

A large portion of the information supporting the breakdowns in and notes to the financial information is included in the consolidation tool, and the rest is captured on standardised spreadsheets known as reporting packages, which are prepared for the half-year and year-end closing processes.

F.5. Supervision of the operation of the system

Indicate and describe the main features of at least the following:

F.5.1. The activities of supervision of the internal control over financial reporting system (ICFRS) performed by the audit committee, as well as whether the entity has an internal audit function whose duties include providing support to the committee in its work of supervising the internal control system, including the internal control over financial reporting system. Information is also to be provided concerning the scope of the assessment of the internal control over financial reporting system performed during the financial year and on the procedure whereby the person or division charged with performing the assessment reports the results thereof, whether the entity has an action plan in place describing possible corrective measures, and whether the impact thereof on financial information has been considered.

The activities of supervision of the internal control over financial reporting system carried out by the Audit and Risk Supervision Committee include basically: (i) monitoring compliance with the certification process by the various persons or divisions responsible for financial information, (ii) reviewing the design and operation of the internal control system, with the support of the Internal Audit Area Division, to assess the effectiveness thereof, and (iii) periodic meetings with external auditors, internal auditors and senior management to review, analyse and discuss financial information, the group companies covered and the accounting standards applied, as well as, where appropriate, the significant internal control weaknesses detected.

It should be noted that on an annual basis, those responsible for the preparation of the financial information of each country subholding company, each head of business company and each corporate area carry out a review of the design and operation of the internal control system within their area of responsibility in order to assess the effectiveness thereof, in a process coordinated by the Internal Control Division.

To that end, an analysis is made of whether, as a result of the changing circumstances in which the Group operates (changes in organisation, systems, processes, products, regulation, etc.), changes in identified risks need to be included and prioritised. A review is also made of whether the design of the controls to mitigate or manage the risks that may have changed is appropriate, as well as whether the controls have functioned properly, in accordance with their design.

The conclusions of this annual review, both as regards the deficiencies detected (which are classified as serious, medium, or slight, according precisely to their possible impact on financial information) and with respect to the action plans to correct them, are submitted at an annual seminar session chaired by the director of Administration and Control, at which the Internal Audit Area Division is also in attendance. At such meeting, conclusions are reached concerning the effectiveness of the internal control system at each of the different areas for which they are responsible and, overall, at the Group as a whole.

The most significant conclusions of the review performed are subsequently submitted to the Audit and Risk Supervision Committee within the framework of the periodic meetings with the director of Administration and Control.

Independently of the foregoing, the Internal Audit Area (which reports to the chairman & chief executive officer and is functionally controlled by the Audit and Risk Supervision Committee, and which, as provided in the Basic Internal Audit Regulations of Iberdrola, S.A. and the Companies of its Group, has the primary roles of working with the Audit and Risk Supervision Committee to further develop the powers thereof and to proactively ensure the proper operation of the information technology, internal control, and risk management systems of the Company), conducts an independent review of the design and operation of the internal control system in support of said Committee, identifies deficiencies, and draws up recommendations for improvement.

As a result thereof, the Internal Audit Area Division continuously monitors the various action plans agreed with the different organisations to correct the deficiencies detected and to implement the suggestions for improvement agreed with the organisations.

The period that the Internal Audit Area Division plans for an in-depth review of the entire internal control system is five years.

Specifically, during financial year 2017, more than 34 cycles corresponding to the companies Avangrid, Inc., Scottish Power, Ltd., Iberdrola España, S.A., Iberdrola México, S.A. de C.V., Elektro Redes, S.A. and Iberdrola Inmobiliaria, S.A.U., as well as Administration and Control, were reviewed. As a result of the integration process of Neoenergia, S.A., it is expected that its internal control system will be included within the methodology of the Group as from financial year 2018.

In addition, the Internal Audit Area Division performs a review of the operation of the internal controls regarded as most critical on a half-yearly basis, on the dates of the half-year and year-end closing.

The combination of the periodic reviews and the half-yearly reviews of the most critical controls enables the Internal Audit Area Division to perform an assessment of the internal control system, as regards the design and operation thereof, and to issue an opinion on the effectiveness of the internal controls established to ensure the reliability of financial information, which it submits to the Audit and Risk Supervision Committee within the framework of their periodic meetings.

F.5.2. Whether it has a discussion procedure whereby the auditor (as provided in the Technical Auditing Standards), the internal audit function and other experts can inform senior management and the audit committee or the directors of the entity of the significant internal control weaknesses detected during the review of the annual accounts or such other reviews as may have been entrusted to them. Information shall also be provided on whether it has an action plan to seek to correct or mitigate the weaknesses found.

Generally speaking, the procedure for discussion of significant internal control weaknesses detected is based on periodic meetings of the various agents.

Thus, the Audit and Risk Supervision Committee holds meetings, both at the half-year and at the year-end closing, with the external auditors, the internal auditors and the division responsible for preparing financial information, in order to discuss any significant aspect of the preparation process and of the resulting financial information.

Specifically, pursuant to its *Regulations* (scope of authority), the Audit and Risk Supervision Committee of Iberdrola has, among other duties, the duty of reviewing, together with the auditors, the significant weaknesses of the internal control system detected in the course of the audit. To such end, the auditor appears before such Committee on an annual basis to submit recommendations in connection with the internal control weaknesses identified during the review of the accounts. Any weaknesses described by the auditor are monitored on an ongoing basis by the Committee, with the support of the Internal Audit Area Division. Furthermore, the division responsible for preparing the consolidated accounts also holds meetings with the external auditors and with the internal auditors, both at the half-year and at the year-end closing, to discuss significant issues relating to financial information.

F.6. Other significant information.

Iberdrola has an internal model or system for control over financial reporting, the purpose of which is to reasonably ensure the reliability of the financial information. It is important to note that the development of this model, which commenced in 2006, was not the product of a legal requirement, but rather derived from the firm belief of both the Board of Directors and the senior management of the Company that in a context of growth and internationalisation as the one that could already be envisaged for the Group, an explicit and auditable internal control system would contribute to maintaining and improving its control environment and the quality of financial information; it would also boost investors' trust because of its effects on the transparency, reputation, and good governance of Iberdrola and of the subsidiaries making up the Iberdrola Group.

The Internal Control over Financial Reporting Model or System (ICFRS) of the Iberdrola Group rests on two main pillars: certification and internal control proper.

Certification is a half-yearly process in which those responsible for financial information in the different areas of the Company certify that: (i) the financial information they deliver to Iberdrola for purposes of consolidation does not contain any material errors or omissions and provides a fair view of the results and the financial condition within their area of responsibility, and (ii) they are responsible for establishing the ICFRS within their area of responsibility and have found, upon evaluation, that the system is effective. The text of these certifications is inspired by the form of certification established in section 302 of the U.S. Sarbanes-Oxley Act.

The culmination of the half-yearly process is a joint certification that the chairman & chief executive officer and the director of Administration and Control submit to the Board of Directors.

The other pillar supporting this model, i.e. internal control proper, is patterned on the reference framework described in the report entitled "Internal Control Integrated Framework" of the Committee of Sponsoring Organisations of the Treadway Commission (COSO), and is primarily aimed at providing a reasonable level of security in achieving the aim of reliability of the financial information.

The methodology used by Iberdrola for the development and continuous update of internal control consists of the following stages or steps: (i) analysis and selection of significant financial information, (ii) grouping such information into cycles or large processes in which it is generated, (iii) identification, assessment, and prioritisation of risks of error in financial information within selected cycles, (iv) design and operation of controls in order to mitigate or manage selected risks, and (v) monitoring and update of the previous steps in order to continuously adapt the model to the circumstances of corporate activities.

One of the salient features of the design of this model is that it seeks to guarantee the quality of financial information during all months of the year, such that it is not limited only to the periods of year-end or half-year closings.

This feature is strengthened through the use of a specific software application developed in-house by the Group that allows for monitoring of the status of controls at all times.

Another important feature of the model is that it extends the culture of internal control to all of the organisations, both corporate and business, that significantly contribute to generating financial information, by assigning personal responsibility for the implementation and documentation of controls.

All relevant documents in connection with Iberdrola's ICFRS, both regarding the certification process and

internal control proper, are contained in the aforementioned computer application.

Those responsible for implementing the controls enter into the computer application evidence of such controls having been performed, and then evaluate the results obtained, which they rate as satisfactory or non-satisfactory. This allows for the internal control situation to be monitored in real time, and also makes it possible to act promptly on any deficiencies detected.

In addition, those responsible for control at the country subholding and head of business companies, as well as those responsible for the corporate areas, carry out an annual review of the design and operation of the SCIIF, as a systematic process for updating such model in order to adapt it to the changing circumstances of corporate activities.

The annual review is coordinated by the Internal Control Division, which is also responsible for managing the computer application and coordinating the development of the ICFRS in the various business units and corporate areas of the Group.

Moreover, the Internal Audit Area Division, which is responsible for supervising internal control as part of its duty of support of the Audit and Risk Supervision Committee, performs an independent review of the design and operation of the ICFRS, identifying deficiencies and formulating recommendations for improvement. This review is performed applying a mixed model for selecting cycles based on risk and on a minimum rotation of five years.

The Internal Audit Area Division also performs a half-yearly independent review of the effectiveness of the internal controls established to guarantee the reliability of financial information. It also reviews the process for certification of financial information on a half-yearly basis. The conclusions of such reviews are submitted to the Audit and Risk Supervision Committee, which, if appropriate, adopts such conclusions and submits them in turn to the Board of Directors.

The current scope of the ICFRS is such that, based on materiality standards, it covers the entire Iberdrola Group. At present, more than 1,200 persons within the Group use the software application, both to document evidence of the performance of more than 2,800 controls (which mitigate or manage more than 1,000 risks of error in financial information that have been prioritised) and to monitor, analyse, adjust and assess the ICFRS.

Furthermore, approximately 70 officers who participate in the process of certification of the accuracy of information under their responsibility do so by using an electronic signature directly on the computer application.

As a consequence of all of the foregoing, the final result of the certification process, which is based on the situation of internal control proper, can be reviewed by the Board of Directors of Iberdrola as one of the significant guarantees of reliability in connection with the preparation of the Group's annual and interim financial information.

F.7 External audit report

Report on:

F.7.1. Whether the information on the internal control over financial reporting system has been reviewed by the external auditor, in which case the entity should include the respective report as an exhibit. Otherwise, it should provide the reasons therefor.

The information on the internal control over financial reporting system sent to the markets has not been reviewed by the external auditor for reasons of consistency with the fact that the rest of the information set forth in the Annual Corporate Governance Report is only reviewed by the auditor in connection with the accounting information contained in said Report. It is also believed that having the information on the internal control over financial reporting system reviewed externally would in a certain manner overlap the internal control review to be performed by the external auditor, according to technical auditing standards, within the context of the audit of the accounts.

G. DEGREE TO WHICH CORPORATE GOVERNANCE RECOMMENDATIONS ARE FOLLOWED

State the company's degree of compliance with the recommendations of the Good Governance Code of Listed Companies.

If the company does not comply with any recommendation or follows it partially, there must be a detailed explanation of the reasons providing shareholders, investors, and the market in general with sufficient information to assess the company's course of action. Generalised explanations will not be acceptable.

- 1. The bylaws of listed companies should not place an upper limit on the votes that can be cast by a single shareholder, or impose other obstacles to the takeover of the company by means of share purchases on the market**

Complies ☐ Explain ☒

Article 29.2 of the By-Laws provides that "No shareholder may cast a number of votes greater than those corresponding to shares representing ten (10%) per cent of share capital, even if the number of shares held exceeds such percentage of the share capital. This limitation does not affect votes corresponding to shares with respect to which a shareholder is holding a proxy as a result of the provisions of article 23 above, provided, however, that with respect to the number of votes corresponding to the shares of each shareholder represented by proxy, the limitation set forth above shall apply".

Section 3 of such article adds: "The limitation set forth in the preceding section shall also apply to the maximum number of votes that may be collectively or individually cast by two or more shareholders that are entities or companies belonging to the same group. Such limitation shall also apply to the number of votes that may be cast collectively or individually by an individual and the shareholder entity, entities, or companies controlled by such individual. A group shall be deemed to exist under the circumstances provided by law, and also when a person controls one or more entities or companies".

Iberdrola believes that the limitation on the maximum number of votes that may be cast by a single shareholder, or by several shareholders belonging to the same group or, if applicable, acting in concert, is a measure to protect shareholders at companies with dispersed share ownership, whose investment is thus guarded from any transaction that is contrary to the corporate interest. In this regard, most shareholders, especially including but not limited to small individual investors, who represent approximately one-fourth of Iberdrola's capital, have little room to manoeuvre and respond to a potential shareholder owning a non-controlling interest and not reaching the threshold requiring a takeover bid but seeking influence over the Company and whose own interest is not totally in line with the corporate interest.

It should also be noted that such voting limitation has been in effect since 16 June 1990, the date on which the General Shareholders' Meeting was held at which it was resolved, by unanimous vote of the attendees, to bring the By-Laws of the Company (then doing business as Iberduero, S.A.) into line with the restated text of the Companies Act approved by Royal Legislative Decree 1564/1989 of 22 December. This shows the level of corporate consensus that has existed on such voting limitation from the very beginning, which has been confirmed by the fact that such limitation has remained unchanged through various by-law amendments passed by the shareholders at General Shareholders' Meetings. In turn, it reflects the will of the shareholders to increase their bargaining power in the event of hostile offers or transactions.

In any event, article 50 of the current By-Laws establishes the instances of removal of such voting limitation in the event that the Company is the target of a takeover bid that receives the required shareholder approval, in which case the provisions of section 527 of the Companies Act prevail. Pursuant to the foregoing, it cannot be deemed that the limitation on the maximum number of votes that may be cast by a shareholder constitutes an obstacle to a takeover bid.

- 2. When a dominant and subsidiary company are both listed, they should provide detailed disclosure on:**

- a) The activity they engage in and any business dealings between them, as well as between the listed subsidiary and other group companies.**
- b) The mechanisms in place to resolve possible conflicts of interest.**

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

3. During the annual general meeting the chairman of the board should verbally inform shareholders in sufficient detail of the most relevant aspects of the company's corporate governance, supplementing the written information circulated in the annual corporate governance report. In particular:

a) Changes taking place since the previous annual general meeting.

b) The specific reasons for the company not following a given Good Governance Code recommendation, and any alternative procedures followed in its stead.

Complies ☒ Complies in part ☐ Explain ☐

4. The company should draw up and implement a policy of communication and contacts with shareholders, institutional investors and proxy advisors that complies in full with market abuse regulations and accords equitable treatment to shareholders in the same position.

This policy should be disclosed on the company's website, complete with details of how it has been put into practice and the identities of the relevant interlocutors or those charged with its implementation.

Complies ☒ Complies in part ☐ Explain ☐

5. The board of directors should not make a proposal to the general meeting for the delegation of powers to issue shares or convertible securities without pre-emptive subscription rights for an amount exceeding 20% of capital at the time of such delegation.

When a board approves the issuance of shares or convertible securities without pre-emptive subscription rights, the company should immediately post a report on its website explaining the exclusion as envisaged in company legislation.

Complies ☒ Complies in part ☐ Explain ☐

6. Listed companies drawing up the following reports on a voluntary or compulsory basis should publish them on their website well in advance of the annual general meeting, even if their distribution is not obligatory.

a) Report on auditor independence.

b) Reviews of the operation of the audit committee and the nomination and remuneration committee.

c) Audit committee report on third-party transactions.

d) Report on the corporate social responsibility policy.

Complies ☒ Complies in part ☐ Explain ☐

7. The committee should broadcast its general meetings live on the corporate website.

Complies ☒ Explain ☐

8. The audit committee should strive to ensure that the board of directors can present the company's accounts to the general meeting without limitations or qualifications in the auditor's report. In the exceptional case that qualifications exist, both the chairman of the audit committee and the auditors should give a clear account to shareholders of their scope and content.

Complies ☒ Complies in part ☐ Explain ☐

9. The company should disclose its conditions and procedures for admitting share ownership, the right to attend general meetings and the exercise or delegation of voting rights, and display them permanently on its website.

Such conditions and procedures should encourage shareholders to attend and exercise their rights and be applied in a non-discriminatory manner.

Complies ☒ Complies in part ☐ Explain ☐

10. When an accredited shareholder exercises the right to supplement the agenda or submit new proposals prior to the general meeting, the company should:

- a) Immediately circulate the supplementary items and new proposals.
- b) Disclose the model of attendance card or proxy appointment or remote voting form duly modified so that new agenda items and alternative proposals can be voted on in the same terms as those submitted by the board of directors.
- c) Put all these items or alternative proposals to the vote applying the same voting rules as for those submitted by the board of directors, with particular regard to presumptions or deductions about the direction of votes.
- d) After the general meeting, disclose the breakdown of votes on such supplementary items or alternative proposals.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

11. In the event that a company plans to pay for attendance at the general meeting, it should first establish a general, long-term policy in this respect.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

12. The board of directors should perform its duties with unity of purpose and independent judgement, according the same treatment to all shareholders in the same position. It should be guided at all times by the company's best interest, understood as the creation of a profitable business that promotes its sustainable success over time, while maximising its economic value.

In pursuing the corporate interest, it should not only abide by laws and regulations and conduct itself according to principles of good faith, ethics and respect for commonly accepted customs and good practices, but also strive to reconcile its own interests with the legitimate

interests of its employees, suppliers, clients and other stakeholders, as well as with the impact of its activities on the broader community and the natural environment.

Complies ☒ Complies in part ☐ Explain ☐

13. The board of directors should have an optimal size to promote its efficient functioning and maximise participation. The recommended range is accordingly between five and fifteen members.

Complies ☒ Explain ☐

14. The board of directors should approve a director selection policy that:

- a) Is concrete and verifiable.
- b) Ensures that appointment or re-election proposals are based on a prior analysis of the board's needs.
- c) Favours a diversity of knowledge, experience and gender.

The results of the prior analysis of board needs should be written up in the nomination committee's explanatory report, to be published when the general meeting is convened that will ratify the appointment and re-election of each director.

The director selection policy should pursue the goal of having at least 30% of total board places occupied by women directors before the year 2020.

The nomination committee should run an annual check on compliance with the director selection policy and set out its findings in the annual corporate governance report.

Complies ☒ Complies in part ☐ Explain ☐

15. Proprietary and independent directors should constitute an ample majority on the board of directors, while the number of executive directors should be the minimum practical bearing in mind the complexity of the corporate group and the ownership interests they control.

Complies ☒ Complies in part ☐ Explain ☐

16. The percentage of proprietary directors out of all non-executive directors should be no greater than the proportion between the ownership stake of the shareholders they represent and the remainder of the company's capital.

This criterion can be relaxed:

- a) In large cap companies where few or no equity stakes attain the legal threshold for significant shareholdings.
- b) In companies with a plurality of shareholders represented on the board but not otherwise related.

Complies ☒ Explain ☐

17. Independent directors should be at least half of all board members.

However, when the company does not have a large market capitalisation, or when a large cap company has shareholders individually or concertedly controlling over 30 percent of capital, independent directors should occupy, at least, a third of board places.

Complies ☒ Explain ☐

18. Companies should disclose the following director particulars on their websites and keep them regularly updated:

- a) Professional profile and biographical data.
- b) Directorships held in other companies, listed or otherwise, and other paid activities they engage in, of whatever nature.
- c) Statement of the director class to which they belong, in the case of proprietary directors indicating the shareholder they represent or have links with.
- d) Dates of their first appointment as a board member and subsequent re-elections.
- e) Shares held in the company, and any options on the same.

Complies ☒ Complies in part ☐ Explain ☐

19. Following verification by the nomination committee, the annual corporate governance report should disclose the reasons for the appointment of proprietary directors at the urging of shareholders controlling less than 3 percent of capital; and explain any rejection of a formal request for a board place from shareholders whose equity stake is equal to or greater than that of others applying successfully for a proprietary directorship.

Complies ☐ Complies in part ☐ Explain ☐ Not applicable ☒

20. Proprietary directors should resign when the shareholders they represent dispose of their ownership interest in its entirety. If such shareholders reduce their stakes, thereby losing some of their entitlement to proprietary directors, the latter's number should be reduced accordingly.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

21. The board of directors should not propose the removal of independent directors before the expiry of their tenure as mandated by the bylaws, except where they find just cause, based on a proposal from the nomination committee. In particular, just cause will be presumed when directors take up new posts or responsibilities that prevent them allocating sufficient time to the work of a board member, or are in breach of their fiduciary duties or come under one of the disqualifying grounds for classification as independent enumerated in the applicable legislation.

The removal of independent directors may also be proposed when a takeover bid, merger or similar corporate transaction alters the company's capital structure, provided the changes in board membership ensue from the proportionality criterion set out in recommendation 16.

Complies ☒ Explain ☐

22. Companies should establish rules obliging directors to disclose any circumstance that might harm the organisation's name or reputation, tendering their resignation as the case may be, and, in particular, to inform the board of any criminal charges brought against them and the progress of any subsequent trial.

The moment a director is indicted or tried for any of the offences stated in company legislation, the board of directors should open an investigation and, in light of the particular circumstances, decide whether or not he or she should be called on to resign. The board should give a reasoned account of all such determinations in the annual corporate governance report.

Complies ☒ Complies in part ☐ Explain ☐

23. Directors should express their clear opposition when they feel a proposal submitted for the board's approval might damage the corporate interest. In particular, independents and other directors not subject to potential conflicts of interest should strenuously challenge any decision that could harm the interests of shareholders lacking board representation.

When the board makes material or reiterated decisions about which a director has expressed serious reservations, then he or she must draw the pertinent conclusions. Directors resigning for such causes should set out their reasons in the letter referred to in the next recommendation.

The terms of this recommendation also apply to the secretary of the board, even if he or she is not a director.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

24. Directors who give up their place before their tenure expires, through resignation or otherwise, should state their reasons in a letter to be sent to all members of the board. Whether or not such resignation is disclosed as a material event, the motivating factors should be explained in the annual corporate governance report.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

25. The nomination committee should ensure that non-executive directors have sufficient time available to discharge their responsibilities effectively.

The board of directors regulations should lay down the maximum number of company boards on which directors can serve.

Complies ☒ Complies in part ☐ Explain ☐

26. The board should meet with the necessary frequency to properly perform its functions, eight times a year at least, in accordance with a calendar and agendas set at the start of the year, to which each director may propose the addition of initially unscheduled items.

Complies ☒ Complies in part ☐ Explain ☐

27. Director absences should be kept to a strict minimum and quantified in the annual corporate governance report. In the event of absence, directors should delegate their powers of representation with the appropriate instructions.

Complies ☒ Complies in part ☐ Explain ☐

28. When directors or the secretary express concerns about some proposal or, in the case of directors, about the company's performance, and such concerns are not resolved at the meeting, they should be recorded in the minute book if the person expressing them so requests.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

29. The company should provide suitable channels for directors to obtain the advice they need to carry out their duties, extending if necessary to external assistance at the company's expense.

Complies ☒ Complies in part ☐ Explain ☐

30. Regardless of the knowledge directors must possess to carry out their duties, they should also be offered refresher programmes when circumstances so advise.

Complies ☒ Explain ☐ Not applicable ☐

31. The agendas of board meetings should clearly indicate on which points directors must arrive at a decision, so they can study the matter beforehand or gather together the material they need.

For reasons of urgency, the chairman may wish to present decisions or resolutions for board approval that were not on the meeting agenda. In such exceptional circumstances, their inclusion will require the express prior consent, duly minuted, of the majority of directors present.

Complies ☒ Complies in part ☐ Explain ☐

32. Directors should be regularly informed of movements in share ownership and of the views of major shareholders, investors and rating agencies on the company and its group.

Complies ☒ Complies in part ☐ Explain ☐

33. The chairman, as the person charged with the efficient functioning of the board of directors, in addition to the functions assigned by law and the company's bylaws, should prepare and submit to the board a schedule of meeting dates and agendas; organise and coordinate regular evaluations of the board and, where appropriate, the company's chief executive officer; exercise leadership of the board and be accountable for its proper functioning; ensure that sufficient time is given to the discussion of strategic issues, and approve and review refresher courses for each director, when circumstances so advise.

Complies ☒ Complies in part ☐ Explain ☐

34. When a lead independent director has been appointed, the bylaws or board of directors regulations should grant him or her the following powers over and above those conferred by law: chair the board of directors in the absence of the chairman or vice chairmen give voice to the concerns of non-executive directors; maintain contacts with investors and shareholders to hear their views and develop a balanced understanding of their concerns, especially those to do with the company's corporate governance; and coordinate the chairman's succession plan.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

35. The board secretary should strive to ensure that the board's actions and decisions are informed by the governance recommendations of the Good Governance Code of relevance to the company.

Complies ☒ Explain ☐

36. The board in full should conduct an annual evaluation, adopting, where necessary, an action plan to correct weakness detected in:

- a) The quality and efficiency of the board's operation.
- b) The performance and membership of its committees.
- c) The diversity of board membership and competences.
- d) The performance of the chairman of the board of directors and the company's chief executive.
- e) The performance and contribution of individual directors, with particular attention to the chairmen of board committees.

The evaluation of board committees should start from the reports they send the board of directors, while that of the board itself should start from the report of the nomination committee.

Every three years, the board of directors should engage an external facilitator to aid in the evaluation process. This facilitator's independence should be verified by the nomination committee.

Any business dealings that the facilitator or members of its corporate group maintain with the company or members of its corporate group should be detailed in the annual corporate governance report.

The process followed and areas evaluated should be detailed in the annual corporate governance report.

Complies ☒ Complies in part ☐ Explain ☐

37. When an executive committee exists, its membership mix by director class should resemble that of the board. The secretary of the board should also act as secretary to the executive committee.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

- 38. The board should be kept fully informed of the business transacted and decisions made by the executive committee. To this end, all board members should receive a copy of the committee's minutes.**

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

- 39. All members of the audit committee, particularly its chairman, should be appointed with regard to their knowledge and experience in accounting, auditing and risk management matters. A majority of committee places should be held by independent directors.**

Complies ☒ Complies in part ☐ Explain ☐

- 40. Listed companies should have a unit in charge of the internal audit function, under the supervision of the audit committee, to monitor the effectiveness of reporting and control systems. This unit should report functionally to the board's non-executive chairman or the chairman of the audit committee.**

Complies ☒ Complies in part ☐ Explain ☐

- 41. The head of the unit handling the internal audit function should present an annual work programme to the audit committee, inform it directly of any incidents arising during its implementation and submit an activities report at the end of each year.**

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

- 42. The audit committee should have the following functions over and above those legally assigned:**

1. With respect to internal control and reporting systems

- a) Monitor the preparation and the integrity of the financial information prepared on the company and, where appropriate, the group, checking for compliance with legal provisions, the accurate demarcation of the consolidation perimeter, and the correct application of accounting principles.
- b) Monitor the independence of the unit handling the internal audit function; propose the selection, appointment, re-election and removal of the head of the internal audit service; propose the service's budget; approve its priorities and work programmes, ensuring that it focuses primarily on the main risks the company is exposed to; receive regular report-backs on its activities; and verify that senior management are acting on the findings and recommendations of its reports.
- c) Establish and supervise a mechanism whereby staff can report, confidentially and, if appropriate and feasible, anonymously, any significant irregularities that they detect in the course of their duties, in particular financial or accounting irregularities.

2. With regard to the external auditor:

- a) Investigate the issues giving rise to the resignation of the external auditor, should this come about.
- b) Ensure that the remuneration of the external auditor does not compromise its quality or independence.

- c) Ensure that the company notifies any change of external auditor to the CNMV as a material event, accompanied by a statement of any disagreements arising with the outgoing auditor and the reasons for the same.
- d) Ensure that the external auditor has a yearly meeting with the board in full to inform it of the work undertaken and developments in the company's risk and accounting positions.
- e) Ensure that the company and the external auditor adhere to current regulations on the provision of non-audit services, limits on the concentration of the auditor's business and other requirements concerning auditor independence.

Complies ☒ Complies in part ☐ Explain ☐

43. The audit committee should be empowered to meet with any company employee or manager, even ordering their appearance without the presence of another senior officer.

Complies ☒ Explain ☐

44. The audit committee should be informed of any fundamental changes or corporate transactions the company is planning, so the committee can analyse the operation and report to the board beforehand on its economic conditions and accounting impact and, when applicable, the exchange ratio proposed.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

45. The risk control and management policy should identify at least:

- a) The different types of financial and non-financial risk the company is exposed to (including operational, technological, financial, legal, social, environmental, political and reputational risks), with the inclusion under financial or economic risks of contingent liabilities and other off- balance-sheet risks.
- b) The determination of the risk level the company sees as acceptable.
- c) The measures in place to mitigate the impact of identified risk events should they occur.
- d) The internal control and reporting systems to be used to control and manage the above risks, including contingent liabilities and off-balance- sheet risks.

Complies ☒ Complies in part ☐ Explain ☐

46. Companies should establish a risk control and management function in the charge of one of the company's internal department or units and under the direct supervision of the audit committee or some other dedicated board committee. This function should be expressly charged with the following responsibilities:

- a) Ensure that risk control and management systems are functioning correctly and, specifically, that major risks the company is exposed to are correctly identified, managed and quantified.
- b) Participate actively in the preparation of risk strategies and in key decisions about their management.

- c) Ensure that risk control and management systems are mitigating risks effectively in the frame of the policy drawn up by the board of directors.

Complies ☒ Complies in part ☐ Explain ☐

47. Appointees to the nomination and remuneration committee - or of the nomination committee and remuneration committee, if separately constituted - should have the right balance of knowledge, skills and experience for the functions they are called on to discharge. The majority of their members should be independent directors.

Complies ☒ Complies in part ☐ Explain ☐

48. Large cap companies should operate separately constituted nomination and remuneration committees.

Complies ☒ Complies in part ☐ Explain ☐

49. The nomination committee should consult with the company's chairman and chief executive, especially on matters relating to executive directors.

When there are vacancies on the board, any director may approach the nomination committee to propose candidates that it might consider suitable.

Complies ☒ Complies in part ☐ Explain ☐

50. The remuneration committee should operate independently and have the following functions in addition to those assigned by law:

a) Propose to the board the standard conditions for senior officer contracts.

b) Monitor compliance with the remuneration policy set by the company.

c) Periodically review the remuneration policy for directors and senior officers, including share-based remuneration systems and their application, and ensure that their individual compensation is proportionate to the amounts paid to other directors and senior officers in the company.

d) Ensure that conflicts of interest do not undermine the independence of any external advice the committee engages.

e) Verify the information on director and senior officers' pay contained in corporate documents, including the annual directors' remuneration statement.

Complies ☒ Complies in part ☐ Explain ☐

51. The remuneration committee should consult with the company's chairman and chief executive, especially on matters relating to executive directors and senior officers.

Complies ☒ Complies in part ☐ Explain ☐

52. The terms of reference of supervision and control committees should be set out in the board of directors regulations and aligned with those governing legally mandatory board committees as specified in the preceding sets of recommendations. They should include at least the following terms:

- a) Committees should be formed exclusively by non-executive directors, with a majority of independents.
- b) They should be chaired by independent directors.
- c) The board should appoint the members of such committees with regard to the knowledge, skills and experience of its directors and each committee's terms of reference; discuss their proposals and reports; and provide report-backs on their activities and work at the first board plenary following each committee meeting.
- d) They may engage external advice, when they feel it necessary for the discharge of their functions.
- e) Meeting proceedings should be minuted and a copy made available to all board members.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

53. The task of supervising compliance with corporate governance rules, internal codes of conduct and corporate social responsibility policy should be assigned to one board committee or split between several, which could be the audit committee, the nomination committee, the corporate social responsibility committee, where one exists, or a dedicated committee established *ad hoc* by the board under its powers of self-organisation, with at the least the following functions:

- a) Monitor compliance with the company's internal codes of conduct and corporate governance rules.
- b) Oversee the communication and relations strategy with shareholders and investors, including small and medium-sized shareholders.
- c) Periodically evaluate the effectiveness of the company's corporate governance system, to confirm that it is fulfilling its mission to promote the corporate interest and catering, as appropriate, to the legitimate interests of remaining stakeholders.
- d) Review the company's corporate social responsibility policy, ensuring that it is geared to value creation.
- e) Monitor corporate social responsibility strategy and practices and assess compliance in their respect.
- f) Monitor and evaluate the company's interaction with its stakeholder groups.
- g) Evaluate all aspects of the non-financial risks the company is exposed to, including operational, technological, legal, social, environmental, political and reputational risks.
- h) Coordinate non-financial and diversity reporting processes in accordance with applicable legislation and international benchmarks.

Complies ☒ Complies in part ☐ Explain ☐

54. The corporate social responsibility policy should state the principles or commitments the company will voluntarily adhere to in its dealings with stakeholder groups, specifying at least:

- a) The goals of its corporate social responsibility policy and the support instruments to be deployed.
- b) The corporate strategy with regard to sustainability, the environment and social issues.
- c) Concrete practices in matters relative to: shareholders, employees, clients, suppliers, social welfare issues, the environment, diversity, fiscal responsibility, respect for human rights and the prevention of illegal conducts.
- d) The methods or systems for monitoring the results of the practices referred to above, and identifying and managing related risks.
- e) The mechanisms for supervising non-financial risk, ethics and business conduct.
- f) Channels for stakeholder communication, participation and dialogue.
- g) Responsible communication practices that prevent the manipulation of information and protect the company's honour and integrity.

Complies ☒ Complies in part ☐ Explain ☐

55. The company should report on corporate social responsibility developments in its directors' report or in a separate document, using an internationally accepted methodology.

Complies ☒ Explain ☐

56. Director remuneration should be sufficient to attract individuals with the desired profile and compensate the commitment, abilities and responsibility that the post demands, but not so high as to compromise the independent judgement of non-executive directors.

Complies ☒ Explain ☐

57. Variable remuneration linked to the company and the director's performance, the award of shares, options or any other right to acquire shares or to be remunerated on the basis of share price movements, and membership of long-term savings schemes such as pension plans should be confined to executive directors.

The company may consider the share-based remuneration of non-executive directors provided they retain such shares until the end of their mandate. This condition, however, will not apply to shares that the director must dispose of to defray costs related to their acquisition.

Complies ☒ Complies in part ☐ Explain ☐

58. In the case of variable awards, remuneration policies should include limits and technical safeguards to ensure they reflect the professional performance of the beneficiaries and not simply the general progress of the markets or the company's sector, or circumstances of that kind.

In particular, variable remuneration items should meet the following conditions:

- a) Be subject to predetermined and measurable performance criteria that factor the risk assumed to obtain a given outcome.
- b) Promote the long-term sustainability of the company and include non-financial criteria that are relevant for the company's long-term value, such as compliance with its internal rules and procedures and its risk control and management policies.
- c) Be focused on achieving a balance between the delivery of short, medium and long-term objectives, such that performance-related pay rewards ongoing achievement, maintained over sufficient time to appreciate its contribution to long-term value creation. This will ensure that performance measurement is not based solely on one-off, occasional or extraordinary events.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

59. A major part of variable remuneration components should be deferred for a long enough period to ensure that predetermined performance criteria have effectively been met.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

60. Remuneration linked to company earnings should bear in mind any qualifications stated in the external auditor's report that reduce their amount.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

61. A major part of executive directors' variable remuneration should be linked to the award of shares or financial instruments whose value is linked to the share price.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

62. Following the award of shares, share options or other rights on shares derived from the remuneration system, directors should not be allowed to transfer a number of shares equivalent to twice their annual fixed remuneration, or to exercise the share options or other rights on shares for at least three years after their award.

The above condition will not apply to any shares that the director must dispose of to defray costs related to their acquisition.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

63. Contractual arrangements should include provisions that permit the company to reclaim variable components of remuneration when payment was out of step with the director's actual performance or based on data subsequently found to be misstated.

Complies ☒ Complies in part ☐ Explain ☐ Not applicable ☐

64. Termination payments should not exceed a fixed amount equivalent to two years of the director's total annual remuneration and should not be paid until the company confirms that he or she has met the predetermined performance criteria.

Complies ☐ Complies in part ☒ Explain ☐ Not applicable ☐

Contracts with executive directors and senior officers signed as from 2011 provide severance for contractual termination equal to a maximum of two times annual salary in the event of termination of their relationship with the Company, provided that termination of the relationship is not the result of a breach attributable thereto or solely due to a voluntary decision thereof. This is the case of the Business CEO.

The Company included guarantee clauses of up to five years in contracts with its key officers in the year 2000. Subsequently, in 2001, when the current chairman & CEO joined Iberdrola, he received the treatment in effect for such officers, in order to achieve an effective and sufficient level of loyalty. As chairman & CEO, he is currently entitled to three times his annual salary.

The Board of Directors has analysed this situation, the treatment of which is necessarily collective in nature. Any reduction in the salary multiples would carry high costs for the Company, for which reason the Board of Directors believes that it is most appropriate not to change the status quo. Any proposed reduction in the salary multiples would have a higher cost for the Company, as the amount of the contingency will gradually decrease due to the passage of time, resulting in payments far smaller than any possible reduction in the agreed severance payment, taking into account the average age of the affected group (58 years) and the low likelihood of the guarantees being enforced. In this regard, it should be pointed out that at year-end 2014, there were 62 officers with a right to severance pay greater than two years in case of termination. By year-end 2017, the number has decreased again to 34, without the enforcement of any guarantee clause.

H. OTHER INFORMATION OF INTEREST

1. If there are any significant aspects regarding corporate governance at the company or at entities of the group that is not included in the other sections of this report, but should be included in order to provide more complete and well-reasoned information regarding the corporate governance structure and practices at the entity or its group, briefly describe them.
2. In this section, you may also include any other information, clarification, or comment relating to the prior sections of this report to the extent they are relevant and not repetitive.

Specifically, state whether the company is subject to laws other than Spanish laws regarding corporate governance and, if applicable, include such information as the company is required to provide that is different from the information required in this report.

3. The company may also state whether it has voluntarily adhered to other international, industrial, or other codes of ethical principles or good practices. If so, identify the code in question and the date of adherence thereto.

SECTION A.2

The sources of the information provided are the notices sent by the shareholders to the CNMV and to the Company itself, and the information contained in their respective annual reports and press releases, and the information that the Company obtains from Iberclear.

Pursuant to the provisions of section 23.1 of Royal Decree 1362/2007 of 19 October, further developing Law 24/1988 of 28 July on the Securities Market, in connection with the transparency requirements relating to the information on issuers whose securities have been admitted to trading on an official secondary market or other regulated market in the European Union, it is deemed that significant shareholders are the holders of at least 3% of voting rights.

On 12 January 2018, Capital Research and Management Company reported that it held a 5.117% interest in the share capital of Iberdrola.

On 15 February 2018, BlackRock Inc. reported to the CNMV that its interest in the capital of Iberdrola was 5.00%.

According to available information, the approximate breakdown of the interests in the share capital by type of shareholder is as follows:

- Foreign investors	66.28%
- Domestic entities	10.17%
- Domestic retail investors	23.55%

SECTION A.3

Data at the date of approval of this Report.

For the chairman & CEO, there is a deferral of the second (510,596 shares in 2018) and third (510,596 shares in 2019) delivery of shares corresponding to the 2014-2016 Strategic Bonus approved by shareholders at the General Shareholders' Meeting. Each of the deliveries of said shares is subject to confirmation by the Board of Directors, after a report from the Remuneration Committee, on the currency of the circumstances on which the performance evaluation was based.

Furthermore, pursuant to the provisions of the 2017-2019 Strategic Bonus approved at the General Shareholders' Meeting, the chairman & CEO may receive up to a maximum of 1,900,000 shares based on the performance evaluation for the 2017-2019 period, which if awarded will be paid in three equal parts in 2020, 2021 and 2022.

For the Business CEO, there is a deferral of the second (120,931 shares in 2018) and third (120,931 shares in 2019) delivery of shares corresponding to the 2014-2016 Strategic Bonus approved by shareholders at the General Shareholders' Meeting. Each of the deliveries of said shares is subject to confirmation by the Board of Directors, after a report from the Remuneration Committee, on the currency of the circumstances on which the performance evaluation was based.

Furthermore, pursuant to the provisions of the 2017-2019 Strategic Bonus, the Business CEO may receive up to a maximum of 300,000 shares based on the performance evaluation for the 2017-2019 period, which if awarded will be paid in three equal parts in 2020, 2021 and 2022.

SECTION A.8

Iberdrola maintains in treasury 75,710,149 own shares and 6,427,771 shares accumulated through derivatives contracts pending settlement and that are recorded as treasury shares in the consolidated financial statements at 31 December 2017, representing 1.30% of the capital. It also maintains 6,000,000 shares in total return swaps with physical settlement.

Pursuant to the authorisations granted to the Board of Directors by the shareholders at the General Shareholders' Meeting, during financial year 2017 Iberdrola acquired 156,414,422 shares for 1,002,999 thousand euros, of which 72,905,834 shares were acquired through discretionary market transactions, while the remaining 83,508,588 shares were acquired through derivatives contracts.

In addition, 11,939,050 own shares were sold for 84,382 thousand euros.

Under such authorisations, Iberdrola has also retired 219,990,000 own shares.

SECTION B.4

The percentage of absentee voting (others) reflects the votes received by mail. Absentee voting is not included within voting in person.

SECTION C.1.3

The complete professional profiles of all the directors are available on the Company's corporate website (www.iberdrola.com).

SECTION C.1.29

Within the framework of the process of evaluation of the Board of Directors, the lead independent director met individually with each of the directors in order to identify possible improvements in the operation thereof.

SECTION C.1.30

Below is the data on attendance of each and every one of the directors at the meetings of the Board of Directors and its committees during financial year 2017: See Annex.

SECTION C.1.31

The Iberdrola Group has established a certification process by which those responsible for financial information in the different areas of the Company certify that: (i) the financial information they deliver to Iberdrola for purposes of consolidation does not contain any material errors or omissions and provides a fair view of the results and the financial condition within their area of responsibility, and (ii) they are responsible for establishing the ICFRS within their area of responsibility and have found, upon evaluation, that the system is effective. The text of these certifications is inspired by the form of certification established in section 302 of the U.S. Sarbanes-Oxley Act.

The culmination of the process is a joint certification that the chairman & chief executive officer and the director of Administration and Control submit to the Board of Directors.

The process is carried out by means of electronic signature in a software application which manages the areas of responsibility and time periods and which serves as a repository of all the documentation generated, allowing for periodic review by the supervision and control bodies of the Group.

SECTION D.2

Transactions by shareholders exercising a significant influence on participation in the entity's financial and operating decisions, with significant influence being understood as having a member of the Board of Directors.

Shareholders who are able to exercise the proportional representation system due to their interest in the capital of the Company are also considered to have such influence.

As of the date of this report, only Qatar Investment Authority meets this condition, for which reason the amounts reflected in the period refer to the transactions with this shareholder.

The amounts set forth as "profits and other dividends paid" correspond to the cash dividend distributed by the Company and to the free-of-charge allocation rights stemming from the two increases in share capital by means of a scrip issue approved by the shareholders at the General Shareholders' Meetings, which were sold to the Company at a guaranteed fixed price pursuant to the terms and conditions of such increases.

SECTION D.4

Transactions with subsidiaries and companies in which the Company has an interest that have not been eliminated in the process of consolidation were made in the ordinary course of business of the Company, were carried out under arm's-length conditions, and are of little significance to accurately reflect the assets, financial condition, and results of operations of the Company.

On 20 July 2010, the Company adhered to the Code of Good Tax Practices, a document approved at the full Forum of Large Businesses (*Foro de Grandes Empresas*) created by the National Tax Administration Agency (*Agencia Estatal de Administración Tributaria*) and certain large companies, and which was held on that date.

Pursuant to the provisions of section 2 of the annex of adherence to the Good Tax Practices Code and of subsection 4.a) of the Corporate Tax Policy, the Company reports that it has complied with the provisions of such Code as from the time of approval thereof.

Specifically, it is reported that, during financial year 2017, the Company's head of tax matters appeared on 22 February 2017 and 17 July 2017 before Iberdrola's Audit and Risk Supervision Committee to report on compliance with the Corporate Tax Policy, which includes the good tax practices contained in the aforementioned Code, all of which was reported to the Board of Directors.

This annual corporate governance report was approved by the Board of Directors of the company at its meeting of 20 February 2018.

State whether any directors voted against or abstained in connection with the approval of this Report.

Yes ☐ No ☒

Individual or company name of director that did not vote in favour of the approval of this report	Reasons (opposed, abstained, absent)	Explain the reasons

ANNEX – SECTION H

SECTION C.1.30

Below is the data on attendance of each and every one of the directors at the meetings of the Board of Directors and its committees during financial year 2017: Proxies granted with specific voting instructions are considered to be attendances.

Directors	Board	Committees				
		EC	ARSC	AC	RC	CSRC
MR JOSÉ IGNACIO SÁNCHEZ GALÁN	9/9	14/14	--	--	--	--
MR IÑIGO VÍCTOR DE ORIOL IBARRA	9/9	--	--	7/7	8/8	--
MS INÉS MACHO STADLER	9/9	14/14	--	--	8/8	--
MR BRAULIO MEDEL CÁMARA	9/9	--	--	--	--	8/8
MS SAMANTHA BARBER	9/9	11/11	--	--	--	8/8
MS MARÍA HELENA ANTOLÍN RAYBAUD	9/9	--	--	7/7	--	--
MR SANTIAGO MARTÍNEZ LAGE	3/3	--	--	--	3/3	--
MR JOSÉ LUIS SAN PEDRO GUERENABARRENA	3/3	3/3	--	--	--	--
MR ÁNGEL JESÚS ACEBES PANIAGUA	9/9	14/14	--	7/7	--	--
MS GEORGINA KESSEL MARTÍNEZ	9/9	--	11/11	--	--	--
MS DENISE MARY HOLT	9/9	--	11/11	--	--	--
MR JOSÉ WALFREDO FERNÁNDEZ	9/9	--	11/11	--	--	--
MR MANUEL MOREU MUNAIZ	9/9	14/14	--	--	--	8/8
MR XABIER SAGREDO ORMAZA	9/9	--	11/11	--	--	--
MR JUAN MANUEL GONZÁLEZ SERNA	6/6	--	--	--	5/5	--
MR FRANCISCO MARTÍNEZ CÓRCOLES	6/6	--	--	--	--	--

Notes:

- The denominator indicates the number of meetings held during the period of the year in which the director served as such or as a member of the respective Committee.
- EC: Executive Committee.
- ARSC: Audit and Risk Supervision Committee.
- AC: Appointments Committee.
- RC: Remuneration Committee
- CSRC: Corporate Social Responsibility Committee.

NON-FINANCIAL INFORMATION AND DIVERSITY

This report has been prepared in accordance with the reporting requirements and recommendations of the Consolidated Set of GRI Sustainability Reporting Standards 2016 and the Electric Utilities Sector Supplement, both of the Global Reporting Initiative (GRI).

GRI Content Index

External assurance: the contents of this index have been externally assured by an independent entity (PwC). The corresponding assurance report can be found in the corporate website (www.iberdrola.es) in the Sustainability Report section.

Electric Utilities Sector Supplement: this index incorporates the topics and disclosures required by such supplement, published by GRI in 2014. They symbol * indicates those general standard disclosures and topics of the GRI Standards where specific sector information is requested.

GRI Standard	Description	Page	External assurance	Relationship with SDGs
GRI 100 UNIVERSAL STANDARDS				
GRI 101 Foundation 2016 (Note: does not require disclosure of information)				
GRI 102 General disclosures 2016				
1.- Organisational profile *				
102-1	Name of the organisation	37	✓	
102-2	Primary activities, brands, products and services	37	✓	
102-3	Location of headquarters	38	✓	
102-4	Location of operations	38	✓	
102-5	Ownership and legal form	39	✓	
102-6	Markets served	40	✓	
102-7	Scale of the organisation	40	✓	
102-8	Information on employees and other workers	42	✓	8
102-9	Supply chain	42	✓	
102-10	Significant changes to the organisation and its supply chain	46	✓	
102-11	Precautionary Principle or approach	47	✓	
102-12	External initiatives to which the organisation subscribes or which it endorses	47	✓	
102-13	Main memberships of associations	49	✓	
EU1*	Installed capacity	51	✓	7
EU2*	Energy output	52	✓	7, 14
EU3*	Electricity users and producers	52	✓	
EU4*	Transmission and distribution lines	52	✓	
EU5*	Allocation of CO ₂ emissions allowances or equivalent	53	✓	14, 15
2.- Strategy				
102-14	Statement from senior decision-maker	55	✓	
102-15	Key impacts, risks and opportunities	55	✓	
3.- Ethics and integrity				
102-16	Values, principles, standards and norms of behaviour	62	✓	16
102-17	Mechanisms for advice and concerns about ethics	63	✓	16
4.- Governance				
102-18	Governance structure	67	✓	
102-19	Delegating authority	69	✓	
102-20	Executive-level positions with responsibility for economic, social and environmental topics	69	✓	
102-21	Processes for consultation between Stakeholders and the Board of Directors	69	✓	16

102-22	Composition of the highest governance body and its committees	72	✓	5, 16
102-23	Chair of the highest governance body	72	✓	16
102-24	Selection and nomination of the members of the highest governance body	73	✓	5, 16
102-25	Processes for the highest governance body to avoid conflicts of interest	74	✓	16
102-26	Role of highest governance body in setting purpose, values and strategy	75	✓	
102-27	Collective knowledge of highest governance body	77	✓	4
102-28	Evaluating the highest governance body's performance	79	✓	
102-29	Identifying and managing economic, environmental and social impacts	79	✓	16
102-30	Effectiveness of risk management processes	80	✓	
102-31	Review of economic, environmental and social topics	80	✓	
102-32	Highest governance body's role in sustainability reporting	81	✓	
102-33	Communicating critical concerns	81	✓	
102-34	Nature and total number of critical concerns	81	✓	
102-35	Remuneration policies	82	✓	
102-36	Process for determining remuneration	82	✓	
102-37	Stakeholders' involvement in remuneration	83	✓	16
102-38	Annual total compensation ratio	83	✓	
102-39	Percentage increase in annual total compensation ratio	83	✓	
5.-Stakeholder engagement				
102-40	Stakeholder groups engaged by the organisation	85	✓	
102-41	Collective bargaining agreements	85		8
102-42	Identifying and selecting stakeholders	85	✓	
102-43	Approach to stakeholder engagement	85	✓	
102-44	Key topics and concerns raised	88	✓	
6.-Reporting practice				
102-45	Entities included in the consolidated financial statements and in the boundary of this report	92	✓	
102-46	Defining report content and scope and topic boundaries	95	✓	
102-47	List of material topics	95	✓	
102-48	Restatements of information provided in previous reports	99	✓	
102-49	Significant changes in scope and topic boundaries	99	✓	
102-50	Reporting period	99	✓	
102-51	Date of most recent report	100	✓	
102-52	Reporting cycle	100	✓	
102-53	Contact point for questions regarding the report	100	✓	
102-54	Claims of reporting in accordance with the GRI Standards	100	✓	
102-55	GRI content index	100	✓	
102-56	External assurance	100	✓	
GRI 103 Management approach 2016				

General management approach, applicable to all aspects of this report.	32	✓	1.5, 8, 12, 13, 14, 15, 16
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GRI 200 ECONOMIC DIMENSION				
Material topics	Reporting on management approach and corresponding disclosures	Page	Omissions	External assurance Relationship with SDGs
Topics of the GRI Standards				
- GRI 201 Economic performance 2016	From 201-1 to 201-4	105		✓ 2, 5, 7, 8, 9, 13
- GRI 202 Market presence 2016	202-1 and 202-2	110		✓ 1, 5, 8
- GRI 203 Indirect economic impacts 2016	203-1 and 203-2	111		✓ 1, 2, 3, 5, 7, 8, 9, 10, 11, 17
- GRI 204 Procurement practices 2016	204-1	114		✓ 12
- GRI 205 Anti-corruption 2016	From 205-1 to 205-3	115		✓ 16
- GRI 206 Anti-competitive behavior 2016	206-1	122		✓ 16
Specific topics of the electric utilities sector supplement				
- Availability and reliability	EU10	128		✓ 7
- System efficiency	EU11 and EU12	128		✓ 7, 8, 12, 13, 14
- Demand-side management	No specific disclosures	129		✓
- Research and development	No specific disclosures	131		✓
- Nuclear plant decommissioning	No specific disclosures	133		✓
Specific topics of the Iberdrola group				
- Supply costs		135		✓
- Green financing		137		✓
- Fiscal responsibility		138		✓
- Cybersecurity		140		✓
- Privacy of the personal information of Stakeholders		141		✓
GRI 300 ENVIRONMENTAL DIMENSION				

Material topics	Reporting on management approach and corresponding disclosures	Page	Omissions	External assurance	Relationship with SDGs
Specific management approach to the environmental dimension		144		✓	
Topics of the GRI Standards					
- GRI 301 Materials * 2016	From 301-1 to 301-3	149		✓	8, 12
- GRI 302 Energy 2016	From 302-1 to 302-5	151		✓	7, 8, 12, 13
- GRI 303 Water * 2016	From 303-1 to 303-3	156		✓	6, 8, 12
- GRI 304 Biodiversity * 2016	From 304-1 to 301-4, EU13	159		✓	6, 14, 15
- GRI 305 Emissions * 2016	From 305-1 to 305-7	169		✓	3, 12, 13, 14, 15
- GRI 306 Effluents and waste * 2016	From 306-1 to 306-5	176		✓	3, 6, 12, 13, 14, 15
- GRI 307 Environmental compliance 2016	307-1	180		✓	12, 13, 14, 15, 16
- GRI 308 Supplier environmental assessment 2016	308-1 and 301-2	181		✓	

GRI 400 SOCIAL DIMENSION

Material topics	Reporting on management approach and corresponding disclosures	Page	Omissions	External assurance	Relationship with SDGs
Specific management approach to the Social Dimension		186		✓	
Topics of the GRI Standards					
- GRI 401 Employment * 2016	From 401-1 to 401-3	189		✓	5, 8
- GRI 402 Labour/management relations* 2016	402-1, EU15, EU17 and EU18	194		✓	8
- GRI 403 Occupational health and safety * 2016	From 403-1 to 401-4	198		✓	3, 8
- GRI 404 Training and education 2016	From 404-1 to 404-3	205		✓	4, 5, 8
- GRI 405 Diversity and equal opportunity 2016	405-1 and 405-2	212		✓	5, 8, 10
- GRI 406 Non-discrimination 2016	406-1	213		✓	5, 8, 16
- GRI 407 Freedom of association and collective bargaining* 2016	407-1	214		✓	8
- GRI 408 Child labour 2016	408-1	214		✓	8, 16
- GRI 409 Forced or compulsory labour 2016	409-1	214		✓	8
- GRI 410 Security practices 2016	410-1	215		✓	16

-	GRI 411 Rights of indigenous peoples 2016	411-1	216	✓	2
-	GRI 412 Human rights assessment 2016	From 412-1 to 412-3	218	✓	
-	GRI 413 Local communities * 2016	413-1 and 413-2, EU22	222	✓	1, 2
-	GRI 414 Supplier social assessment 2016	414-1 and 414-2	227	✓	5, 8, 16
-	GRI 415 Public policy 2016	From 415-1	232	✓	16
-	GRI 416 Customer health and safety *2016	416-1 and 416-2	235	✓	16
-	GRI 417 Marketing and labelling 2016	From 417-1 to 417-3	238	✓	12, 16
-	GRI 418 Customer privacy 2016	418-1	240	✓	16
-	GRI 419 Socioeconomic compliance 2016	419-1	241	✓	16
Specific topics of the electric utilities sector supplement					
-	Disaster/emergency planning and response	No specific disclosures	242	✓	
-	Access to electricity	EU26 to EU30	245	✓	1, 7
-	Access to adequate information	No specific disclosures	247	✓	
Specific topics of the Iberdrola group					
-	Iberdrola and the Global Compact		250	✓	
-	Iberdrola's contribution to the community		251	✓	
-	Iberdrola, promoting women's sport		263	✓	

PART I.

General

Disclosures

General management approach, applicable to all topics of this report

Policies and commitments

The company's [Corporate Governance System](#) is made up of the [By-Laws](#), the [Mission, Vision and Values of the Iberdrola group](#), the [corporate policies](#), the [governance rules of the corporate decision-making bodies and internal committees](#) and [Compliance](#).

The commitments of Iberdrola defined in this System materialise daily in all business activities of the group, as well as in its strategy to maximise the social dividend, social responsibility and respect for Human Rights, encouraging initiatives that contribute to achieving a more healthy, equal and just society, and particularly to the achievement of the Sustainable Development Goals, especially the goals relating to universal access to electricity and the fight against climate change.

In sum, it is a search for Shared Value, i.e. the sum of all economic and social values that a company generates through its activities, within the surroundings in which it carries them out, and in the case of Iberdrola, which is expressed through the social dividend.

The Iberdrola group has a set of corporate policies for this purpose that develop the principles reflected in the Corporate Governance System and that contain the guidelines governing the actions of the company and the companies of its group, as well as those of the directors, officers and employees thereof, within the framework of the vision and values of the company.

The companies of the group assume a set of principles and values that express their commitment to corporate governance, business ethics and corporate social responsibility. The awareness, dissemination and implementation thereof serve to guide the activities of the Board of Directors and its committees and of the decision-making bodies of the company in their relations with the company's various Stakeholders.

These policies, which can be viewed in full or in summary in the [Corporate Governance](#) tab of the website, are grouped into three categories:

- Corporate Governance and Regulatory Compliance Policies.
- Risk Policies.
- Social Responsibility Policies.

Iberdrola has also assumed certain public commitments that guide the activities of the group:

- By subscribing to various initiatives relating to the environmental and social dimension of its activities, included in disclosure 102-12 of this report.
- Through its membership in certain business and social organisations, such as those described in disclosure 102-13 of this report, and which are identified by their objectives and purposes.

These policies and commitments serve to guide the company and its workforce to manage their activities, and specifically the material topics dealt with in this document.

Responsibilities

Disclosure 102-26 of this report describes the organisational model of the Iberdrola group and its responsible persons. The responsibilities of the corporate functions or business units regarding the various aspects dealt with in this report are the following:

- Aspects relating to corporate governance and that affect the legal area are the responsibility of the Office of the Secretary of the Board of Directors.
- Aspects relating to labour practices are the responsibility of the Human Resources and General Services Division, within the Finance and Resources Division.
- Aspects relating to the environment are the responsibility of the Innovation, Sustainability and Quality Division, which reports directly to the chairman & CEO.
- Aspects relating to procurement are the responsibility of the Procurement and Insurance Division, within the Finance and Resources Division if referring to general supplies, and the responsibility of the Wholesale and Retail Business, within the group's General Business Division, if referring to the procurement of fuel.
- Aspects relating to regulation and public policies are the responsibility of the Global Regulation Division of the General Business Division of the group.
- Aspects relating to the products sold, demand, customers and other related topics are the responsibility of the Wholesale and Retail Business if referring to liberalised markets like Spain or the United Kingdom, and of the Networks Business if referring to regulated markets like the United States or Brazil.
- Aspects relating to production facilities are the responsibility of the Wholesale and Retail Business or the Renewables Business, each within their scope of activity, and those relating to transmission and distribution facilities are the responsibility of the Networks Business. These three businesses are within the General Businesses Division of the group.

By way of complement:

- The Operating Committee, made up of the chairman & CEO, the Business CEO and the directors of corporate functions and business units, is an internal committee providing technical support, information and management, with respect to both the duties of supervision and monitoring as well as the strategic organisation and coordination of the group through the dissemination, implementation and monitoring of the general strategy and the basic management guidelines established by the Board of Directors, while always respecting the scope of day-to-day management and effective decision-making corresponding to the governance and management bodies of the head of business companies of each of the businesses.
- The Compliance Unit, as an internal and permanent decision-making body linked to the company's Corporate Social Responsibility Committee, responsible for proactively ensuring the effective operation of the company's Compliance System, which is made up of all of the rules, formal procedures and significant actions intended to ensure that the company conducts itself in accordance with ethical principles and applicable law and to prevent improper conduct or conduct that is contrary to ethics, the law or the Corporate Governance System that might be committed by the professionals thereof within the organisation.
- Internal Audit, which promotes the proper operation of the information technology and internal control, risk management and governance systems of the company and of the group. Its activities are governed by the provisions of the Corporate Governance System, the [*Basic Internal Audit Regulations of Iberdrola, S.A. and its group \(BIAR\)*](#) approved by the Board of Directors and the other internal rules of the company, as well as the *International Standards for the Professional*

Practice of Internal Auditing approved by the Global Institute of Internal Auditors (IIA). The BIAR is required knowledge of the professionals of the group that it affects, and describes the nature, organisation, competencies, resources, activities, powers and duties of the function and establishes the relations between the Internal Audit Area of Iberdrola, S.A. and the Internal Audit divisions of the other companies of the group.

To exercise these responsibilities, the Iberdrola model provides that they are assumed in a decentralised manner by the country subholding companies and head of business companies in each country, which are organised through their respective boards of directors. The head of business companies occupy themselves with the effective management thereof, as well as the day-to-day management and control thereof.

Goals, resources and results

Iberdrola periodically publicises its medium- and long-term goals using various formats: [Investor Day](#) is one of the most important events to externally communicate the future outlook of the company. As additional information, Iberdrola annually publishes its [Integrated Report](#), which is also available on the corporate website.

Internally, the various businesses and corporate organisations determine their annual goals in harmony with the strategic goals of the company, both financial and non-financial, directed specifically towards the activities for which they are responsible. The results obtained with respect to the established goals are used to establish the annual variable remuneration of the company's management team by means of a procedure audited by the company's Internal Audit Division.

To reach these goals, Iberdrola has an annual process for assigning resources, by establishing the corresponding income and expense budgets, which are approved by the company's Board of Directors. The achievements obtained by Iberdrola are reflected in the performance of the various quantitative indicators covered by the various aspects dealt with in this report.

By way of complement, the businesses and corporate areas have defined specific goals in the area of corporate social responsibility, which are contained in the *CSR Plan 2015-2017*.

This plan is based on goals linked to the business model and to the management of tangible and intangible assets of the company, focusing on each of them: financial, industrial, intellectual, human, natural, social and relational capital. Based on these goals, more than 150 activities were established through which each organisation of the company has contributed to the achievement of the plan, in order to consistently promote the progress of CSR in all countries, businesses and corporate areas. Approximately 98% of this plan has been achieved, with significant progress in cross-sectional topics like Stakeholder relations, the protection of human rights, and the inclusion of CSR tools in the management systems of the businesses and corporate areas in all countries in which the group does business.

These goals are monitored on a half-yearly basis by the group's Corporate Social Responsibility and Reputation Committee, and by the Corporate Social Responsibility Committee of the Board of Directors when the latter so requests.

Iberdrola is currently preparing a new plan for the entire group for the coming years, for the purpose of increasing transparency and the number of social responsibility activities in the businesses and corporate areas.

Report boundary

The information boundary of this report is described in detail in section 102-45.

Due to its significance, it should be noted that due to the merger in Brazil of all of the businesses of the company Elektro Holding into Neoenergia in August 2017, it was deemed necessary to reformulate the information for financial year 2016 applying the same standards as financial year 2017, in order for the information for both financial years to be homogenous and comparable. The reformulation involves the consideration of 100% of the socio-economic and environmental parameters of Neoenergia (thus reflecting the control position of the group) instead of the 39% that was used through the prior year. The economic/financial figures follow accounting standards.

Furthermore, the information in all the tables of this report has been limited to financial years 2017 and 2016. Maintaining the scorecards and tables with information for three financial years, as was Iberdrola's customary practice, would have involved a lack of homogeneity between the information from financial year 2015 and that from the following years. This limitation will already be corrected in the next report.

1. Organisational profile

Contribution to SDGs of the performance described by the indicators of this section
(according to SDG Compass www.sdgcompass.org)



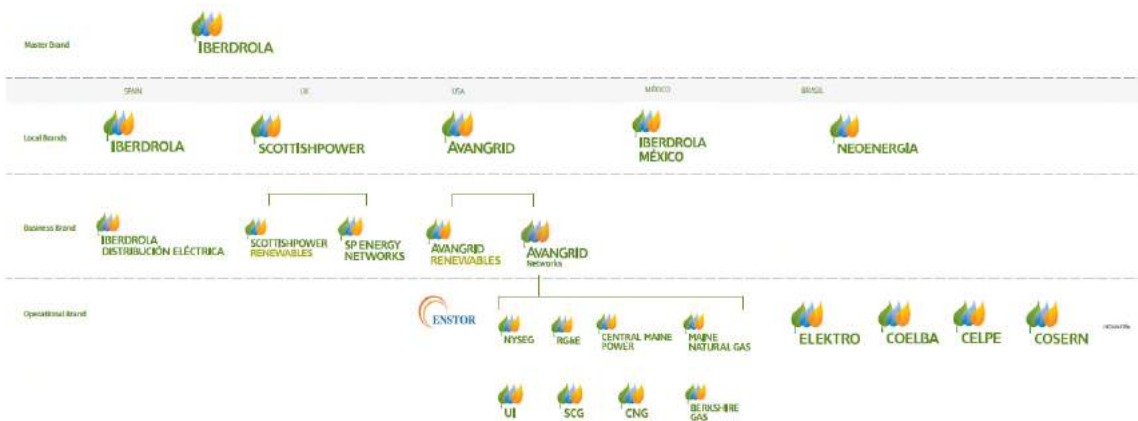
102-1 Name of the organisation

Iberdrola, S.A.

102-2 Primary activities, brands, products and services

The [“Iberdrola” brand](#) reflects the corporate mission, vision and values, is based on the company's strategy, which gives it credibility and strength, and conveys its commitment: the sustainable creation of value for all of its Stakeholders, contributing to the development of the communities in which we do business and to the well-being of people, providing a high-quality service and offering environmentally-friendly, efficient and innovative energy solutions.

Iberdrola knows how to identify and adjust to the needs of each country in which it does business. The company has used its experience in each market to strengthen its brand value, and beyond the location of the business, it has created a brand culture based on a global/local balance. Iberdrola has the brand names listed in the table below at year-end 2017:



The table above shows the most important brands having the largest operational and market presence in each country. The company has other brands at the local and business level.

The main products that Iberdrola makes available to its customers are electricity and natural gas. It also offers a broad array of products, services and solutions in the areas of:

- Improvement in the consumer's quality of life, peace of mind and safety.

- Efficiency, digitalisation and energy services.
- Protection of the environment: renewable energy and sustainable mobility.
- Quality of electricity supply and safety of facilities.
- Assembly of electricity infrastructure.
- Comprehensive management of energy facilities and supplies.

It also provides the following services through its subsidiaries: engineering and construction of electricity generation, distribution and control facilities; operation and maintenance of electricity generation facilities; land management and development; and the sale and lease of housing, offices and retail premises. More detailed information in this regard can be in the [“Group structure”](#) section of the website.

102-3 Location of headquarters

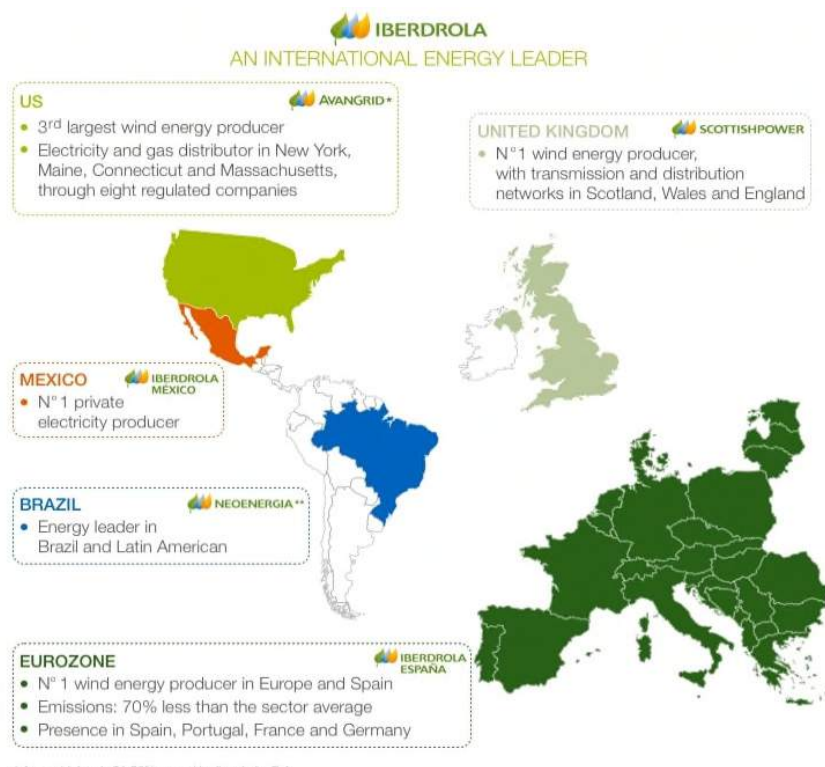
The registered office of Iberdrola is:

Plaza Euskadi número 5
48009 Bilbao, Biscay
Spain

102-4 Location of operations

Iberdrola and its subsidiaries and affiliates carry out their activities in almost twenty countries, fourteen of which are considered significant with respect to sustainability issues. However, for operational and economic/financial purposes, Iberdrola concentrates 97.5% of its business activities (measured by turnover) in five principal countries: Spain, United Kingdom, United States, Brazil and Mexico.

The following infographic shows the group's principal areas of activity. The countries in which it operates, the activities performed in each of them and the criteria used to define the significance thereof are set forth in disclosure 102-45 of this report.

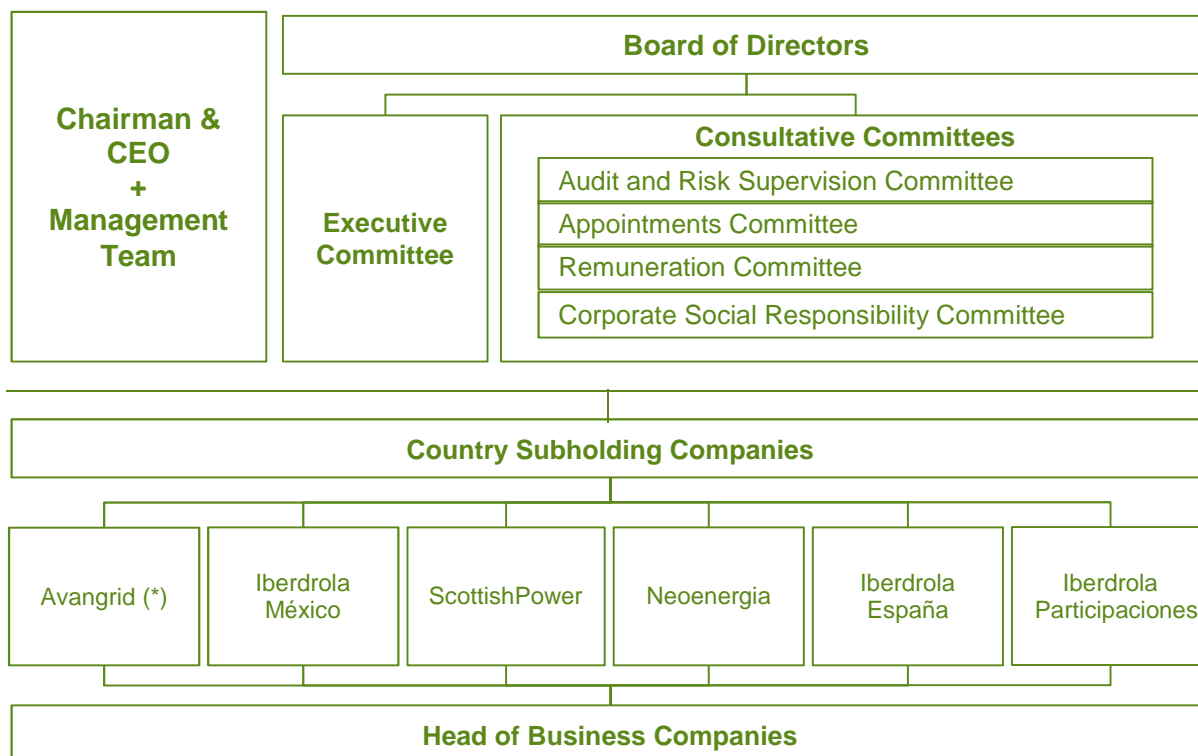


102-5 Ownership and legal form

Iberdrola is a *sociedad anónima* (public limited company) organised under Spanish law.

The corporate and governance structure of the company and of the group, which forms an essential part of the company's Corporate Governance System, is reflected in the following chart:

Corporate and governance structure of Iberdrola, S.A.



(*) Company listed on the New York Stock Exchange.

At 31 December 2017, its share capital totalled 4,738,136,250 euros, represented by 6,317,515,000 shares of the same class and series, each having a nominal value of 0.75 euro. All shares give the holders thereof the same rights. The approximate distribution of equity interests is as follows:

- Foreign entities	66.28%
- Domestic entities	10.17%
- Retail investors	23.55%

As at the date of approval of this report, the share capital of Iberdrola, S.A. totals 4,828,780,500.00 euros and is made up of 6,438,374,000 shares of the same class and series, each having a nominal value of 0.75 euro, which are totally subscribed and paid up.

102-6 Markets served

In the countries of operation, described in section 102-45, the Iberdrola group provides the products and services described in section 102-2 to many different types of customers in the residential, commercial and corporate spheres, as reflected in indicator EU3. The same types of products and services may be provided in other countries should legal, economic and social circumstances be appropriate, in line with the company's strategic approach.

102-7 Scale of the organisation

The following sections include the key figures for Iberdrola, the corporate structure of which is set forth in indicator 102-26 of this report.

Employees

Employees ¹	2017	2016
Spain	10,296	10,395
United Kingdom	6,067	6,373
United States	6,561	6,849
Brazil	10,096	9,429
Mexico	944	874
Other countries	291	162
Report boundary	34,255	34,082

Operations (centres of activity)

The Iberdrola group has identified more than 1,200 sites at which the company operates. In order to adequately manage such a large number of them from the viewpoint of the "Topics" dealt with in the GRI Standards, rationalisation criteria have been used to address them; accordingly, the number of Iberdrola's locations of operation at year-end 2017 is deemed to be 114 for purposes of this report.

¹ The figures in the table reflect the number of employees at year-end 2017, without distinguishing between full-time/part-time employees. To perform statistical analysis regarding labour costs, it is recommended to use the number of employees in terms of Full Time Equivalents (FTEs): 28,355 in financial year 2016, without including the consolidation of Neoenergia, and 33,772 in financial year 2017.

Detailed information on these locations and on the criteria used to define them can be found in Annex 3 Supplementary information.

Net sales (net revenue)

Net sales (€ millions)	2017	2016
Iberdrola consolidated total	31,263	29,216

Total capitalisation, broken down in terms of debt and equity

Total market capitalisation (€ millions)	2017	2016
Equity of controlling company	35,509	36,691
Bank borrowings, gross	37,115	32,025
Gross property, plant and equipment in use	101,765	103,312
Accumulated amortisation and depreciation	(37,683)	(39,477)

Products or services provided

Products or services provided	2017	2016
Iberdrola total		
Net electricity production (GWh)	137,632	142,466
Electric power distributed (GWh)	230,122	229,920
Gas supplies to users (GWh)	122,010	127,425

Total assets

Total assets (€ millions)	2017	2016
Iberdrola consolidated total	110,689	106,706

Beneficial ownership

No shareholder holds a controlling interest in the equity structure of the company. Below is a table showing those shareholders who hold a significant interest² in the share capital of, or voting rights in, Iberdrola as of 31 December 2016 and 2017.

Significant shareholders and percentage of direct and indirect voting rights (%)	31/12/2017	31/12/2016
Qatar Investment Authority	8.57	8.51
Norges Bank	3.21	3.20
Capital Research and Management Company	3.10	N/A
BlackRock, Inc.	3.03	3.01
Kutxabank, S.A.	N/A	3.00

² Defined according to Royal Decree 1362/2007 and Circular 2/2007, of 19 December, of the National Securities Market Commission.

At the date of approval of this report, Capital Research and Management Company has reported that its interest has increased to 5.117% of share capital and BlackRock, Inc. to 5.000%.

Sales and costs by geographic area

Sales (net amount in € millions)	2017	2016
Spain	13,261	13,454
United Kingdom	5,973	6,628
United States	5,190	5,213
Brazil	3,436	1,578
Mexico	2,617	1,630
Other countries	786	713
Iberdrola consolidated total	31,263	29,216

Operating costs (€ millions)	2017	2016
Spain	8,412	8,472
United Kingdom	4,080	4,621
United States	2,545	2,474
Brazil	2,682	1,268
Mexico	1,999	1,120
Other countries	728	669
Iberdrola consolidated total	20,446	18,624

102-8 Information on employees and other workers

Employees ³	2017			2016		
	Men	Women	Total	Men	Women	Total
By employment type						
Full-time	26,050	7,182	33,232	25,720	7,252	32,972
Part-time	179	844	1,023	205	905	1,110
By type of contract						
Permanent	26,073	7,965	34,038	25,531	8,018	33,549
Temporary	156	61	217	394	139	533
Report boundary	26,229	8,026	34,255	25,925	8,157	34,082

The policies followed with subcontracted personnel are described in disclosure EU17.

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

102-9 Supply chain

Introduction

The Iberdrola group's supply chain consists of two different processes:

- The acquisition of material and equipment and the procurement of works and services, handled by the group's Procurement Division, which is within the Finance and Resources Division.

³ The total number of employees and the definitions of the boundary can be found in disclosures 102-7 and 102-45 of this report.

- The acquisition of fuel, handled by the Wholesale and Retail Business.

Both processes are guided by the same principles emanating from the [corporate policies](#) and the [Code of Ethics](#), which are approved by the company's Board of Directors. However, each of them have specific characteristics in their various phases: registration and classification of suppliers, bidding process, execution of contracts, monitoring of contractual terms, and quality control.

Acquisition of material and equipment and procurement of works and services

Iberdrola placed orders with approximately 22,000 suppliers during 2017. The following table shows the economic volume of purchases by Iberdrola for these types of supplies, as well as a geographic breakdown thereof:

General supply of equipment, materials, works and services (€ millions)	2017 ⁴	2016
Spain	1,406	1,354
United Kingdom	1,663	2,134
United States	2,467	2,146
Brazil	1,500	1,242
Mexico	902	453
Other countries	676	179
Total	8,614	7,508

These high purchase volumes are a driver of growth for those countries in which the company engages in procurement, favouring their business, industrial and social development through the creation of employment at service providers and their auxiliary industries.

Acquisition of fuel

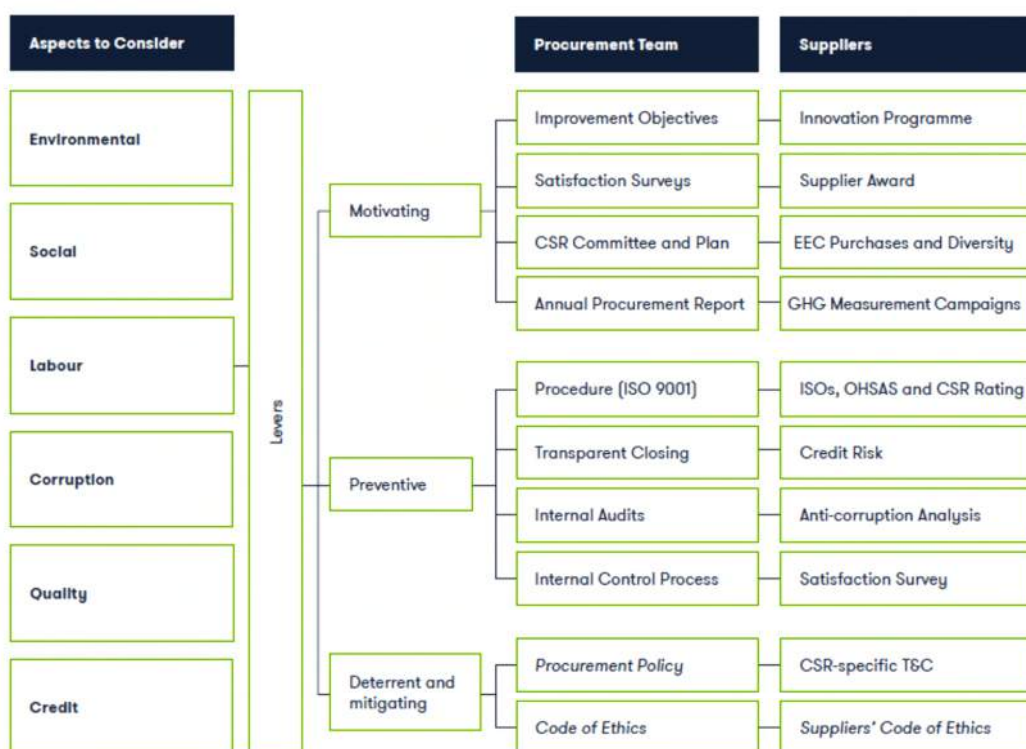
Iberdrola dedicated more than 3,400 million euros to the acquisition of coal, natural gas and uranium in 2017. Except for uranium, which is acquired in Spain exclusively through Empresa Nacional del Uranio (Enusa), acquisitions of coal and natural gas are made on the international market, mainly through long-term commercial relationships with some 16 large domestic and international suppliers and market operators (producers and traders).

Management of supply chain

In its day-to-day management, the Procurement and Insurance Division assumes and promotes the values and commitments of the group in the area of ethics and corporate social responsibility set out in the group's *Code of Ethics* and in the social responsibility policies. Therefore, mechanisms have been implemented in the procurement process designed to ensure transparent, integral and responsible management in the supply chain, which has allowed the company to confront the globalisation and internationalisation process with confidence that its values and ethical and responsibility commitments are conveyed to the suppliers, regardless of their geographic location or area of business activity.

The chart below shows the main mechanisms of the supplier management model:

⁴ Volume billed during the financial year.



Promotion of sustainability and social responsibility

The Procurement Division develops various initiatives designed to ensure sustainability in the supply chain, especially ones that impact ethical commitments, respect for human rights and the fight against corruption, taking as a starting point the principles established in the *Policy on Respect for Human Rights*, in the *Procurement Policy* and in the *Suppliers' Code of Ethics*. The most significant ones are set out below:

a) Policies and procedures.

- *Procurement Policy* and procurement procedures: these establish the global framework for the control and management of procurement processes, with particular emphasis on fulfilment of the ethical commitments of the professionals of the group and of its suppliers.
- *Suppliers' Code of Ethics*: considering that suppliers are a strategic Stakeholder, the company has established specific principles of conduct for them in their area of activity, always aligned with the principles and values of the group. This Code is communicated to all suppliers during the bidding phase and is part of the documentation both of the request for bids and of the final contract documentation with the successful bidder.

b) Specific clauses in the contracting terms of the Iberdrola group.

These contractual provisions require the parties to act within the most stringent levels of safety, occupational risk prevention, environmental protection and respect for and protection of human rights, as well as to eliminate all forms of forced and compulsory labour, prevent any form of child labour, eliminate all discriminatory practices, fight corruption, etc.

c) Register and classification.

Suppliers (both new and existing) are reviewed and classified internally within the context of the proposed purchase transaction, according to their specialisation, the criticality of supply and the total amount of the purchase, as well as the low possibility of substitution, inasmuch as the foregoing may negatively and significantly affect the achievement of the company's strategic objectives in the event of non-performance or defective performance.

In this connection, priority will be given to suppliers that have advanced management systems certified by a third party and, in particular:

- Environmental management system.
- Quality management system.
- Occupational risk prevention system.
- Action plan for corporate social responsibility and respect for human rights.

In the initial classification of the supplier, sustainability has a weight of 40% in the total score, with the other 60% being its financial situation and technical solvency.

d) Evaluation of risks of supplier corruption.

The procurement process carried out by the Procurement Division includes an evaluation of the risk of supplier corruption and the performance of due diligence reviews on suppliers considered to present the greatest risk. More than 80% of total purchases were analysed in 2017.

e) Credit risk review at suppliers.

In order to prevent the potential negative consequences for Iberdrola of suppliers failing to honour their commitments, the Procurement Division has a Credit Risk Management System for the main suppliers of the group. More than 76% of total purchases were analysed in 2017.

f) Improvement goals linked to the remuneration of the Procurement team.

The Procurement Division actively participates in the Corporate Social Responsibility Committee, as it is especially sensitive to the demands and interests of suppliers as strategic Stakeholders. For this reason and in order to achieve continued improvement with this group, annual objectives have been defined that are linked to the remuneration of the Procurement Division, focused on improvement of the supplier profile in the area of corporate social responsibility. Consequently, the supplier is motivated to improve its profile by actions promoting excellence in business management, as well as the Procurement Division being incentivized through quantifiable objectives to choose those companies showing good performance over the long term in the areas to be developed.

Fuel purchases are also subject to the general principles stemming from Iberdrola's social responsibility policies in order to foster socially responsible actions, respect for the environment and the prevention of occupational risks at supplier companies.

Iberdrola carries out an internal evaluation of its main fuel suppliers in accordance with economic, logistics, environmental and social standards. Aspects assessed are: the existence of an environmental policy, information regarding CO₂ emissions, emission reduction initiatives, energy efficiency, biodiversity conservation, occupational health and safety, equal opportunity, human rights and ethical behaviour (anti-bribery and anti-corruption practices).

When establishing supply contracts, apart from agreeing on contractual elements that respect the law applicable in the countries involved in the transaction, Iberdrola negotiates the inclusion of clauses regarding social responsibility. Currently, all contracts for imported coal and for uranium have these types of clauses. The inclusion of these clauses will be negotiated for the new natural gas contracts.

Iberdrola belongs to the international BetterCoal platform, which includes some of the leading European coal-purchasing energy companies. Its aim is to set a standard for ethical, environmental and social conduct; evaluate the conduct of producers through audits; create a database with the results of such evaluations; and improve producers' actions.

During 2017, Iberdrola received no external complaints from authorised channels with respect to the supply chain, and has not cancelled any supply contract or order upon grounds relating to human rights, corruption, labour practices or environmental practices.

102-10 Significant changes to the organisation and its supply chain

Changes in activities and/or in operations

In the course of their business, the various subsidiaries and affiliates of Iberdrola have carried out transactions that change the composition of their assets, including the following:

- 3 August 2017 saw the publication in the Official Gazette (*Boletín Oficial del Estado*) (BOE Nº 184) of *Order ETU/754/2017 of 1 August* denying renewal of the authorisation for operation of the Santa María de Garoña nuclear power plant and declaring a definitive halt to the operation thereof, without prejudice to supplementary technical instructions that the Nuclear Safety Council might issue with respect to the application thereof.
- On 25 August 2017, the CNMV was notified of the consummation of the inclusion of the businesses of Elektro Holding, S.A. within Neoenergia, S.A. After this transaction became effective, BB Banco de Investimento, S.A. and Caixa de Previdência dos Funcionários do Banco do Brasil became the owners of approximately 9.35% and 38.21%, respectively, of the capital of Neoenergia, S.A., with Iberdrola Energía, S.A. (Sociedad Unipersonal) owning the remaining 52.45% of the share capital.
- After the merger by absorption of Siemens Wind Holdco, S.L. (the wind head of business company of Siemens Aktiengesellschaft), as absorbed company, by Gamesa Corporación Tecnológica, S.A., as absorbing company, the interest of Iberdrola Participaciones, S.A. (Sociedad Unipersonal) in the resulting company, Siemens Gamesa Renewable Energy, S.A. (Gamesa), was reduced to 8.071% of its share capital.
- Start-up of 21 new facilities by the Renewables Business, of which 6 are in the United States with an installed capacity of 593.5 MW, 4 in the United Kingdom with a total of 290.5 MW, and 11 in Brazil with a total of 328.5 MW.
- In Mexico the commercial start-up of the Baja California III combined cycle plant (314 MW), the Altamira cogeneration plant (57 MW) and the Bajío cogeneration plant (50 MW).

Changes in capital structure

The shareholders acting at the General Shareholders' Meeting of Iberdrola held on 31 March 2017 approved two increases in capital by means of a scrip issue in order to once again implement the *Iberdrola Flexible Dividend* system, implementing the first increase in capital in July 2017 and the second in January 2018.

Changes in supply chain

There were no significant changes in the company's supply chain during the financial year.

102-11 Precautionary Principle or approach

The precautionary principle in environmental matters is included in Iberdrola's [Environmental Policy](#) approved by its Board of Directors. The practical application thereof is reflected in the wager on more

efficient technologies and processes that contribute to confronting climate change and other environmental challenges, with a precautionary approach that allows for greater respect towards biodiversity and a more sustainable use of natural resources.

The Iberdrola group operates its Management System under an environmental management model that includes a life cycle analysis perspective to evaluate the environmental impacts of the activities and facilities of the company through the calculation of the *Corporate Environmental Footprint*. This leads to a consideration of the impacts of all activities of the process, both its own as well as those of the upstream (suppliers) and downstream (customers) supply chain in all countries in which Iberdrola has a presence. This system identifies the environmental risks of the group and manages them with specific prevention and mitigation instruments, as well as the widespread use of environmental impact assessments as a precautionary tool used in the development of infrastructure projects. The precautionary approach also takes shape through continuous awareness and assessment of the environmental risks of production facilities, preventing such risks from occurring and, where applicable, minimising the consequences if they occur.

Based on the precautionary principle, Iberdrola commits to knowing the surroundings of its facilities in order to establish and improve the foundations for making decisions on investments in the restoration and improvement of natural capital, and in the selection of the most appropriate infrastructure. This includes the various studies performed to understand the behaviour of species in the habitats in which it operates, as well as studies focused on the assessment of eco-systemic services, like the pilot *Cumbernauld Living Landscape Pilot Project: Natural Capital Assessment* and the *Socioeconomic evaluation of eco-systemic services*.

102-12 External initiatives to which the organisation subscribes or which it endorses

The company has subscribed to or endorsed external initiatives aligned with sustainable development and encouraged its affiliated companies to adhere to them. Iberdrola supports or subscribes to:

- Iberdrola is fully aligned with the [Sustainable Development Goals \(SDGs\)](#), including them in its business strategy and its *Sustainability Policy*. In addition to meeting its goals to reduce the intensity of CO₂ emissions 50% by 2030 and being carbon-neutral by 2050, Iberdrola is actively working to contribute to the success of the SDGs and for other citizens and companies to be aware of them and contribute to the achievement thereof. Along these lines, it is working with universities (Universidad de Salamanca and Universidad Politécnica de Madrid), organising informational seminars at the Iberdrola Campus, publishing materials and participating in forums ("Youth Speak Forum", of which Iberdrola is a Gold Partner, of the AIESEC initiative). A partial summary of the organisations and initiatives with which it has collaborated more actively during the whole process is provided below:
 - o World Economic Forum (WEF) –CEO Climate Leaders–.
 - o World Business Council of Sustainable Development (WBCSD) –Low Carbon Technology Partnership Initiative–.
 - o Global Compact LEAD.
 - o The Prince of Wales's Corporate Leaders Group. Green Growth Platform.
 - o Carbon Pricing Leadership Coalition.
 - o SE4ALL.
 - o We Mean Business.
 - o The Climate Group.
 - o Bruegel.

- Items of note in the Spanish context are a very active collaboration with the Spanish Office of Climate Change and Iberdrola's participation in the Spanish Green Growth Group, of which it is vice-president.
- The *Good Tax Practices Code* of the Large Business Forum of the Spanish Tax Agency, part of the Ministry of Economy and Public Finance since 2010, which involves following a course of conduct that goes beyond respect for and strict compliance with statutes and regulations, to contribute actively and voluntarily to economic, social and environmental improvement.
- The Global Compact since 2002. Iberdrola also participates in other initiatives of the Global Compact, such as the *Global LEAD Programme*, projects regarding human rights, the fight against climate change and other activities of the Red Española del Pacto Mundial (Spanish Global Compact Network). Iberdrola's *Progress Report* reaches the maximum level, defined as *Advanced*. This report is prepared by the company annually to report the progress made in complying with and disseminating the *Principles of the Global Compact*.
- In Spain, Iberdrola also adhered to an SF6 emissions reduction initiative, within the framework of an agreement between the Spanish Electrical Industry Association (*Asociación Española de la Industria Eléctrica*) (Unesa) and the Ministry of Agriculture and Fisheries, Food and Environment.

In the United Kingdom, ScottishPower forms part of influential organisations in the energy sector like the Scottish Power Fuel Poverty Forum, and notably also collaborates with the University of Strathclyde on topics of innovation.

At ScottishPower, a team has also been created dedicated to coordinating activities with the Cancer Research association, and all joint actions carried out since it joined an initiative in 2012 in order to procure funds to investigate this illness. Since then, they have amply achieved their goals, and there have been countless initiatives by ScottishPower employees helping to raise awareness of the treatment of this illness: "Race to Life", "Stand up to Cancer" and "Help Beat Cancer".

Along these lines, within the framework of collaboration with the Spanish Cancer Association (*Asociación Española Contra el Cáncer*) (AECC), the *Together against cancer (Juntos contra el cáncer)* initiative was launched in Spain in October 2016, offering the opportunity to make small monthly donations via one's electricity bill with a commitment from Iberdrola to double the amount donated by its customers. This initiative continued in 2017, and more than 45,000 customers have already joined to collect funds.

The Agreement continues with the UN in Brazil, and Neoenergia has continued since 2007 with its participation in the Global Compact, which aims to mobilise the business community to adopt the social responsibility principles expressed through ten universal principles in different areas, like the environment and human rights.

Iberdrola has provided another year of support to the Mexican Red Cross for its 2017 national collection and has launched a campaign to promote social welfare actions under the auspices of Fundación Iberdrola México in order to collect funds to help those affected by the earthquakes in Mexico.

Finally, in the United States, Avangrid participates in *Reforming Energy Vision (REV)* to promote a more efficient use of energy and greater penetration of renewables in the country, as in the case of the *CT Grid Side Enhancement initiative*, which promotes the development of energy policies that support the integration of energy sources distributed through the grid. It is also a member of *The Partnership on Climate Resilience* of the U.S. Department of Energy to combat the effects of climate change and modernise energy infrastructures for the future.

102-13 Main membership of associations

Iberdrola is a member of numerous organisations related to its activities, the most significant of which are listed in the following table:

International	
World Association Nuclear Operator (WANO)	WindEurope
CSR Europe	Union of the Electricity Industry EURELECTRIC
World Economic Forum	European Distribution System Operators (EDSO)
United Nations Global Compact	Global Wind Energy Council (GWEC)
Scotland Europa	Nuclear Industry Association (NIA)
International Electrotechnical Commission/European Committee for Electrotechnical Standardisation (IEC/Cenelec)	International Council on Large Electric Systems (CIGRE)
Energy Institute for G9 (Offshore Wind Health and Safety Association)	World Energy Council
BetterCoal	European Utilities Telecom Council-EUTC
World Business Council for Sustainable Development (WBCSD)	International Conference on Electricity Distribution (CIRED)
The Prince of Wales's Corporate Leaders Group	Smart Life
European Round Table (ERT)	European Electric Grid Initiative (EEGI)
Association for Advancement of Cost Engineering	Caring for Climate
Prime Alliance	Institute of Electrical and Electronics Engineers
Electric Power Research Institute – EPRI	International Council on Large Electric Systems (CIGRE)
Center for Energy Efficiency and Renewable Technologies	IHS Global
Solar Power Europe	European Technology Platform Smart Grids
European Network Energy of Transmission System Operator for Electricity (ENTSOE)	International Emissions Trading Association (IETA)
Spain	
Sociedad Nuclear Española	Asociación empresarial Eólica (AEE)
Foro de la Industria Nuclear Española	Unión Española Fotovoltaica (UNEF)
Asociación Española del Gas (Sedigas)	Red Española del Pacto Mundial
Plataforma Española de Redes Eléctricas (FUTURED)	Confederación Española de Organizaciones empresariales (CEOE/Cepyme)
Asociación Española de la Industria Eléctrica (UNESA)	Círculo de empresarios
Instituto Tecnológico de la Energía (ITE)	Cámara de Comercio de España
Asociación Española de Normalización (AENOR)	Club de Excelencia en Sostenibilidad
Fundación COTEC para la Innovación	Club Español de la Energía
Asociación Española para la Promoción de la Cogeneración	Foro de Marcas Renombradas Españolas
Corporate Excellence	
United Kingdom	
The Confederation of British Industry	Aviation Investment Fund Company Limited
The Scottish Council for Development and Industry	Ynni Cymunedol Cymru Community Energy Wales
Energy UK-ECO Group	ECO Quarterly Supplier Forum Ofgem
Energy Networks Association	Industrial & Power Association Ofgem's ECO Industry Fraud Prevention and Compliance Committee
Scottish Renewables	Offshore Wind Accelerator
Energy & Utility Skills	CIGRÉ United Kingdom National Committee
Radar Working Group (Aviation Investment Fund Company Limited)	European Network of Transmission System Operators for Electricity (ENTSOE)

National Skills Academy for Power	Joint Environment Programme
Institute of Engineering & Technology	Gas Storage Operators Group
National Energy Action	Renewable UK
Scottish Windfarm Bird Steering Group	Scottish Hydrogen and Fuel Cell Association
Energy Action Scotland	Technology Innovation Centre
United States	
Business Council of New York State	American Wind Energy Association (AWEA)
Mid-Atlantic Renewable Energy Coalition (PJM States)	Rochester Business Alliance
Maine Better Transportation Assn	The Nature Conservancy-Maine (TNC)
NY State Economic Development Council	Maine Audubon Society
Greater Binghamton Chamber of Commerce	E2Tech
Maine & Company	Maine State Chamber of Commerce (MSCC)
Northeast Gas Association (NGA)	Renewable Northwest (RENEW)
Renewable Energy Northeast (RENEW)	The Wind Coalition (TWC)
Gas Technology Institute	Independent Energy Producers Association of California
Edison Electric Institute (EEI)	Wind on the Wires (WOW)
Interwest Energy Alliance	Alliance for Clean Energy - New York (ACE-NY)
Center for Energy Efficiency and Renewable Technologies (CEERT)	American Gas Association (AGA)
Northeast Underground Committee (NEUC)	New England Power Pool
National Electrical Safe Code	New England-Canada Business Council
Mid-Atlantic Renewable Energy Coalition (MAREC)	North American Transmission Owner and Operator Forum (NATF)
North American Electric Reliability Corporation (NERC)	Northeast Transmission Group (NETG)
ISO New England (ISO-NE)	Energy Council of the Northeast (ECNE)
Connecticut Energy Workforce Development Consortium (CTEWDC)	Electric Power Research Institute (EPRI)
Call Before You Dig, Connecticut	Center for Energy Workforce Development (CEWD)
American National Standards Institute (ANSI)	Association of Edison Illuminating Companies
Mexico	
Asociación Mexicana de Energía Eólica (AMDEE)	Cámara Española de Comercio, A.C. (CEE)
Asociación Mexicana de Energía, A.C	Consejo Coordinador empresarial A.C
Confederación Patronal de la República Mexicana (Coparmex)	Cámara Nacional de la Industria de Transformación Ensenada
Cámara de la Industria de Transformación de Nuevo León	Consejo Ejecutivo de empresas Globales, AC
Empre-Bask México, A.C	Consejo Consultivo del Agua A.C.
Brazil	
Associação Brasileira de Distribuidores de Energia Elétrica	Instituto Brasileiro de Executivos de Finanças
Associação Brasileira das Relações empresa Cliente	Comitê Brasileiro da Comissão de Integração Energética Regional
Instituto ABRADDEE da Energia	Associação Cultural Ecológica do Vale do Ribeira
Associação Brasileira de Energia Solar (ABSOLAR)	Câmara Americana de Comércio
Serviço Brasileiro de Apoio as Micro e Pequenas empresas	Associação Brasileira de Energia Eólica ABEEOLICA
Instituto Ethos de Responsabilidade Social	Associação Brasileira de Recursos Humanos
Conselho Municipal de Defesa do Meio Ambiente	Federação das Indústrias do Estado de São Paulo
Associação da Indústria de Cogeração de Energia	Associação Paulista das Cerâmicas de Revestimento

Consórcio Intermunicipal das Bacias dos Rios Piracicaba, Capivari e Jundiá	Associação de Educação do Homem de Amanhã de Araras
Agência de Desenvolvimento Tietê Paraná	Fundação Comitê de Gestão empresarial (COGE)
Associação Brasileira dos Contadores do Setor de Energia Elétrica (ABRACONE)	Fundação Nacional de Qualidade (FNQ)
Movimiento Pernambuco Empresarial (ABERJE)	

For more details on the company's commitment to the above, its participation within various committees, the contributions it makes or its strategic involvement, please consult public information or visit the websites of these organisations.

GRI Sector Supplement Disclosures

EU1 Installed capacity

Installed capacity by energy source (MW)	2017	2016
Renewables	29,112	27,813
Onshore wind	15,533	14,820
Offshore wind	544	194
Hydroelectric	12,513	12,378
Mini-hydro	303	302
Solar and others	219	120
Nuclear	3,177	3,410
Combined cycle	13,985	13,637
Cogeneration	1,299	1,315
Coal	874	874
Iberdrola total	48,447	47,049

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

EU2 Energy output

Net energy output by source of energy (GWh)	2017	2016
Renewables	50,745	56,443
Onshore wind	33,878	32,162
Offshore wind	821	728
Hydroelectric	15,320	22,597
Mini-hydro	394	686
Solar and others	333	270
Nuclear	23,249	24,381
Combined cycle	54,144	50,892
Cogeneration	6,853	6,947

Coal	2,642	3,803
Iberdrola total	137,632	142,466

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

EU3 Electricity users and producers

Electricity users (%)	2017	2016
Iberdrola total		
Residential	90.1	90.2
Industrial	1.0	1.0
Institutional	1.0	0.9
Commercial	5.8	5.8
Other	2.1	2.1
Users who are producers (no.)	2017	2016
Iberdrola total		
Users that are also producers of electricity	72,073	83,626

At year-end 2017, the companies of the group covered by this report, as a whole, handle a total of 30.33 million electricity supply points.

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

EU4 Transmission and distribution lines

Power lines ⁵ (Km)	2017	2016
Transmission		
Overhead	48,088	48,032
Underground	1,999	987
Iberdrola total	50,087	49,019
Distribution		
Overhead	911,474	875,140
Underground	195,050	193,285
Iberdrola total	1,106,524	1,068,425

Due to the nature of the respective electric systems, the voltage levels used for the transmission and distribution of power are not the same in all countries. In Latin America, transmission lines are deemed to be those with a nominal voltage equal to or greater than 69 kV; in the United States and in the United Kingdom, transmission lines are deemed to be those with a nominal voltage equal to or greater than 132 kV; in Spain, transmission lines are deemed to be those with a nominal voltage greater than 220 kV.

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

EU5 Allocation of CO₂ emissions allowances or equivalent

⁵ Lengths of lines are calculated by circuit, regardless of the number of circuits for each power line. A double-circuit 5-km line is considered to be 10 km.

Only the generation facilities located in Europe are subject to an emission rights trading system, for which reason this indicator does not affect the thermal generation facilities in Mexico, Brazil or the United States.

The European facilities (Spain and United Kingdom) have not received free trading rights since 2013, for which reason they have to acquire the necessary rights at auction to offset the emissions produced.

Total emissions of the European facilities in 2017 increased to 8.84 million tonnes and were covered by purchases on the market and surpluses from prior years.

24,858 emission rights of Tarragona Power were reported and reflected in the Official Gazette of Spain (*Boletín Oficial del Estado de España*) (BOE) in 2017.

After closing its last coal plant in the United Kingdom, Iberdrola also intends to close the last two coal facilities that are currently in operation.

2. Strategy

102-14 Statement from senior decision-maker

The statement of Iberdrola's chairman & CEO, Ignacio S. Galán, can be found in the corporate website (www.iberdrola.es) in the Sustainability Report section.

102-15 Key impacts, risks and opportunities

1. Strategy

Iberdrola is one of world's largest utilities, which focuses its activities on:

- Production of electricity from renewable and conventional sources.
- Purchase/sale of electricity and gas on wholesale markets.
- Transmission and distribution of electricity.
- Supply of electricity, gas and related energy services.
- Other activities, mainly linked to the energy sector.

Iberdrola carries out its activities mainly in the five countries of the Atlantic area: Spain, the United Kingdom, the United States, Brazil and Mexico.

The purpose of the business model defined by the Iberdrola group is the "supply of reliable, high-quality and environmentally-friendly energy", through a sustainable, long-term industrial enterprise. Under this consideration, and taking into account the long-term consensus energy scenarios, Iberdrola is developing a strategy with the following main characteristics:

- The organic growth of the company is focused on major investments in the five countries referred to above. The international diversification in terms of contribution to results will continue to grow in the coming years.
- The investment will preferably focus on the networks and renewables businesses, which, apart from being regulated businesses with long-term contracts, contribute decisively to the fight against climate change.
- The strategic pillars defined by the company are profitable growth, operational excellence, customer-focused operations, the optimisation of capital, and innovation.
- The company has publicly announced its commitment to decarbonisation, setting high goals for 2030 and 2050.
- Operational efficiency is a characteristic of Iberdrola, and is based on internal innovation and the rapid adoption of available technology.
- Financial stability is considered key for balanced growth. It seeks to maintain high levels of solvency and liquidity, which ensure the normal development of operations, good access to the capital markets, and a sustainable dividend policy.

- The commitment to social responsibility and sustainability is reflected by the inclusion of the concept of the Social Dividend as part of the company's strategy. It is defined as the sustainable creation of value for its Stakeholders through the performance of all of its activities.

2. Iberdrola's key impacts on sustainability

The group's commitment to sustainability takes shape in five basic principles of conduct pursuant to its *Sustainability Policy*:

- Competitiveness of the energy products supplied.
- Safety in the supply of energy products.
- Reduction in environmental impact of all of the activities performed by the companies of the group.
- Creation of value for shareholders, customers and suppliers, looking after business profits as one of the foundations for the future sustainability of the company and of the group.
- Driving the social dimension of the activities of the group.

Competitiveness

Iberdrola seeks the competitiveness of the energy products it supplies through constant improvement in all business processes (generation, transport, distribution and sale), which has led it to high levels of operational efficiency. This focus allows it to offer products at the best price possible thanks to the use of technologies with low operation and maintenance costs, and a combination of diversified generation technologies with the most competitive energy sources based on climatological and market conditions.

Safety of supply

The design of operating procedures prioritises safety in the supply of energy products, using locally produced energy sources to the extent possible, employing renewable energy resources, and ensuring the reliability and availability of generation, transport and distribution facilities.

The group also works to maintain a high quality of service that ensures the availability of energy for customers. In this regard, the requirements for investment in the transmission and distribution networks is constantly analysed in order to ensure resistance against extraordinary events; with the availability of the technical and human means needed to restore service as quickly as possible. The group also encourages the responsible use of energy, supporting energy savings and efficiency measures.

Reduction of environmental impact

The production and distribution of electricity are industrial activities that are indispensable for today's society, but they have a potential impact on the environment. A detailed description of these types of impacts can be found in "[Environment](#)". Actions to control and reduce these impacts are described in both the part of this report dedicated to the environmental dimension and in the corporate website.

The development of clean energy and respect for the environment are the foundations of the group's energy production model. Various actions are taken in order to achieve a reduction in the environmental impact of its operations, like investment in lower-emission power generation, the launch of biodiversity programmes, improvement in the efficiency of operations (entailing the sustainable use of natural resources), the prevention of pollution, and proper management of the waste generated by activities. The group also attempts to use water rationally and sustainably and to manage the risks associated with the scarcity thereof.

Creation of value

Iberdrola has a clear economic impact on the areas in which it operates, as a company driving industrial activity through its investments and the corresponding creation of jobs. It also generates a wide array of services activities in these areas and contributes economic resources to public administrations.

The group works to develop excellent management of customer relations, offering them energy products tailored to their needs, promoting efficiency, and ensuring the availability of competitive, sustainable and high-quality energy.

The group also deploys the best corporate governance systems available to it, including those of compliance and risk management, as well as codes of conduct, to ensure the transparency of information and to preserve the creation of value for shareholders.

Boosting the social dimension

The company progressively strengthens its commitment to the social dimension, with the additional goal of strengthening ethical and responsible behaviour throughout the value chain and in all of the countries in which it operates.

Iberdrola thus promotes responsible and excellent management of human resources, with teams engaged through the recognition of work performed, training appropriate to the skills of its employees, and the encouragement of equal opportunities in all of its activities.

The company also considers as essential the relations with its Stakeholders (as shown by the various chapters of this report), and more specifically with the communities in which it does business. For this reason, it promotes mechanisms of dialogue and communication, which allow for a better understanding of local Stakeholders' expectations, and thus to contribute to the economic and social development of the various territories.

3. Long-term risks and opportunities. Comprehensive risk system

The Iberdrola group is subject to various risks inherent to the different countries, industries and markets in which it does business and to the activities it carries out, which may prevent it from achieving its objectives and successfully implementing its strategies.

Aware of the significance of this issue, the Board of Directors of the company undertakes to develop all of its capabilities in order to adequately identify, measure, manage and control the significant risks to all the activities and businesses of the group, and to establish through the *General Risk Control and Management Policy* the mechanisms and basic principles for appropriate management of the risk/opportunity ratio.

All actions aimed at controlling and mitigating risks shall conform to the following main principles of conduct, among others:

- a) Segregate functions, at the operating level, between risk-taking areas and areas responsible for the analysis, control and monitoring thereof.
- b) Act at all times in compliance with the law and the company's Corporate Governance System and, specifically, with due observance of the conduct values and standards reflected in the *Code of Ethics* and the principles and good practices reflected in the *Corporate Tax Policy*, under the principle of "zero tolerance" for the commission of unlawful acts and situations of fraud set forth in the *Crime Prevention and Anti-Fraud Policy*.

The *General Risk Control and Management Policy* and the basic principles underpinning it are implemented by means of a *Comprehensive Risk Control and Management System*, supported by a Risk Committee of the group and based upon a proper definition and allocation of duties and responsibilities at the operating level and upon supporting procedures, methodologies and tools suitable for the various stages and activities within the system, including:

- a) The establishment of a structure of risk policies, guidelines, limits and indicators, as well as of the corresponding mechanisms for the approval and implementation thereof.
- b) The on-going identification and analysis of significant risks and threats (including passive liabilities and other off-balance sheet risks), both for each corporate business or function and taking into account their combined effect on the group as a whole. To the extent possible, risks will be measured following homogenous procedures and standards common to the entire group.
- c) The analysis of risks associated with new facilities, as an essential element in risk/return-based decision-making.
- d) The audit of the system by the Internal Audit Division.

The risk factors to which the group is subject are generally grouped into the following categories:

- Corporate governance
- Market
- Credit
- Business
- Regulatory and political
- Operational, technological, environmental, climatic, social and legal
- Reputational

A more detailed description can be found in the following public documents, available on the website:

- The [General Risk Control and Management Policy](#)
- Section "E" of the [Annual Corporate Governance Report](#) for financial year 2017.
- The "Principal risks and uncertainties" section of the [Consolidated Management Report](#) for financial year 2017.
- The [Integrated Report](#). February 2018.

As a whole, the group's *Comprehensive Risk Control and Management System* makes it possible to handle the risks associated with the economic, environmental and social dimensions, as well as the impact that the materialisation of any of them might have on the public perception of the company.

In relation to climate change, the group recognizes the seriousness of the threat that global warming entails, which must be faced in a collective and coordinated manner by governments, multilateral agencies, the private sector and society as a whole. Along these lines, the company undertakes to assume a position of leadership in the fight against climate change and to develop the following principles of conduct, among others: i) prevent pollution by gradually reducing the intensity of greenhouse gas emissions, ii) promote electrification, energy efficiency and smart grids, iii) support international negotiation processes and the significant participation of the private sector to achieve goals 7 and 13 of the SDGs approved by the UN and the climate goal included in the Paris Climate Conference, iv) advocate an emissions market that generates a strong and sustainable price signal, and v) support a tax system that includes the "polluting party pays" principle and that does not only include the electricity production industry.

Climate change could entail the following risks in the medium term:

- More extreme weather conditions with an impact on generation and distribution assets, such as increased operation and maintenance costs and insurance premiums.
- Changes in wind and hydraulic resources.
- Changes in levels of demand for gas and electricity (due to the effect of temperatures).
- Lower profitability than forecast for existing thermal plants (due to regulatory restrictions, CO₂ prices, operational events, etc.).
- Impact on the wholesale electricity markets due to widespread development of renewables.
- Legislative and regulatory changes.

On the other hand, although they represent an enormous challenge, climate change and the necessary transition towards decarbonisation of the energy model are also an opportunity compatible with growth and profitability for the company. Iberdrola has undergone a profound transition in this regard in the last 15 years, clearly anticipating the energy transition to face the challenges of climate change and the need for clean electricity. Today, the group is perfectly positioned to take advantage of the following opportunities, among others, thanks to its leadership in renewable energy and its commitment to the transition towards a low-carbon economy:

- **Investment opportunities and improved competitive advantage.** Legislative and regulatory changes encouraging decarbonisation through the development of renewable energy, increased electrification, smart grids, integration of renewable energy into the electricity system and backup capacity, technological innovation, etc.
- **New services and markets.** Demand for new energy services and products related to the energy transition (e.g. electric mobility, demand-side management, smart grids, energy storage, etc.), as well as the impacts of climate change (e.g., increases in energy demand associated with changes in temperature patterns).
- **Advantages in the acquisition of financing.** Growing pressure on the financial sector and capital markets, which favours those companies with an ambitious decarbonisation strategy, low exposure to assets linked to climate change and good positioning on the sustainability and transparency indexes.
- **Strengthening of corporate reputation,** resulting from a leadership position in the energy transition.
- **Sustainable creation of value and maximisation of the Social Dividend** for all Stakeholders.

3.

Ethics and integrity

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



102-16 Values, principles, standards and norms of behaviour

Ethics is a key value that inspires and guides the Iberdrola group's strategy, business model, actions and decisions. Iberdrola therefore works in order to ensure that its commitment to ethics and respect for the environment are the foundation for a sense of belonging and for the trust of all the people and the various stakeholders with whom the company interacts.

As a reflection of this business culture that is respectful of the natural and social environment, the company has formulated its [Mission, Vision and Values of the Iberdrola group](#), applicable to all the companies included therein.

The basic objectives on which the group's vision is based include its firm commitment to ethics, good corporate governance and transparency. Iberdrola thus aspires for its conduct and that of the persons related to the group, including all participants in the value chain, to conform and adhere not only to applicable law and the Corporate Governance System, but also to ethical principles and generally accepted principles of social responsibility.

Far from constituting a mere declaration of principles, the *Mission, Vision and Values of the Iberdrola group* are integrated into its day-to-day management and into all its areas of activity, and are inspired by and take shape in the *Corporate Policies*, the [Code of Ethics](#) (in existence since 2002), and the other regulations of the Corporate Governance System.

The company's *Code of Ethics* establishes a set of principles and guidelines for conduct (applicable to all professionals of the group, regardless of their rank, their geographical or functional location or the group company to which they provide their services) intended to ensure the ethical and responsible behaviour of the group's professionals in the performance of their activities.

The body charged with ensuring that the *Code of Ethics* is applied is the Compliance Unit (hereinafter, the "Unit"), which was set up by the Board of Directors in 2012, following the highest corporate ethics standards, as an internal and permanent body connected to the Corporate Social Responsibility Committee of the Board and with duties in the regulatory compliance area. The Unit's main duties include ensuring that the *Code of Ethics* is applied and the dissemination of a preventative culture based on "zero-tolerance" towards the commission of unlawful acts and fraud. The operation and main powers thereof are set forth in the [Regulations of the Compliance Unit](#).

In addition, Compliance Divisions have been established at each country subholding company and/or head of business company of the group, which are structured as internal independent areas linked to the respective Audit and Compliance Committee, with duties in the area of regulatory compliance and in the prevention and correction of unlawful or fraudulent conduct. These Compliance Divisions relate to the Unit in accordance with a coordination, collaboration and reporting protocol established to such end and in accordance with the group's Corporate Governance System.

The group also has policies, codes and procedures to govern conduct in various areas relating to these matters, including the following, among others: *Crime Prevention Policy*, *Anti-Corruption and Anti-Fraud Policy*, *Directors' Code of Ethics*, *Procedure for Conflicts of Interest and Related-Party Transactions with Senior Officers*, *Internal Regulations for Conduct in the Securities Market* and *Internal Rules for the Processing of Inside Information*.

This ethical and good governance commitment is transmitted in turn to the third parties with which the group is connected through various initiatives, which include the *Suppliers' Code of Ethics*, which sets forth the firm commitment to not allow any corrupt, fraudulent or illegal practice, or practices contrary to the policies and principles of the company in the area of corporate social responsibility in its supply chain.

102-17 Mechanisms for advice and concerns about ethics

The Iberdrola group's Compliance System

Since its inception, the Compliance Unit has established a global operating framework through the definition and monitoring of a robust and traceable Compliance System of the group, designed on the basis of the parameters set forth in best international practices on control, compliance, fraud prevention and the fight against corruption.

The Compliance System can thus be defined as a set of substantive rules, formal procedures and material actions intended to prevent, avoid and mitigate the risk of conduct that is improper or contrary to ethics or the law that may be committed by professionals of Iberdrola within the organisation, and to ensure that the conduct is in accordance with ethical principles and applicable law.



The group's reporting channels

One of the basic elements of the Compliance System is to establish detection and/or monitoring mechanisms to verify the effectiveness of the controls and prevention activities carried out at the group. Such mechanisms include the ethics mailboxes, which constitute transparent tools to report conduct that could entail an irregularity or an act contrary to the law or to the rules of conduct set forth in the *Code of Ethics* or other internal rules or procedures. In addition to potential grievances, queries are also made through these channels on matters relating to the interpretation of and compliance with the *Code of Ethics* and the other internal compliance rules of the group. All communications sent through these mailboxes are deemed confidential information, and may be anonymous in those jurisdictions in which the law so allows.

In any event, there is an express commitment of the group, reflected in the *Code of Ethics*, in the *Anti-Corruption and Anti-Fraud Policy* and in the other internal procedures and rules in this area, not to take

reprisals against those using the aforementioned mailboxes, with the logical exception of cases of bad faith.

All professionals who have reasonable indications that any irregularity or any act contrary to the law or to the rules of conduct of the *Code of Ethics* has been committed must report it through the aforementioned mailboxes.

The group also has suppliers' ethics mailboxes. Such mailboxes are communication channels to enable the suppliers of the group, as well as any companies that they hire to provide services or supplies, their respective employees and the companies that have participated in a tender for services or supplies to become suppliers, to report conduct that could entail (i) infringement by any group professional of the Corporate Governance System, the *Code of Ethics* or applicable law, or (ii) the commission by a supplier, its subcontractors or their respective employees of any act contrary to the law or to the provisions of the [*Suppliers' Code of Ethics*](#) within the framework of their business relations with the group. These [mailboxes](#) are available in the purchasing portal of the website.

The group also has a shareholders' ethics mailbox. This mailbox represents a channel of communication through which shareholders can report conduct that might involve a breach of the company's Corporate Governance System or the commission by any professional of the group of an act contrary to the law or to the rules of conduct of the *Code of Ethics*. This mailbox is available on the group's corporate website, specifically within the interactive system provided for the shareholders known as "OLS – On-Line Shareholders".

The management of the ethics mailbox for group professionals, established in the *Code of Ethics*, of the suppliers' ethics mailbox, established in the *Suppliers' Code of Ethics* and included in the *Procurement Policy*, and of the shareholders' ethics mailbox, established in the *Policy regarding Communication and Contacts with Shareholders, Institutional Investors and Proxy Advisors*, is the responsibility of the Compliance Unit and of the Compliance Divisions of the group.

Processing and investigation

As laid down in the *Regulations of the Compliance Unit*, it falls upon the Compliance Unit to handle communications made through the ethics mailboxes, except in cases where the report affects an employee of a country subholding company or head of business company that has its own Compliance Division.

The right to privacy, to a defence and to the presumption of innocence of the persons under investigation are guaranteed in all investigations.

In addition to the investigation work and the possible disciplinary action that may derive from it, the situations reported through the ethics mailboxes are analysed by the Compliance Unit and Compliance Divisions in order to identify possible corrective actions and suggest improvements in the control, prevention and mitigation systems so as to attempt to prevent a future repetition of the irregular situations detected.

Communications received during financial year 2017

As regards the communications received through the channels established in the group, a total of 1,391 communications were received in financial year 2017, of which 567 were queries and 824 were complaints. 13% of the complaints allowed to proceed arose from some type of disciplinary action taken during the financial year, upon a showing that there had been improper conduct or conduct contrary to the *Code of Ethics*.

Disciplinary action with respect to communications from prior years has also been taking during financial year 2017 regarding 4 complaints allowed to proceed in 2016 and another relating to 1 complaint allowed to proceed during 2015.

4. Governance

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



102-18 Governance structure

Board of Directors					
Position	Director	Status	Nationality	Date of first appointment	Ending date
Chairman & CEO	José Ignacio Sánchez Galán	Executive	Spain	21-05-2001	27-03-2019
Director	Íñigo Víctor de Oriol Ibarra	Other external	Spain	26-04-2006	08-04-2020
Director	Inés Macho Stadler	Independent ⁽¹⁾	Spain	07-06-2006	08-04-2020
Director	Braulio Medel Cámara	Independent	Spain	07-06-2006	08-04-2020
Director	Samantha Barber	Independent	United Kingdom	31-07-2008	08-04-2020
Director	María Helena Antolín Raybaud	Independent	Spain - France	26-03-2010	27-03-2019
Director	Ángel Jesús Acebes Paniagua	Independent	Spain	24-04-2012	27-03-2019
Director	Georgina Kessel Martínez	Independent	Mexico	23-04-2013	28-03-2018
Director	Denise Mary Holt	Independent	United Kingdom	24-06-2014	27-03-2019
Director	José W. Fernández	Independent	United States	17-02-2015	27-03-2019
Director	Manuel Moreu Munaiz	Independent	Spain	17-02-2015	27-03-2019
Director	Xabier Sagredo Ormaza	Other external	Spain	08-04-2016	08-04-2020
Director	Juan Manuel González Serna	Independent	Spain	31-03-2017	31-03-2021
Director	Francisco Martínez Córcoles	Executive	Spain	31-03-2017	31-03-2021

Secretary (non-member): Julián Martínez-Simancas Sánchez.

Deputy Secretary (non-member): Santiago Martínez Garrido.

Counsel (non-member): Rafael Mateu de Ros Cerezo.

⁽¹⁾ Inés Macho Stadler is the lead independent director

Executive Committee

The Executive Committee has all the powers inherent to the Board of Directors, except for those powers that may not be delegated pursuant to legal or by-law restrictions.

The core activities of this Committee consist of assisting the Board of Directors in the on-going supervision of the implementation of the strategy and on compliance with objectives and the governance model and submitting proposals to the Board of Directors or making decisions in urgent cases regarding all strategic decisions, investments and divestitures that are significant for the company or its group, assessing their alignment with the budget and the strategy of the company, and analysing and monitoring business risks, taking into consideration the environmental and social aspects thereof.

Executive Committee		
Position	Director	Status
Chair	José Ignacio Sánchez Galán	Executive
Member	Inés Macho Stadler	Independent
Member	Ángel Jesús Acebes Paniagua	Independent
Member	Manuel Moreu Munaiz	Independent
Member	Samantha Barber	Independent

Secretary (non-member): Julián Martínez-Simancas Sánchez.

Consultative Committees

Permanent internal informational and consultative bodies within the Board of Directors, without executive powers, with informational, advisory and proposal-making powers within their scope of activity.

- **Audit and Risk Supervision Committee.** Carries out duties relating to the supervision of the internal audit function, the review of the internal control and risk monitoring systems, the process of preparing the economic and financial information, the auditing of accounts and compliance, all upon the terms established in its [Regulations](#).

Audit and Risk Supervision Committee		
Position	Director	Status
Chair	Georgina Kessel Martínez	Independent
Member	Denise Mary Holt	Independent
Member	José W. Fernández	Independent
Member	Xabier Sagredo Ormaza	Other external

Secretary (non-member): Rafael Sebastián Quetglas.

- **Appointments Committee.** Performs duties relating to the selection, appointment, re-election and cessation in office of the company's directors and senior officers upon the terms established in its [Regulations](#).

Appointments Committee		
Position	Director	Status
Chair	María Helena Antolín Raybaud	Independent
Member	Iñigo Víctor de Oriol Ibarra	Other external
Member	Ángel Jesús Acebes Paniagua	Independent

Secretary (non-member): Iñigo Gómez-Jordana Moya.

- **Remuneration Committee.** Performs duties relating to the remuneration of the company's directors and senior officers upon the terms established in its [Regulations](#).

Remuneration Committee		
Position	Director	Status
Chair	Inés Macho Stadler	Independent
Member	Iñigo Víctor de Oriol Ibarra	Other external
Member	Juan Manuel González Serna	Independent

Secretary (non-member): Rafael Mateu de Ros Cerezo.

- **Corporate Social Responsibility Committee.** Performs duties relating to the revision and update of the Corporate Governance System and supervision of the social responsibility, sustainability and reputation policies, upon the terms established in its [Regulations](#).

Corporate Social Responsibility Committee		
Position	Director	Status
Chair	Samantha Barber	Independent
Member	Braulio Medel Cámara	Independent
Member	Manuel Moreu Munaiz	Independent

Secretary (non-member): Fernando Bautista Sagüés.

102-19 Delegating authority

The Executive Committee and the chairman & CEO have all the powers of the Board of Directors, except for those powers that may not be delegated pursuant to legal or by-law restrictions. The company also has a Business CEO (*consejero director-general de negocios*). In addition, the company has a structure of executives and employees authorised to implement its strategy and basic management guidelines, with powers provided under two operating principles: (i) the principle of joint action, which governs the exercise of the powers that are of a decision-making or organisational nature; and (ii) the principle of severability, which governs the exercise of powers of mere representation.

Furthermore, the group has *Internal Rules on Powers of Attorney* which generally define the system for representational powers of the group, which is governed by the principle of separation of representatives pursuant to which each company will appoint its representatives from among its own employees rather than from the employees of another company of the group, and by the establishment of limitations on time, quantity and the substitution of powers, among others.

102-20 Executive-level positions with responsibility for economic, social and environmental topics

The company's organisation has various divisions, the responsibilities of which are as follows: the Finance and Resources, Administration and Control and Compliance divisions and the Office of the Secretary of the Board are responsible for financial and social matters, and the Office of the Chairman is mainly responsible for environmental matters.

The chairman & CEO of the Board of Directors, together with the Business CEO and the rest of the management team, assumes the duty of strategic organisation and coordination of the group through the dissemination, implementation and monitoring of the general strategy and the basic management guidelines established by the Board of Directors.

102-21 Consulting stakeholders on economic, environmental and social topics

Iberdrola has a *General Corporate Social Responsibility Policy*, which is further developed and supplemented by various social responsibility policies addressing specific needs and expectations of the Stakeholders.

In this section, it is noteworthy that in 2015 Iberdrola approved its [Shareholder Engagement Policy](#) in order to establish a permanent dialogue with its shareholders, and its [Stakeholder Relations Policy](#) in order to promote a framework of relationships that favours the inclusion of Stakeholders in the businesses and activities of the group.

Stakeholder Relations Model and CSR Committee

The company establishes channels for dialogue with its Stakeholders in order to know their needs and expectations. These channels are constantly reviewed to adjust them to the appropriate level of relations with each Stakeholder group. Apart from the corporate website, which is one of the main channels for the company's relations with its Stakeholders, it has numerous other means of dialogue, which are set out in section 5 (Stakeholder participation) of this report.

That section contains a description of Iberdrola's *Stakeholder Relations Model*, which is implemented globally and which ensures both the existence of appropriate channels of communication with each Stakeholder group as well as the detection of significant issues and the adoption of action plans to respond to such issues.

The Board of Directors has a [Corporate Social Responsibility Committee](#), the composition and duties of which are described in section 102-18. Among other things, it has the power to “*analyse the expectations of Stakeholders and endeavour to ensure that they are taken into account when formulating Social Responsibility Policies, and supervise and evaluate the application of the Stakeholder Relations Policy*”.

The [Activities Report of the Board of Directors and of the Committees thereof](#) for financial year 2017, available on the corporate website, identifies the reports prepared by this Committee and the appearances that took place during the year.

The Corporate Committee on Corporate Social Responsibility and Reputation is ultimately responsible for supervising and coordinating the development of the strategy for relations between the group companies and Stakeholders.

Shareholder relations

With specific regard to the shareholders, the General Meeting is their main channel for participation in corporate life. It is held within the framework of Shareholder Day, during which there are activities seeking to bring the company closer to the shareholders and encourage a constructive dialogue with them.

The idea is to thus allow the Board of Directors to become acquainted with the opinions and concerns of the shareholders and to keep them in mind when establishing the agenda, drawing up proposed resolutions and deciding on other aspects relating to the holding of the General Shareholders' Meeting.

The Board of Directors also actively promotes the informed participation of the shareholders at the General Meeting, facilitating access to all documentation of the [General Shareholders' Meeting](#) through the website, including a [Shareholder's Guide](#) that describes all of the facilities that the company offers to attend, grant a proxy or cast an absentee vote; and for each Meeting it approves certain *Rules of Implementation for the Management of the General Shareholders' Meeting*, which have incorporated the latest technological advances in electronic participation, always in accordance with the guarantees required by law and by the Corporate Governance System. Along these lines, with a view to the upcoming General Shareholders' Meeting, Iberdrola has developed a new application that will allow shareholders to grant their proxy and cast an absentee vote from any device with access to the internet (including mobile phones and tablets), verifying their status as shareholders in real time. Also, for the first time, individual shareholders will be able to grant their proxy or cast an absentee vote by telephone through the free phone number of the Office of the Shareholder, through which they may also request any information about the event. These electronic and telephonic channels are in addition to the traditional forms of participation, in person, by post or through the shareholder service desks, which Iberdrola will continue to offer to its shareholders in order for them to have all of the alternatives for participating in the General Meeting.

Other proactive actions are also carried out to foster the maximum possible participation of the shareholders, such as telephone information campaigns.

To promote accessibility, the understanding of information, and ultimately the engagement of the shareholders, the company has implemented several specific channels of communication for providing information to shareholders and investors, including the following:

- a) The Shareholders' Office (*Oficina del Accionista*). From the call to the General Shareholders' Meeting through the end thereof, the shareholders can rely on the support of the Shareholders' Office, which has a specific site for such purpose at the premises of the meeting in order to resolve any issues that the attendees may raise prior to the commencement of the meeting, as well as to serve and provide information to the shareholders who wish to use the floor.

Furthermore, the Shareholders' Office is in permanent contact with those shareholders who have voluntarily entered their names in its database, and provides a specific service to minority shareholders for the organisation of presentations and events prior to the General Shareholders' Meeting.

- b) The Shareholders' Club (*Club del Accionista*). This is an open and permanent participation channel between the company and the financial community and shareholders who voluntarily join such Club and are interested in monitoring the evolution of the company on an ongoing basis.
- c) The Investor Relations Office (*Oficina de Relaciones con Inversores*). This responds on a regular and personalised basis to the questions of analysts and institutional and qualified investors in equities, fixed-income securities and socially responsible investments.
- d) Interactive [OLS - On Line Shareholders system](#). The website has an interactive system that allows shareholders (who may access the system with their user name and password) to ask questions of interest either publicly or confidentially, access frequently asked questions regarding various topics, and, with respect to the General Shareholders' Meeting, request information or clarifications or ask questions regarding the items on the agenda, as well as to view the live proceedings.
- e) Relations with shareholder associations and institutional shareholders. Both shareholder associations and institutional shareholders may request meetings with representatives of the company through the Investor Relations Division. Long-term engagement plans may also be developed with those shareholders who express their intention to have a stable and continuous presence in the company's shareholder base, and appropriate mechanisms for dialogue may be established regarding the performance of the company.
- f) Last, the Corporate Governance System makes provision for the ability of the Board of Directors or its chairman & CEO to empower the lead independent director or other directors to engage in dialogue with specific shareholders on certain issues relating to the corporate governance of the company.

Iberdrola's General Shareholders' Meeting, a sustainable event

Notably, in 2016 Iberdrola was the first Ibex-35 company to certify its General Shareholders' Meeting as a [sustainable event](#), in accordance with international ISO 20121 standard. This means that all the processes of the General Shareholders' Meeting (from its planning to its subsequent holding) follow criteria of sustainability, inclusivity and accessibility, with the ultimate goal of optimising Iberdrola's contribution to the local economy, to improving the environment and to its social commitments.

The company implemented more than 70 initiatives for this purpose, including the following:

- Hiring of local suppliers.

- Hiring of persons in vulnerable situations.
- Measures aimed at improving energy efficiency.
- Advancement of sustainable transport.
- Actions to guarantee accessibility for groups with different abilities.
- Use of recyclable and reusable materials.
- Collaboration with certain local NGOs.
- Childcare service as a measure to promote work-life balance.

102-22 Composition of the highest governance body and its committees

As stated in section 102-18, the Board of Directors has fourteen members, two of whom are executive, two are assigned to the category of other external and the other ten are independent. Within this last category, five are women, one of whom, Inés Macho Stadler, is the lead independent director and chair of the Remuneration Committee, as well as a member of the Executive Committee. In addition, María Helena Antolín Raybaud, Samantha Barber and Georgina Kessel Martínez are the chairs of the Appointments Committee, the Corporate Social Responsibility Committee and the Audit and Risk Supervision Committee, respectively.

This section also breaks down the composition of the aforementioned consultative committees of the Board of Directors:

For more information regarding the composition of the Board and its committees, see the [Activities Report of the Board of Directors and of the Committees thereof](#) for financial year 2017.

102-23 State whether the chair of the highest governance body is also an executive officer and the reasons for this arrangement.

The chairman of the Board of Directors is also the chief executive of Iberdrola. He has been granted by delegation all the powers of the Board of Directors, except for those powers that may not be delegated pursuant to legal or by-law restrictions.

At the General Shareholders' Meeting held on 27 March 2015, the shareholders approved the re-election of the chairman & CEO as executive director by a large majority. Such proposal was supported by two reports: one prepared by an independent expert of recognised standing (PricewaterhouseCoopers Asesores de Negocios, S.L.) and the other by the Board of Directors itself. It was also favourably reported upon by the former Appointments and Remuneration Committee.

The initiative for such proposal was led by the lead independent director, who called the independent directors to a meeting on 15 December 2014. At such meeting, it was unanimously resolved to submit the proposal to the Board of Directors and to ask PricewaterhouseCoopers Asesores de Negocios, S.L. to prepare a report thereon. In light of the unanimous opinion of the independent directors, of the report of the Appointments and Remuneration Committee and of the content of the independent expert's report, the Board submitted the corresponding proposed resolution to the shareholders at the General Shareholders' Meeting on the basis of:

- The demonstrated capability and competence of the candidate to hold such position and the specific provisions of the Corporate Governance System of the company, whose decentralised governance model requires a leadership that necessarily entails a high level of professional commitment and a level of depth, presence and involvement in such person's work that means that whoever takes on such duties will be considered an "executive" of the company.

- The practical application of such governance model, which confirms the validity thereof, reflects a better economic and financial performance than that of comparable companies and has historically been supported by the shareholders at General Shareholders' Meetings and by the capital markets.
- The sound checks and balances system implemented by the company, which: (i) separates oversight and management duties; (ii) ensures that there is a majority of independent directors; (iii) ensures a high level of professional diversity and diversity of gender and origin on the Board of Directors; (iv) grants very significant powers to the lead independent director; (v) establishes a succession plan for the chairman; (vi) decentralises the executive duties of the group among the various country subholding and head of business companies; and (vii) makes Iberdrola, S.A. a holding company with duties that relate solely to the strategic supervision and coordination of the businesses conducted by the group.

102-24 Selection and nomination of the members of the highest governance body

The appointment, re-election and separation of directors is within the purview of the shareholders at the General Shareholders' Meeting.

Vacancies that occur may be filled by the Board of Directors on an interim basis until the next General Shareholders' Meeting, whereat the shareholders shall confirm the appointments or elect the persons who should replace directors who are not ratified, or it shall withdraw the vacant positions.

To such end, the Board of Directors has approved a [*Board of Directors Diversity and Director Candidate Selection Policy*](#), which ensures that proposals for the appointment of directors are based on a prior and objective analysis of the needs of the Board of Directors.

The Appointments Committee advises the Board of Directors regarding the most appropriate configuration of such body and of its committees as regards size and balance among the various classes of directors existing at any time and the personal requirements that the candidates must fulfil. For such purpose, the Committee will review the structure of each body on a regular basis, particularly when vacancies occur within such bodies. Furthermore, independent directors are appointed on the basis of a proposal of the Appointments Committee, while the other appointments require a report of such Committee.

In any event, the Board of Directors, and the Appointments Committee within the scope of its powers, will endeavour to ensure that the candidates submitted to the shareholders at a General Shareholders' Meeting for appointment or re-election as directors, as well as the directors appointed directly to fill vacancies in the exercise of the power of the Board of Directors to make interim appointments, are respectable and qualified persons, widely recognised for their expertise, competence, experience, qualifications, training, availability and commitment to their duties, while at the same time endeavouring to ensure gender diversity in the composition of the Board of Directors.

They must be irreproachable professionals, whose professional conduct and background is aligned with the principles set forth in the *Directors' Code of Ethics* and the corporate values contained in the *Mission, Vision and Values of the Iberdrola group*.

If the Board of Directors deviates from the proposals and reports of the Appointments Committee, it shall give reasons for so acting and shall record such reasons in the minutes.

In addition, the selection of candidates shall endeavour to ensure that a diverse and balanced composition of the Board of Directors as a whole is achieved, such that decision-making is enriched and multiple

viewpoints are contributed to the discussion of the matters within its power. To this end, the selection process shall promote a search for candidates with knowledge and experience in the main countries and sectors in which the group does or will do business. The directors must also have sufficient knowledge of the Spanish and English languages to be able to perform their duties.

In turn, the Board has entrusted to the Appointments Committee the responsibility of ensuring that when new vacancies are filled or new directors are appointed, the selection procedures are free from any implied bias entailing any kind of discrimination and, in particular, from any bias that may hinder the selection of female directors. This is expressly provided by the *Regulations of the Board of Directors* and the *Regulations of the Appointments Committee*.

102-25 Processes for the highest governance body to avoid conflicts of interest

The *Regulations of the Board of Directors* provide that having interests in any way opposed to those of the company constitutes a ground of disqualification for appointment as director and, if applicable, triggers the director's obligation to resign.

They also provide that competence to hold office is a requirement to be appointed as director of the company.

Therefore, it is expressly provided that directors must resign due to their loss of suitability (particularly when their continuance in office may jeopardise, directly, indirectly or through persons related thereto, the faithful and diligent performance of their duties in furtherance of the corporate interest, which is understood as the common interest of all shareholders of an independent company, oriented towards the creation of sustainable value through the activities included in its corporate object, taking into consideration the other Stakeholders related to its business activities and institutional reality, pursuant to the *Mission, Vision and Values of the Iberdrola group*), or when owing to supervening circumstances, they fall within any of the instances of disqualification from or prohibition against holding such office established in the law or in the Corporate Governance System.

The Board of Directors may request a director subject to any circumstance of disqualification to resign from office and, if applicable, may propose the director's removal from office to the shareholders at a General Shareholders' Meeting.

For such purposes, the aforementioned Regulations provide that it shall be deemed that a director lacks or, if applicable, has ceased to possess, the competence required to hold office when there is a structural and permanent situation of conflict between the director (or persons related thereto or, in the case of a proprietary director, the shareholder or shareholders that proposed or appointed the director or the persons directly or indirectly related thereto) and the company or the companies forming part of the group.

Independently of the foregoing, the *Regulations of the Board of Directors* also regulate the specific conflict of interest situations that might affect the directors and that involve a direct or indirect conflict of their personal interest or that of persons related thereto with that of the company or the companies within its group. As provided therein, the directors must give notice of conflicts of interest in which they are involved and must abstain during the deliberations and voting on the matter in question. Section D.6 of the *Annual Corporate Governance Report* for financial year 2017 describes the mechanisms used to detect, determine and resolve potential conflicts of interest between Iberdrola and its directors, officers and significant shareholders.

For its part, article 43 of the *Regulations of the Board of Directors* provides that “any transaction by the Company or the companies forming part of its group with directors, with shareholders that directly or indirectly own a shareholding interest that is equal to or greater than that legally regarded as significant at any time or that have proposed the appointment of any of the directors of the Company, or with the respective related persons (“Related-Party Transactions”), shall be subject to the approval of the Board of Directors, or in urgent cases, of the Executive Committee, following a report from the Appointments Committee.

In the event that authorisation has been granted by the Executive Committee due to the urgency of the matter, the Executive Committee shall give notice thereof to the Board of Directors at its next meeting in order for it to be ratified”.

Furthermore, section six of said article provides that “the Board of Directors, through the Appointments Committee, shall ensure that transactions are carried out under arm’s length conditions and with due observance of the principle of equal treatment of shareholders in the same situation. In the case of transactions to be carried out by companies of the group, the scope of authorisation of the Board of Directors, or that of the Executive Committee, if applicable, referred to in the preceding sections, shall be circumscribed to the verification of compliance with such particulars.”

102-26 Role of highest governance body in setting purpose, values and strategy

Iberdrola and its group of companies are committed to a mission, vision and values.

This mission of the group is to create value sustainably, considering the Social Dividend as a basic element for the definition of its strategy, in carrying out its activities for society, citizens, customers, employees, shareholders and other Stakeholders, as the leading multinational group in the energy sector providing a quality service through the use of environmentally-friendly energy sources, which engages in innovation, leads the process of digital transformation in its area of activity, and is committed to the fight against climate change through all of its business activities, with the generation of employment and wealth, considering its employees to be a strategic asset. Along these lines, it fosters their development, training and measures of reconciliation, favouring a good working environment and equal opportunity. All of the foregoing is within the framework of its strategy of social responsibility and compliance with tax rules.

This mission is supplemented by a vision, based on the ambition of being at the forefront of a better future, creating value sustainably with a quality service for the people and communities in which the group carries out its activities, as well as by twelve values: creation of sustainable value, observance of ethical principles, good corporate governance and transparency, development of the group’s workforce, social commitment, encouragement of a sense of belonging among the Stakeholders, safety and reliability of supply, quality, innovation, respect for the environment, customer focus and institutional loyalty.

The corporate and governance structure of the company and of the group, the layout of which is reflected in disclosure 102-5 of this chapter, is defined on the grounds described below, which duly differentiate between the duties of day-to-day administration and effective management, on the one hand, and those of supervision and control, on the other:

- a) Vesting in the company’s Board of Directors of powers regarding approval of the strategic goals of the group and the definition of its organisational model, as well as supervision of compliance therewith and development thereof.
- b) Assumption by the chairman & CEO of the Board of Directors, with the technical support of the Operating Committee, by the Business CEO, with overall responsibility for all the businesses of the

group, and by the rest of the management team of the duty of organisation and strategic coordination within the group.

- c) The function of organisation and strategic coordination is strengthened through country subholding companies in those countries where the Board of Directors of the company has so decided. Such entities group together equity stakes in the energy head of business companies carrying out their activities within the various countries in which the group operates. This structure is completed with a country subholding company that groups together certain stakes in other entities, including non-energy head of business companies, with a presence in several countries. One of the main duties of country subholding companies is to centralise the provision of services common to head of business companies, always in accordance with the provisions of applicable law and especially the legal provisions regarding the separation of regulated activities.

Country subholding companies have boards of directors that include independent directors and their own audit committees, internal audit areas and compliance units or divisions.

Country subholding companies are responsible for disseminating, implementing and supervising the general strategy and the basic management guidelines at the country level with respect to the head of business companies grouped within each of them, taking into account the characteristics and unique aspects thereof.

- d) The group's listed country subholding companies (currently Avangrid, Inc.) have a special framework with greater autonomy that extends to the regulatory, related-party transactions and management areas.

In particular, all transactions between a listed country subholding company and its subsidiaries and the other companies of the group require the approval of a committee of the Board of Directors of such country subholding company made up exclusively of directors not related to the company.

The special strengthened autonomy framework is further developed in the respective agreements executed by the company with each listed country subholding company.

- e) The head of business companies of the group assume decentralised executive responsibilities, enjoy the autonomy required for the day-to-day and effective management of each business, and are responsible for the day-to-day control thereof.

Such head of business companies are organised through their respective boards of directors, which include independent directors, where appropriate, and their own management bodies; they may also have their own audit committees, internal audit areas and compliance units or divisions.

The corporate configuration and governance principles described above make up the corporate and governance structure of the group. This structure operates jointly with the group's Business Model, which entails the global integration of the businesses and aims to maximise the operational efficiency of the various business units. It also assures the dissemination, implementation and monitoring of the general strategy and of the basic management guidelines for each of the businesses, mainly through the exchange of best practices among the various companies of the group, without reducing the decision-making autonomy of each of them.

Within the group's corporate and governance structure, the Operating Committee is an internal committee of the company, the essential function of which is to provide technical, information and management support to the chairman & CEO of the Board of Directors, in order to facilitate the development of the group's Business Model.

The organisational model is structured into the decentralised business units and the centralised corporate governance and control functions, which can be viewed in the "[Corporate structure](#)" section of the corporate website.

102-27 Collective knowledge of highest governance body

The *General Corporate Governance Policy* provides that the company has a programme to provide directors with information and updates in response to the need for professionalisation, diversification and qualification of the Board of Directors.

Furthermore, to improve the knowledge of the group and of the businesses that it carries out and the environment in which it operates, presentations are made to the directors regarding the businesses of the group, which is supplemented by articles and publications of interest made available to the directors through the directors' website, a software application that has a specific section dedicated to training.

In turn, the directors' website facilitates the performance of the directors' duties and the exercise of their right to receive information. Information deemed appropriate for the preparation of meetings of the Board of Directors and the committees thereof in accordance with the agenda, as well as the materials, presentations and expositions made to the Board of Directors, is posted on such website.

In addition, a portion of each meeting of the Board of Directors is dedicated to a presentation on financial, legal or socio-political issues of significance to the group.

During financial year 2017, the directors' website was also used to provide the directors with various training sessions deemed to be of interest for the performance of their duties:

- *Shareholder control of the remuneration of the executive directors*
- *On-site informational meeting about investments and initiatives of the Iberdrola group regarding cybersecurity*
- *Fiscal transparency*
- *Digital transformation*
- *Regulatory positioning of Iberdrola. The EU winter package*
- *The Iberdrola group's governance model with respect to cybersecurity and data protection*
- *The Iberdrola group's Compliance System*
- *Iberdrola and the evolution of corporate governance practices*
- *Corporate governance in the United States. Analysis of the U.S. model using the Spanish model as a reference*
- *Relations with Stakeholders at Iberdrola*
- *Occupational Safety and Health at Iberdrola*
- *Analysis of the climate commitments of the jurisdictions in which Iberdrola has a presence*
- *The Iberdrola group's commitment to the Sustainable Development Goals*
- *Market Abuse and its implications for the Board of Directors of Iberdrola, S.A.*

The consultative committees have developed their own training programmes, either in-person or through the publication of the corresponding article on the directors' website, which have dealt with various topics:

- *Report of the CNMV regarding supervision of the financial information of Ibex 35 companies in 2016*
- *Evolution of the remuneration of the managing board*
- *The relevance of Responsible Steel*
- *Status of the renewables business*
- *New techniques in the electricity sector*
- *Monitoring of the application of the Information Technologies Policy*
- *Best corporate governance practices*
- *Report of the CNMV regarding ACGR of Ibex 35 companies. Powers of the Appointments Committee*
- *Aspects of the Annual Corporate Governance Report of Ibex 35 companies relating to audit committees*
- *Liberalised Business*
- *Networks Business*
- *Director remuneration trends*
- *Risks in the financial sector and provisions of investment funds*
- *New accounting developments and recent changes in the regulation of the annual accounts*

102-28 Evaluating the highest governance body's performance

The *Regulations of the Board of Directors* provides that the Board shall annually evaluate: its operation and the quality of its work; the performance of duties by the chairman & CEO of the Board of Directors, based on the report submitted thereto by the Appointments Committee; and the operation of its committees, in view of the report submitted thereto by such committees. For such purpose, the chairman of the Board of Directors organises and coordinates the aforementioned evaluation process with the chair of each committee.

The *General Corporate Governance Policy* provides that the annual evaluation shall be conducted with the cooperation of an independent firm of recognised standing.

Within the framework of the evaluation process of financial year 2017, Iberdrola has decided to draw on the cooperation of PricewaterhouseCoopers Asesores de Negocios, S.L., the independence of which was verified by the Appointments Committee at its meeting of 11 October 2017.

This process is based on the review of a large number of objectively quantifiable and measurable indicators that are updated every year in accordance with the latest trends, and is supplemented by a comparison with the companies identified as having the best market practices. As a result of this process, the company develops and adopts on-going improvement plans designed to implement the specific measures that may help to further perfect corporate governance practices. The Board of Directors completed this evaluation process for financial year 2017 through the adoption of the corresponding resolution at its meeting of 20 February 2018.

102-29 Identifying and managing economic, environmental and social impacts

The Board of Directors of Iberdrola is structured as described in section 102-18 of this report, with monitoring duties being carried out by the consultative committees thereof that supervise the economic, social and environmental performance of the company. Such duties include both the supervision of the risks and opportunities generated by the group's activities and compliance with international principles, codes and standards applicable to high-responsibility tasks. The Board of Directors and its consultative committees perform periodic evaluations of the aforementioned aspects of performance, drawing for such purpose on external information of interest thereto, with the assistance of external independent advisers, and on information provided to them by the rest of the organisation itself, primarily through periodic appearances of the group's officers at committee meetings.

These appearances are described in the [Activities Report of the Board of Directors and of the Committees thereof](#) for financial year 2017, available on the corporate website.

The Corporate Social Responsibility Committee has supervised the company's conduct in the area of sustainability, corporate reputation, corporate governance and compliance. Various external advisors have also appeared before this Committee:

a) Recurring appearances:

- Compliance Unit.
- Investor Relations and Communication.

b) Particular appearances:

- Secretary of the Board of Directors.
- Energy Policies and Climate Change.
- Innovation, Sustainability and Quality.
- Human Resources.
- Iberdrola Foundation.

The issues dealt with during these appearances are described in disclosure 102-27 of this chapter.

102-30 Effectiveness of risk management processes

Generally, the group's *Comprehensive Risk Control and Management System* allows for proper *ex ante* identification of risks or sounds alarms that allow for the making of decisions tending to minimise the impact of the risks.

The pillars of the system include the on-going evaluation of the suitability and efficiency thereof, as well as best practices and recommendations in the area of risks for eventual inclusion thereof in the model.

The company's Operating Committee meets on an approximately weekly basis, while the group's Risk Committee does so monthly. This committee is supplemented with the Credit Risk and Market Risk Committee, which report to said Risk Committee, and which meet on a fortnightly and monthly basis, respectively.

On at least a quarterly basis, the Audit and Risk Supervision Committee of the Board of Directors monitors trends in the group's risks:

- It reviews the group's quarterly risk report.
- It coordinates and reviews the Risk Reports sent periodically (at least half-yearly) by the Audit and Compliance Committees of the companies of the group that have such a body.

- It prepares (at least half-yearly) a risk report for the Board of Directors.

102-31 Review of economic, environmental and social topics

This information is available in disclosure 102-29 of this chapter.

102-32 Highest governance body's role in sustainability reporting

Iberdrola's Board of Directors is the body responsible for reviewing the *Sustainability Report 2017*, which was approved on 20 February 2018 (following a report from the Corporate Social Responsibility Committee), the date of preparation of the company's annual accounts for financial year 2017.

102-33 Communicating critical concerns

102-34 Nature and total number of critical concerns

The highest-level persons in charge of the various business divisions and corporate divisions have a presence on the Operating Committee referred to in section 102-26 of this report. It is chaired by the chairman & CEO, who reports in turn to the Board of Directors.

For their part, the critical concerns considered by the Board of Directors are principally:

- Preparation of the annual accounts and proposed allocation of profits/losses.
- Approval of periodic financial information.
- Approval of budgets and definition of goals of the Iberdrola group.
- Authorisation or acknowledgement, as appropriate, of significant awards, investments and divestments of the Iberdrola group.
- Grant of powers of attorney.
- Setting of the remuneration of the Board of Directors and of the senior management of Iberdrola, S.A.
- Approval of various annual reports.
- Call to the General Shareholders' Meeting, formulation of proposed resolutions and the corresponding reports of the directors.
- On-going update of the Corporate Governance System.
- Evaluation of the Board of Directors.
- Approval of risk limits and indicators.
- Implementation of resolutions adopted by the shareholders at the General Shareholders' Meeting, and particularly increases and reductions in capital.
- Authorisation or acknowledgement, as appropriate, of financial transactions of the Iberdrola group (debt and equity).
- Authorisation or acknowledgement, as appropriate, of proposals for the appointment of directors in companies in which the Iberdrola group has an interest.
- Authorisation or acknowledgement, as appropriate, of corporate or business restructurings.

The [*Activities Report of the Board of Directors and of the Committees thereof*](#) for financial year 2017 provides a detailed description of the composition, operation and activities of the governance bodies of the company.

102-35 Remuneration policies

The [*Annual Director Remuneration Report*](#) for financial year 2017 will be submitted to a consultative vote of the shareholders at the General Shareholders' Meeting called to be held on 13 April 2018.

The [Director Remuneration Policy](#) applicable during the next three financial years will be submitted for the approval of the shareholders at the General Shareholders' Meeting called to be held on 13 April 2018. This policy implements, among other things, the structure of the remuneration of the directors for their activities as such and the structure of the executive directors' remuneration for the performance of their executive duties, based on a series of parameters that are in line with the standard remuneration of comparable companies. It also sets forth the corporate social responsibility parameters to which the variable remuneration of the chairman & CEO is linked.

The *Director Remuneration Policy* and the *Senior Officer Remuneration Policy* seek to comply with the good governance recommendations generally recognised in the international markets on remuneration issues. In particular, the remuneration structure for the executive directors and the senior officers includes a significant variable component linked mainly to the performance of the company with respect to certain specific and pre-established economic/financial, industrial and operational parameters that are quantifiable and aligned with the strategic goals of the company and the group for the purpose of retaining and motivating the executive directors and senior officers and for the creation of long-term value. Weight is also to be given to goals in the areas of corporate governance and corporate social responsibility, as well as to the individual performance of the executive directors. This is set out in the current Strategic Bonus 2017-2019 approved by shareholders at the General Shareholders' Meeting of 31 March 2017, which makes the reduction of CO₂ emissions a strategic goal.

As regards aspects relating to the company's economic, environmental and social performance, variable remuneration for the management team of the Iberdrola group takes into account variable parameters linked to financial as well as environmental and social aspects.

102-36 Process for determining remuneration

As provided in the *By-Laws* and the *Regulations of the Board of Directors* of Iberdrola, the Board of Directors, at the proposal of the Remuneration Committee, is the body with power to set the remuneration of directors within the overall limit set by the By-Laws and in accordance with law, except for such remuneration as consists of the delivery of shares of Iberdrola or of options thereon or which is indexed to the price of the shares of Iberdrola, which must be submitted to the shareholders for approval at the General Shareholders' Meeting. The Remuneration Committee is a consultative committee chaired by and made up mostly of independent directors.

The Remuneration Committee is responsible for evaluating the level of attainment of the targets to which variable annual and multi-annual remuneration is linked and for submitting it to the Board of Directors for approval. To such end, in financial year 2017 it drew on the advisory services of PricewaterhouseCoopers Asesores de Negocio, S.L. The independence thereof has been evaluated by the Appointments Committee. Section C.1.20 of the [Annual Corporate Governance Report](#) for financial year 2017 describes the business relations of the company with this advisor during the financial year.

Pursuant to the *By-Laws* and the *Director Remuneration Policy*, the limit to the amounts that Iberdrola may annually allocate to the directors each year as an expense, including, in the case of executive directors, remuneration payable for performing executive duties, as well as the funding of a reserve to meet the liabilities assumed by the company in connection with pensions, payment of life insurance premiums and payment of severance to former and current directors, is 2% of the consolidated group's profit for the financial year, after allocations to cover the legal and other mandatory reserves and after declaring a dividend to the shareholders of not less than 4% of the share capital. As stated, for the purpose of establishing such limit, the quoted price of shares or options thereon or remuneration indexed to the listing

price of the shares shall not be calculated, which remuneration shall in all cases require the separate approval of the shareholders at a General Shareholders' Meeting. Both the [Director Remuneration Policy](#) and the [Senior Officer Remuneration Policy](#) are available on the website.

102-37 Stakeholders' involvement in remuneration

The *Director Remuneration Report* for financial year 2016 was submitted to a consultative vote of the shareholders at the General Shareholders' Meeting held on 31 March 2017, which had a quorum of 77.20%, and was approved with only 3.26% of the shares represented in person and by proxy voting against.

102-38 Annual total compensation ratio

102-39 Percentage increase in annual total compensation ratio

Iberdrola's Corporate Governance Model provides for the existence of a holding company, Iberdrola S.A., and for country subholding companies in the main countries in which it does business, as shown in disclosures 102-5 and 102-26 of this report and described on the company's website.

The main countries in which the Iberdrola group does business are Spain, the United Kingdom, the United States, Brazil and Mexico, and the remuneration ratios are set forth in the table below.

Country ⁶	Highest level of remuneration	Disclosure 102-38		Disclosure 102-39	
		2017	2016	2017	2016
Spain	Director	21.08 ⁷	30.30	-1.15 ⁸	6.78
United States	Director (CEO) ⁹	22.22	16.66	4.54	N/A
United Kingdom	Director (CCO) ¹⁰	12.09	11.83	1.60	3.31
Brazil	Director/Chair	22.43 ¹¹	41.00	N/A ¹²	0.16
Mexico	Director	7.63 ¹³	7.21	1.48	-0.73 ¹⁴

⁶ Country composition:

Spain: Generation, Distribution, Retail, Renewables and Engineering .

United States: Avangrid, Inc.

United Kingdom: ScottishPower (includes Renewables and Engineering).

Brazil: Neoenergia (change in boundary compared to 2016).

Mexico: Generation, Renewables and Engineering.

⁷ Spain: the highest remunerated position changes compared to the one considered in 2016.

⁸ Spain: the result of the ratio is negative because total annual 2017 remuneration of the person with the highest remuneration is less than that of 2016.

⁹ CEO: Chief Executive Officer.

¹⁰ CCO: Chief Corporate Officer.

¹¹ Brazil: the highest remunerated position changes compared to the one considered in 2016.

¹² Brazil: result not reported due to change in boundary compared to 2016.

¹³ Mexico: the highest remunerated position changes compared to the one considered in 2016.

¹⁴ The result of the ratio is negative because total annual 2016 remuneration of the person with the highest remuneration is less than that of 2015.

5.

Stakeholder engagement

102-40 Stakeholder groups engaged by the organisation

Iberdrola's [Stakeholder Relations Policy](#) (approved by the Board of Directors in February 2015 and updated in December 2017) explicitly states that the company believes *"that its relations with those groups that may influence or that are affected by the decisions or the value of the Company and the group are significant"*. The value chain comprised of Iberdrola's businesses means that there is a large number of these groups, for which reason the company has decided to group them into eight different categories that constitute its Stakeholders:

- | | |
|--|----------------------|
| - Workforce | - Suppliers |
| - Shareholders and financial community | - Media |
| - Regulatory entities | - Society in general |
| - Customers | - Environment |

102-41 Employees covered by collective bargaining agreements

This information is available in the "Collective Bargaining Agreements" section of the Management approach of topics GRI 401 Employment and GRI 402 Labour/management relations, included in the "Social Dimension" chapter of this report.

102-42 Identifying and selecting stakeholders

The initial identification and selection of the Stakeholders of Iberdrola was carried out through processes of internal reflection conducted by the management team. Subsequently, in 2015, the *Stakeholder Relations Policy* ratified the Stakeholder categories described in disclosure 102-40.

However, for the proper management of each of the Stakeholders, the various areas and businesses identify different subgroups that they deem relevant for more specific treatment.

102-43 Approach to stakeholder engagement

Iberdrola develops a responsible and sustainable business model, which puts [Stakeholders](#) at the centre of its strategy. The company's intent is thus to build relations of confidence with the various Stakeholders, as well as to deepen their participation, engagement and sense of belonging to Iberdrola.

The [By-Laws](#) themselves include a specific article dedicated to Stakeholder relations, establishing the principles and objectives that govern these relations:

Principles:

- Two-way communication
- Transparency
- Active listening
- Equal treatment

Objectives:

- Take into consideration the legitimate interests of the Stakeholders
- Effectively disclose information regarding the activities and businesses of the group

Iberdrola has decisively driven compliance with its *Stakeholder Relations Policy* (mentioned above), which has resulted in the approval and implementation of a new *Global Stakeholder Relations Model*, based on the *AA1000 Stakeholder Engagement Standard (AA1000SES) 2015* standard and in its three requirements of inclusiveness, materiality and responsiveness¹⁵.

This Model seeks to achieve the following goals:

- To systematise Stakeholder relations throughout the Iberdrola group, in all countries and businesses.
- To create a corporate culture with respect to the significance of dialogue with the Stakeholders for more sustainable performance by Iberdrola.

The Model in itself is a process of continuous improvement structured into ten phases, which allows for: segmenting Stakeholders and prioritising the resulting Subgroups; distinguishing the various levels of relations; constantly updating relationship channels to favour engagement; identifying significant issues, with related risks and opportunities; establishing action plans to respond to significant issues; and finally, to enrich the reporting systems, as is the case of this report. The detailed process is set out in the following image:



This Model was implemented for the first time in 2017 to manage eight of Iberdrola's Stakeholder groups in the five main countries and at numerous Generation and Renewables facilities, as well as in the various geographic areas of the Networks business. To assist with this implementation, the Iberdrola Stakeholders' Hub, an internal coordination body in which the areas responsible for management of the Stakeholders at the global corporate and business level participate, was also created in 2017.

Relationship channels

As regards the relationship channels with the Stakeholders, the *By-Laws* state that the "the company's corporate website, its presence on social media, and its digital communication strategy generally are channels of communication serving the *Stakeholder Relations Policy*". Conventional channels of communication other than this media are also used (phone, electronic mailboxes, communications, meetings, etc.) and other more specific channels like those below¹⁶:

¹⁵ Iberdrola has been continuously applying Assurance Standard AA1000 for the last eleven years. In 2016 Iberdrola's Operating Committee approved a new *Global Stakeholder Relations Model* (referred to in this report), which was implemented for the first time in 2017.

¹⁶ Pursuant to its *Global Stakeholder Relations Model*, Iberdrola has a list of communication channels by Stakeholder and country, which are included in the *Management Report on Iberdrola's Relations with Stakeholders* for financial year 2017.

<p>WORKFORCE</p> <ul style="list-style-type: none"> • Mixed subcommittees and committees • Employee portal (Intranet) • Global employee office • Satisfaction surveys • Subject-specific meetings, events and conferences • Newsletters, reports, bulletins, etc. • Informational screens at offices • Ethics mailbox 	<p>SHAREHOLDERS AND FINANCIAL COMMUNITY</p> <ul style="list-style-type: none"> • General Shareholders' Meeting • Shareholder Day • Shareholders' Club and Shareholders' Office • OLS - On Line Shareholders • Opinion surveys • Investors Day • Personal contact with investors, analysts, ratings agencies and shareholders • Mobile app • Reports and bulletins • Shareholders' Ethics Mailbox
<p>REGULATORY ENTITIES</p> <ul style="list-style-type: none"> • Consultation and official formalities with various regulatory entities • Relationship through industry organisations • Meetings and direct contacts • Participation in workshops, events, debates, etc. • Preparation of informational memos 	<p>SUPPLIERS</p> <ul style="list-style-type: none"> • Supplier portal • Satisfaction surveys • Supplier of the Year Award • Supplier registration and classification processes • Supplier involvement campaigns • Participation in responsible procurement events • Suppliers' ethics mailboxes
<p>CUSTOMERS</p> <ul style="list-style-type: none"> • On-site (customer service points) and off-site channels for direct customer service • Digital channels (websites, social media, sms, mobile apps) • Customer satisfaction surveys • Relationships with consumer associations • Awareness-raising campaigns • Systems for claims and complaints • 	<p>MEDIA</p> <ul style="list-style-type: none"> • Press releases and informational notes • Direct conversations and informational meetings • Visits to company facilities • Press room on the corporate website • Blogs • Events
<p>SOCIETY</p> <ul style="list-style-type: none"> • Direct relations with State institutions and heads of the various government administrations • Active presence within business and industry organisations; academic and educational institutions; organisations related to innovation, etc. • Participation in events, conferences and working groups • Reports and summaries • Visits to facilities • Cooperation agreements 	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> • Sustainability index surveys • Participation in events, conferences and roadshows • Reports and summaries • Inspections and audits • Alliances and collaboration agreements • Visits to facilities <p>Stakeholder panels are also formed, to which Stakeholder representatives are invited</p>

102-44 Key topics and concerns raised

The *Global Stakeholder Relations Model* described above contributes to identifying the issues that are most important to the different Stakeholders. An analysis thereof shows that there are many significant issues that are common to Iberdrola's five main countries, while there are others exclusive to each geographical area.¹⁷

Set out below is a summary of those global issues¹⁸ detected in 2017:

Stakeholder group	Main issues raised by each group
Workforce	<ul style="list-style-type: none"> - Quality and maintenance of employment - Career plan and development: training and internal mobility - Safety, health and occupational risk prevention - Benefits and compensation - Internal communication - CSR issues
Shareholders and financial community	<ul style="list-style-type: none"> - Long-term strategy - Financial and economic situation of the company - Plans and performance of the company - Financial strength and leveraging - Corporate governance - Industry regulation - Energy markets - Dividend policy - Share price - Sustainability and CSR
Regulatory entities	<ul style="list-style-type: none"> - Remuneration schemes (generation, storage and/or distribution) in Europe, the U.S. and Brazil. - Goals for energy efficiency, use of alternative energies and reduction of emissions in Europe and the U.S. - Internal consumption in Europe, the U.S., Mexico and Brazil - Auction of generation and transmission lines in Mexico and Brazil - Capacity mechanisms in Europe
Customers	<ul style="list-style-type: none"> - Aspects relating to billing (information, comprehension and amount) - Issues relating to the customer's overall experience (attention received, channels, claims management, etc.) - Supply quality - Services allowing for reduced consumption - Vulnerable customers
Suppliers	<ul style="list-style-type: none"> - Standards for award and contract and payment terms - Ethical behaviour and CSR - Information on Iberdrola's strategy - Industry regulatory measures - Supplier stimulus campaigns - Fostering of innovation - Stability in commercial relationships

¹⁷ Pursuant to its *Global Stakeholder Relations Model*, Iberdrola has a list of major topics by Stakeholder group and country, which are included in the *Management Report on Iberdrola's Relations with Stakeholders* for financial year 2017.

¹⁸ In the case of regulatory entities, the issues appear by country due to the high geographic component thereof.

Media	<ul style="list-style-type: none"> - Iberdrola's strategy - Economic, operational and corporate governance performance - Investment and economic impact in each of the countries and communities - Energy policy and industry regulation - Service quality - CSR plans
Society	<ul style="list-style-type: none"> - Alignment with SDGs - Transparency and improvement of the social and environmental performance of the company and its facilities - Iberdrola's investments in each of the countries - Iberdrola's contribution to the community - Encouragement of innovation, information or training on energy issues - Support of the company for most vulnerable groups through specific programmes and projects - Encouragement of activities of public and private entities in the economic/business, social and environmental areas
Environment	<ul style="list-style-type: none"> - Climate change and energy transition (participation in large initiatives, alliances, social awareness-raising, Iberdrola's position) - Environmental management - Environmental investments and innovation - Quantification of natural capital - Protection of biodiversity - Carbon footprint - Circular economy - Water management - Sustainability indexes

Iberdrola's Wholesale, Networks and Renewables facilities mainly manage three Stakeholder groups: Regulatory entities, Society and Environmental¹⁹. The most significant issues of interest refer to regulatory compliance; the economic and social impact of the facilities on local communities; and environmental impacts and the mitigation thereof.

Iberdrola's response to all of these significant issues is set out not only in the various indicators of this *Sustainability Report*, but also in the *Integrated Report*, on the corporate website, on the websites through the following [link](#), and on the websites of the businesses and the foundations, and in the various specific reports, including: *Annual Financial Report*, *Annual Corporate Governance Report*, *Shareholder Engagement Report*, *Report on Procurement Activities and Supplier Management and the Contribution thereof to the Group's Sustainability*, *Innovation Report*, *Corporate Footprint Report*, *Biodiversity Report*, and Sustainability Balance Sheet.

The methodology described in the preceding sections (102-40 to 102-44) enables the company to identify material issues through direct sources. Such review is completed with that made through indirect sources, such as the *Dow Jones Sustainability Index*, the *Carbon Disclosure Project*, the *Materiality Analysis*, etc., described in disclosures 102-46 and 102-47.

Considering all of the foregoing, Iberdrola has a complete Stakeholder Management System, which allows it to respond to the various major issues both directly through the channels of dialogue and indirectly through public information (*Sustainability Report*, *Integrated Report* and the [website](#)).²⁰

¹⁹ In the case of the cogeneration plants, the main Stakeholder group is 'Customers', for whom the most significant issue is compliance with contracts.

²⁰ Iberdrola prepares an annual *Management Report on Iberdrola's Stakeholder Relations*, which summarises issues of interest detected within the various communication channels, as well as the company's response through action plans.

6.

Reporting practice

102-45 Entities included in the consolidated financial statements and in the boundary of this report

A. Introduction

Iberdrola, with a presence in almost twenty countries, has followed the GRI recommendations in defining the boundary of this report, taking into account the entities in which it has control, those in which it has significant influence, and the activities that are significant for the group from the economic, environmental and social standpoint.

For purposes of this report, the following terms have the meanings set forth below:

- "Iberdrola" or the "company": the Spanish company Iberdrola, S.A., parent company of the Iberdrola group.
- "Iberdrola group" or the "group": Iberdrola (as parent company) and the group of subsidiaries over which Iberdrola has the power of control or joint control.
- "Affiliated companies" or "affiliates": the group of companies in which Iberdrola has a percentage interest but not the power to exercise control. At these affiliated companies Iberdrola promotes the policies approved within the group through the decision-making bodies of such companies and includes information on those considered significant in terms of sustainability.

The companies in which Iberdrola owns a direct or indirect equity interest are listed in the document *Consolidated Annual Financial Statements and Audit Report* for financial year 2017.

B. Information boundaries of this report

The presentation of the company's public information is subject to the following external factors:

- The scope and basis of presentation of financial information must comply with established statutory requirements.
- The environmental and social information is presented in accordance with the new legal requirements as to content, leaving open the reporting framework to be used. This is the reason why Iberdrola has voluntarily elected to use the GRI Standards in the preparation of this report.

To reconcile these factors, Iberdrola has established two quantitative information boundaries: global boundary and report boundary.

B.1. Global boundary (Iberdrola Total)

This includes all of the activities carried out by the group, its subsidiaries and its affiliates.

The financial information included in this *Sustainability Report 2017* is taken from the document *Financial Statements, Management Report and Audit Report* for financial year 2017.

Other non-financial information, such as operating information of the group, results from adding to the "report boundary" the information of affiliates consolidated by the equity method that are not considered significant for purposes of this report, as well as the information on the activities included in table B.2.2, which is included under the heading "Other".

B.2. Report boundary

This boundary is formed by Iberdrola, S.A., its significant subsidiaries for sustainability purposes and its fully or proportionately consolidated affiliates that are significant for sustainability purposes.

The subsidiaries or affiliates within this boundary are all those that operate in the countries listed in table B.2.1 and that carry out the activities described therein.

B.2.1 Significant countries and activities for the Iberdrola group in terms of sustainability and included in the 2017¹ reporting boundary.

	Group office	Electricity production		Transmission and/or Distribution of electricity or gas	Electricity and/or gas supply (2) (3)		Gas storage	Real estate
		Conventional	Renewable (4)		Wholesale market	Retail market		
Spain (5)	X	X	X	X	LIB	LIB		X
United Kingdom	X	X	X ⁽⁶⁾	X	LIB	LIB	X	
United States	X	X	X	X	LIB	REG	X ⁽¹²⁾	
Brazil (7)	X	X ⁽⁸⁾	X	X	LIB	REG		
Mexico	X	X	X		LIB	LIB		
Portugal (9)	X		X		LIB	LIB ⁽¹⁰⁾		
Germany	X		X ⁽¹¹⁾		LIB	LIB		
Canada	X						X ⁽¹²⁾	
Greece	X		X ⁽⁶⁾					
Hungary	X		X					
Poland	X							
Romania	X		X					
France	X				LIB	LIB		
Italy	X				LIB	LIB		

- 1) Most of the Engineering and Construction activities at year-end were included in the Wholesale and Retail Businesses (Germany, United States and Canada), Networks Business (Spain, United Kingdom, Brazil and Mexico) and Renewables Business (Spain, United Kingdom, United States, Brazil and Mexico).
- 2) Types of sales activities:
LIB: activities in liberalised markets, independent of distribution activities.
REG: activities in regulated markets, together with distribution activities. The supply to these markets has not been considered as an activity in the wholesale market.
- 3) Environmental information on supply activities in Germany, France and Italy is not included as it is not deemed relevant in terms of sustainability.
- 4) No social or environmental information is included on facilities in which the company has an interest of less than 50% in Spain, the United Kingdom or the United States.
- 5) Any reference to the 7th Collective Bargaining Agreement includes the following companies at 31 December 2017: Iberdrola, S.A., Iberdrola España, S.A.U., Iberdrola Generación, S.A.U., Iberdrola Generación España, S.A.U., Iberdrola Generación Nuclear, S.A.U., Iberdrola Clientes, S.A.U., Iberdrola Operación y Mantenimiento, S.A.U., Iberdrola Distribución Eléctrica, S.A.U. Iberdrola Infraestructuras y Servicios de Redes, S.A.U., Iberdrola Renovables Energía, S.A.U. and Iberdrola Ingeniería y Construcción, S.A.U.
- 6) Renewables activities from the Republic of Ireland are included in the United Kingdom and renewables activities from Cyprus are included in Greece.
- 7) Information corresponding to the Neoenergia group is 100% included in this report, except for financial data.
- 8) Also included in the environmental information are the Baguari and Dardanelos plants, which are not significant in labour matters, while NC Energia is not included therein as it is not significant for environmental purposes. The social information includes the Belo Monte and Baixo Iguaçu plants under construction in those indicators that are deemed significant based on their activities.
- 9) No environmental or social information is included on construction projects in Portugal.
- 10) The activities of electricity and/or gas supply in Portugal are included in Spain.
- 11) Activities relating to the 350 MW Wikingen offshore wind farm: construction of the 70 turbines and other components of the farm ended in October 2017; there was a successful connection to the national electric grid in December, and renewable energy will be supplied to approximately 350,000 German homes.

- 12) These activities are not significant from the environmental standpoint. In the case of Canada, labour information is included in the information for the United States.

At affiliate nuclear plants, the percentage interest held by Iberdrola in each of them is used to consolidate environmental performance data: Vandellós (28%), Almaraz (52.69%); Trillo (49%) and Ascó (15%). For social information, on the other hand, because of the structure of the available information systems, nuclear plants are consolidated according to the percentage interest held by Iberdrola in the economic interest grouping created for that purpose; such interest is 51.44% in the case of Trillo-Almaraz and 14.59% in the case of Ascó-Vandellós. A 50% share of the environmental and social data corresponding to the activities of Nuclenor, S.A. is applied according to consolidation by the equity method.

The subsidiaries or affiliates operating in the countries shown in table B.2.2. below are excluded from the report boundary because their activities are considered to be non-significant for the group.

B.2.2. Non-significant countries and activities in countries of the Iberdrola group in terms of sustainability, excluded from the boundary of the 2017 report.

	Group office	Electricity production	Electricity or gas supply and/or gas storage	Engineering and construction	Real estate
Belgium	X				
Italy		X			
Netherlands			X		
Germany, Bulgaria, Costa Rica and Montenegro				X	
Bulgaria and Mexico					X

Despite the fact that they are not included in the charts and tables of the boundary of the report, these activities are managed by Iberdrola in the same manner as significant activities, and the following standards are applied:

- The qualitative aspects set forth in this report, such as the principles and corporate policies that the Iberdrola group adopts and publishes, as well as business strategies, apply to all activities of the subsidiaries of the group, in all countries in which they operate, without prejudice to the effective decision-making capacity of regulated companies in accordance with laws and regulations governing the separation of activities. This includes the information on management focus, objectives and performance set forth in this report.
- In the countries and activities that are not included in the boundary of the report, the application is ensured of the same procedures and processes as those applied within the group, thus ensuring the guarantees as to work, basic rights and environmental protection that derive therefrom.

As a supplement and to the extent deemed relevant, the information on the boundary of the report may include significant events concerning specific activities included in the foregoing table B.2.2.

B.3. Summary of the information boundaries by country.

Following the GRI recommendation, the information in this report is structured by country. The table below shows the structure of information by country applied to the boundaries described above:

Structure of information by country in this report	
Report boundary = Iberdrola, S.A., subsidiaries and affiliates considered to be significant for sustainability purposes.	Spain United Kingdom United States Brazil Mexico Other countries Report boundary
Global boundary = report boundary plus the information of affiliates consolidated by the equity method that are not considered significant for purposes of this report, as well as the information on the activities included in table B.2.2.	Other Iberdrola total

C. Limitations on scope of information

Based on the standards set forth above, Iberdrola believes that this report reflects the economic, environmental and social performance of the company in a reasonable and balanced manner. Existing limitations and differences between both boundaries, described in the preceding sections, have a limited influence on aggregate overall data, which, in the opinion of Iberdrola, would not affect a reader's assessment of the company's performance.

In the future, quantitative information may be included with respect to other activities of subsidiaries or affiliates to the extent that such information contributes to an understanding of the activities carried out by Iberdrola.

102-46 Defining report content and topic boundaries

102-47 List of material topics

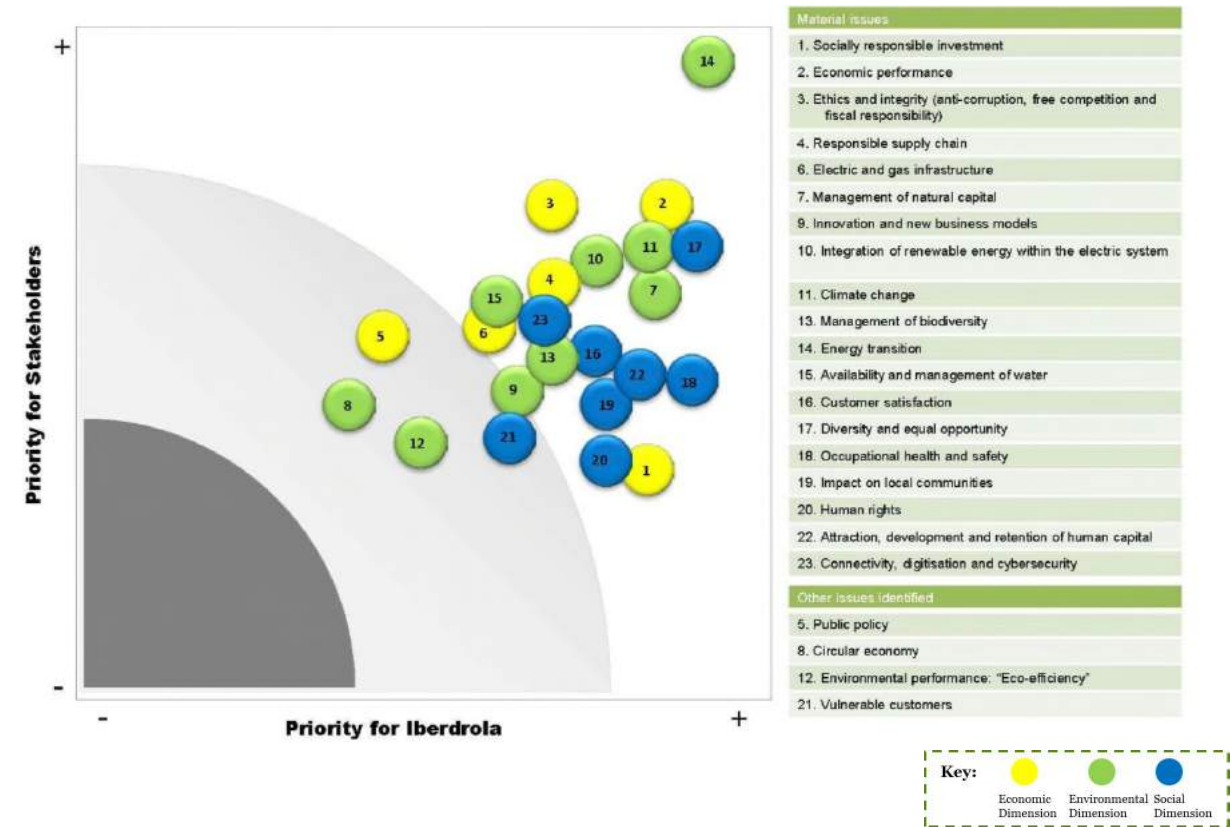
Iberdrola has indirectly identified its material aspects since 2003, using the *GRI Sustainability Reporting Standards* (and prior versions) as well as the *Electric Utility Sector Supplement*, both of the Global Reporting Initiative (GRI), as a model for preparing its annual sustainability report.

These guidelines are the result of a process in which various Stakeholders throughout the world have participated, with representatives from business, unions, civil society, the financial markets, auditors and specialists from various disciplines in the business area, regulators and governmental bodies from various countries.

The company, with a presence in countries on various continents, conforms to the various regional socioeconomic development models and has developed systems and processes to obtain the information needed to meet requests on matters of sustainability made both by GRI, with its recommendations, and by other areas of heightened awareness such as the Dow Jones Sustainability Index or the Carbon Disclosure Project. Iberdrola uses its *Sustainability Report* to provide an annual report on these issues, adhering to the materiality requirements, following macro-trends in corporate social responsibility and generally meeting Stakeholder expectations.

For greater precision, Iberdrola also directly identifies its own material aspects by preparing its own *Materiality Study* with the advice of an independent outside firm, with the aim of identifying the specific aspects of interest related to the company’s activity by consulting in-house and outside sources. Iberdrola uses this process to identify social, environmental and ethics issues that are significant to its focus on social responsibility.

The analysis for 2017 prioritises those matters of interest identified through the analysis in accordance with their significance both to Stakeholders as well as to the company’s strategy. In this way, 23 topics, shown in the following chart, have been identified as “material”:



The coverage of the material topics; that is, whether the topics are significant within the organisation (internal impact on the company or its employees) or outside it (impact outside the company, outside its scope of control or on outside Stakeholders) is reflected in detail in the management approaches throughout this report. In general terms, Iberdrola considers that its material topics have both internal and external coverage, since they directly affect the company as well as the different Stakeholders with which it has relationships

The various sections of this report offer a concrete response to the aspects identified, as shown in the following table:

Most significant issues	Special interest topics	Iberdrola's response
Socially responsible investment	Inclusion of ESG aspects/criteria in evaluations for making investment decisions.	
Economic performance	Economic value generated and distributed. Tax policy and strategy, cooperation with tax authority, tax contributions, etc.	102-7 and 102-15 GRI 201 Economic performance.
Ethics and integrity	Anti-corruption, free competition and fiscal responsibility.	Section 3 Ethics and integrity. GRI 205 Anti-corruption GRI 206 Anti-competitive behaviour Management approach "Fiscal responsibility". GRI 307 Environmental compliance GRI 419 Socioeconomic compliance
Responsible supply chain	Assessment of environmental, social and economic impacts of the suppliers. Strategies and KPIs for critical suppliers.	102-9 and EU18. GRI 308 Supplier environmental assessment GRI 414 Supplier social assessment
Electric and gas infrastructure	Need for efficiency improvements in transport (networks and smart meters) and for new infrastructure that improves the quality of supply. Access to electricity in developing countries.	Management approaches: "Availability and reliability" and "System efficiency", "Research and development" and "Access". EU4, EU12, EU26, EU28 and EU29.
Management of natural capital	Management of natural resources to ensure the future quality and availability of natural capital, as well as the sustainability of operations in the future. Identification of impacts on environment, communities, ecosystemic services, etc.	201-2 GRI 203 Indirect economic impacts GRI 301 Materials
Innovation and new business models	Products and services favouring efficiency and energy savings, certified energy from renewable sources, distributed generation, offshore wind energy projects, development of electric vehicles, etc.	Management approaches: "Availability and reliability", "Research and development", "System efficiency" and "Demand management". EU10 GRI 302 Energy
Integration of renewable energy within the electric system	Development of and investment in renewable energy. Work with strategic partners, startups, research centres and experts in the development of batteries and energy storage systems.	Management approaches: "Research and development", "Availability and reliability" and "System efficiency". 102-11, EU1 and EU10. GRI 305 Emissions.
Climate change	Science-based goals for reduction of emissions, emissions trading, CO ₂ storage systems, available adaptation and mitigation mechanisms, economic impacts from climate change, evaluation of risks and opportunities, etc.	Management approaches: "Research and Development". Specific management approach to the environmental dimension. 102-15, EU5 and 201-2. GRI 305 Emissions.
Management of biodiversity	Identification of principal impacts on biodiversity, mainly from the construction of new infrastructure.	GRI 304 Biodiversity.

Energy transition	Energy efficiency to reduce the industry's energy requirements. Encouragement of energy with lower CO ₂ emissions. Regulatory changes to encourage greater inclusion of renewable energies in the "mix". Improvements in the systems for inclusion of renewable production within the grid.	Management approaches: "Availability and reliability" and "System efficiency", "Demand-side management" and "Access to electricity". 102-15, EU1, EU2, EU10, EU11 and EU30. GRI 302 Energy.
Availability and management of water	Water stress. Evaluation and minimisation of impacts, especially in thermal generation.	GRI 303 Water GRI 306 Effluents and waste
Customer satisfaction	Evaluation of customer satisfaction and establishment of targets for improvement, management of information security and privacy, grievances and claims and other matters related to meter reading, billing, rates and contracts.	Management approaches: "Access to adequate information" and "Access to electricity". GRI 416 Customer health and safety. GRI 417 Marketing and labelling. GRI 418 Customer privacy.
Diversity and equal opportunity	Non-discrimination against women in the labour world and especially in management positions.	GRI 405 Diversity and equal opportunity. GRI 406 Non-discrimination.
Occupational health and safety	Employee and contractor health and safety management. Definition of health and safety policies. Prevention plans. Establishment of injury rate targets. Injury, casualty and absenteeism rates.	GRI 401 Employment. GRI 402 Labor/management relations. GRI 403 Occupational health and safety. EU18
Impact on local communities	Evaluation of the socioeconomic impact on local communities in the development of new infrastructures or on operating activities. Communication and reporting mechanisms.	GRI 203 Indirect economic impacts. GRI 413 Local communities. GRI 414 Supplier social assessment. EU22 and EU25. Management approaches: "Iberdrola's contribution to the community" and "Access to electricity".
Human rights	Definition of a formal policy. Analysis of risk of violating human rights in the principal areas of operation. Employee training. Management of related grievances. Rights of indigenous or minority communities.	GRI 406 Non-discrimination. GRI 407 Freedom of association and collective bargaining. GRI 408 Child labor. GRI 409 Forced or compulsory labor. GRI 410 Security practices. GRI 411 Rights of indigenous peoples. GRI 412 Human rights assessment. GRI 414 Supplier social assessment.
Attraction, development and retention of human capital	Employee satisfaction. Boosting reconciliation. Systems for evaluation of performance and variable remuneration tied thereto. Adjustment to needs of the new generations.	GRI 202 Market presence. GRI 401 Employment. GRI 402 Labor/management relations. GRI 404 Training and education. GRI 405 Diversity and equal opportunity.
Connectivity, digitisation and cybersecurity	Risks regarding connectivity and cybersecurity. Preparation of digital risk maps, definition of strategy and mitigation thereof.	Management approach: "Cybersecurity" and "Privacy of the personal information of Stakeholders".

In its commitment to transparency with its Stakeholders, apart from the topics of the GRI Standards identified as material in the table above, Iberdrola also reports on other topics included in such Standards, providing continuity with information for previous financial years. All topics reported are specifically identified in the GRI Content Index presented at the beginning of this report.

Together with these global processes of identification of and response to material issues, which Iberdrola strengthens in its public information, the company has launched a new *Global Stakeholder Relations Model*, based on the *AA1000 Stakeholder Engagement Standard (AA1000SES) 2015* standard and on its

three requirements of inclusiveness, materiality and responsiveness²¹, as described in section 5. "Stakeholder engagement".

102-48 Restatements of information provided in previous reports

During 2017, due to the merger in Brazil of all of the businesses of the company Elektro Holding into Neoenergia, it was deemed necessary to reformulate the information for financial year 2016 applying the same standards as in financial year 2017, in order for the information for both financial years to be homogenous and comparable. The reformulation involves the consideration of 100% of the socio-economic and environmental parameters of Neoenergia (thus reflecting the control position of the group) instead of the 39% that was used through the prior year. The economic/financial figures follow accounting standards.

Furthermore, the information in all the tables of this report has been limited to financial years 2017 and 2016. Maintaining the scorecards and tables with information for three financial years, as was Iberdrola's customary practice, would have involved a lack of homogeneity between the information from financial year 2015 and that from the following years. This limitation will already be corrected in the next report.

102-49 Significant changes in scope and topic boundaries

On 24 August 2017, all of the businesses of the company Elektro Holding were incorporated into Neoenergia. As a result of this transaction, Iberdrola increased its interest in the Neoenergia group from 39% to 52%.

The information corresponding to Neoenergia in this report is included upon the terms specified in GRI disclosure 102-45.

102-50 Reporting period

2017

102-51 Date of most recent report

2016

102-52 Reporting cycle

Annual

102-53 Contact point for questions regarding the report

General questions regarding this report may be addressed to Iberdrola's Investor Relations and External Communication Division at C/ Tomás Redondo, 1 - 28033 Madrid – Spain, or via responsabilidad_social@iberdrola.com.

²¹ Iberdrola has been continuously applying Assurance Standard AA1000 for the last eleven years. In 2016 Iberdrola's Operating Committee approved a new *Global Stakeholder Relations Model* (referred to in this report), which was implemented for the first time in 2017.

Specific questions relating to the environment may be addressed to Iberdrola's Innovation, Sustainability and Quality Division at C/ Tomás Redondo, 1 - 28033 Madrid – Spain, or via medioambiente@iberdrola.es.

The addresses and telephone numbers of the various Iberdrola centres worldwide, available channels of contact, customer service and the query mailboxes can be found in the [Contact](#) section of the website.

102-54 Claims of reporting in accordance with the GRI Standards

This report has been prepared in accordance with the GRI Standards: Comprehensive option.

102-55 GRI content index

The GRI content index is located at the beginning of this Report.

102-56 External assurance

Iberdrola obtains independent external assurance of its annual information, the annual accounts and management reports (individual and consolidated with those of its subsidiaries) by KPMG Auditores, S.L. and the *Sustainability Report* by PricewaterhouseCoopers Asesores de Negocio, S.L..

Part II.

Topic-Specific Disclosures

This section provides a description of the material aspects affecting the Iberdrola group, defined based on the standard described in GRI disclosures 102-46 and 102-47 of this report.

In each "Topic", there is a description of the company's focus to properly manage and report on the results achieved, by means of the corresponding performance indicators pursuant to the disclosures of the GRI Standards. If several of these topics are managed with a similar focus, the focus is described for one of them and a corresponding cross-reference is made in the others.

In managing the material aspects identified, there are also tools, processes and procedures that are generalised throughout the company and apply to all of them, and which are described in "General management approach" and should be taken into account in order to understand the manner in which Iberdrola carries out its activities and manages the economic, environmental and social impacts thereof.

A. ECONOMIC DIMENSION

Contents of the chapter

The topics dealt with in this chapter are the following:

A. Topics of the GRI Standards

- GRI 201 Economic performance
 - o Management approach and disclosures 201-1, 201-2, 201-3 and 201-4
- GRI 202 Market presence
 - o Management approach and disclosures 202-1 and 202-2
- GRI 203 Indirect economic impacts
 - o Management approach and disclosures 203-1 and 203-2
- GRI 204 Procurement practices
 - o Management approach and disclosures 204-1
- GRI 205 Anti-corruption
 - o Management approach and disclosures 205-1, 205-2 and 205-3
- GRI 206 Anti-competitive practices
 - o Management approach and disclosures 206-1

B. Specific topics of the electric utilities sector supplement

- Availability and reliability
 - o Management approach and indicator EU10
- System efficiency
 - o Management approach and indicators EU11 and EU12
- Demand-side management
 - o Management approach (no related indicators)
- Research and development
 - o Management approach (no related indicators)
- Nuclear plant decommissioning
 - o Management approach (no related disclosures)

C. Specific topics of the Iberdrola group

- Costs of Supply
 - o Management approach (no related disclosures)
- “Green Financing”
 - o Management approach (no related indicators)
- Fiscal responsibility
 - o Management approach (no related indicators)
- Cybersecurity
 - o Management approach (no related indicators)
- Privacy of the personal information of Stakeholders
 - o Management approach (no related indicators)

Scope of information

The information boundaries used in this chapter are defined in indicator disclosure GRI 102-45 of this report.

A. Topics of the GRI Standards

GRI 201 Economic performance

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The electricity sector is a significant driver of the economy, to which it continuously contributes through significant investments and the creation of high-quality jobs, both direct and indirect. Its function is to provide safe, competitive and sustainable supply. Generation technologies using renewable sources are decisive in the fight against climate change, as they allow for increased electrification of the economy, thus reducing dependency on fossil fuels.

Iberdrola continues to engage in a process of growth and internationalisation that has made it one of the leading electric companies in the world. This strong position was achieved through a sound, long-term industrial plan that is both profitable and creates value, supported by a business strategy of sustainable growth and geographic diversification.

Analysts describe a global scenario for the energy sector characterised by an increase in energy demand, tied to a need to reduce CO₂ emissions. Estimates call for high growth in demand in the medium and long term in emerging countries and moderate growth in the developed world. In any event, this energy transition will require extremely large investments in renewable generation facilities, in smart grids and in efficient storage; all accompanied by greater digitisation to support efficiency and the development of new products.

Iberdrola's strategy, implemented more than a decade ago, has been based precisely on these growth vectors: investment in renewables, smart grids, efficient storage and digitisation. The strategic pillars defined by the company are profitable growth, operational excellence, customer-focused operations, the optimisation of capital, and innovation. Its current leadership position reflects the benefits of its forward vision and diversification of businesses and areas. During the 2018-2022 period, the company expects to invest approximately 32,000 million euros, of which 90% will be dedicated to regulated activities (mainly networks) or long-term contracted assets.

A summary of the Iberdrola strategy can be found in the document *Outlook 2018-2022* (or in the document superseding it in a subsequent period), which can be accessed through its corporate website in the [About US](#) section.

Iberdrola's financial results for the year are summarised in the [Results](#) section of the website. Alongside these results, the company also requires its companies to explain how they are achieved and to evaluate them in terms of sustainability, understanding that adequate disclosure of non-financial information is an essential element for the sustainability of financing activities.

Directive 2014/95/EU of the European Parliament and of the Council as regards disclosure of non-financial and diversity information by certain large undertakings and groups (the "Directive") entered into force in 2014, and was transposed into the Spanish legal system in 2017 with the approval of *Royal Decree-law 18/2017 of 24 November*.

To respond to the new legal demands, companies to which they apply must include in their management reports or in a specific separate report information regarding their management of environmental and social aspects, as well as aspects relating to the management of people, diversity, respect for human rights and the fight against corruption and bribery, describing the risks, policies and results connected to these issues.

This *Sustainability Report 2017* covers the requirements arising from the entry into force of the new legal provision, forming an integral part of the company's management report. The [Annual Reports](#), the *Integrated Report. February 2018*, the quarterly results reports and other operational and financial information of interest can also be found on the website.

201-1 Direct economic value generated and distributed

Direct economic value generated, distributed and retained (€millions)	2017	2016
Iberdrola consolidated		
Revenue (sales and other income)	⁽¹⁾ 32,714 ²²	30,706
Operating costs	20,446	18,588
Employee remuneration (excluding company social security costs)	2,517	2,260
Payments to providers of capital	2,916	2,692
Payments to government administrations	2,723	2,740
Community investments (verified according to the LBG Model)	63	36
Economic value retained	4,049	4,390

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

201-2 Financial implications and other risks and opportunities for the organisation's activities due to climate change.

²² Includes Turnover in the amount of €31,263 million and Other revenue €1,451 million.

The risks to which the group's activities are exposed differ based on the nature and dependency of the activity and of the country in which it operates. Apart from the risks detected during the operation of the facilities, Iberdrola is performing an analysis and studies of the generation, distribution and transmission businesses in order to anticipate other future risks as a result of climate change. These studies will allow for anticipatory action to adapt the business, investing in the most appropriate technologies for the planet and for Iberdrola.

The main risks arising from climate change in the medium term, as well as the principles of conduct to which the company commits and manages through its Comprehensive Risk Management System, are described in disclosure 102-15 "Key impacts, risks and opportunities" of this report. This section also describes the opportunities for the company arising from the necessary transition towards decarbonisation of the energy model, thanks to its position of leadership in renewable energy and its commitment to the transition towards a low-carbon economy.

The strong commitment and involvement of Iberdrola's senior management in the management of the group's risk is noteworthy. Their participation in the Climate Conference held in Bonn in 2017 has been equally proactive as in prior years. Iberdrola believes that the solution is in promoting clean energy, increased storage capacity and more smart grids, supporting projects of innovation and digitisation of the systems.

This commitment has allowed for the detection of a broad array of opportunities, recognising the need to deal with an ambitious scenario of decarbonisation, which means moving towards an efficient energy model, assuming that electrification is the key to facing the challenge of climate change. Along these lines, the company continues with its commitment to achieving a 50% reduction in its greenhouse gas emissions intensity by 2030 compared to 2007 levels, and to be carbon neutral by 2050.

Iberdrola commits to the transparency and communication of its climate change policies and is taking the steps needed to reduce emissions (category A within CDP Climate Change). The company has a [Policy against Climate Change](#), approved by the Board of Directors, in which the company commits to supporting international conventions to address this environmental problem, encouraging the development of efficient technologies from the standpoint of greenhouse gas emissions, boosting efficient energy use and increasing its customers' awareness of the importance of engaging in responsible energy consumption.

It has also endorsed and supports the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD), created by the Financial Stability Board (FSB), the objective of which is transparency regarding risks associated with climate change. Iberdrola believes that disclosure of the financial risks relating to climate change in a consistent and improved manner will allow for the establishment of a constructive and well-informed dialogue amongst investors and companies regarding the opportunities and risks relating to their activities.

Similarly, Iberdrola has joined a number of initiatives, the most high profile of which are: Terrawatt, United Nations Climate, We mean business, CEO Climate Leaders (World Economic Forum), Un millón de Compromisos por el Clima (MAGRAMA), Comunidad por el Clima (Red Española Pacto Mundial), Carbon Pricing Leadership Coalition, World Business Council for Sustainable Development, Corporate Leaders Group, grupo Español de Crecimiento Verde, Powering Past Coal Alliance, Plataforma Nacional de Acción Climática, Asociación Española para la Economía Energética, UN Global Compact (Action Platform).

Iberdrola has a specific section on its website called [Against Climate Change](#) in order to show the company's efforts to mitigate and adapt to the consequences of climate change.

201-3 Coverage of the organisation's defined benefit plan obligations.

Spain

The companies signing the *7th Collective Bargaining Agreement* jointly sponsor a voluntary employee pension plan in which 98% of the workforce participates. The periodic contributions made under said Collective Bargaining Agreement are determined as a percentage of each employee's annual pensionable salary. Iberdrola does not have any unmet financial commitments pending with respect to this plan.

United Kingdom

98% of the workforce participate in the pension plans of the workforce in one form or another:

- The defined-benefit plan has two pension plan structures, based on company and seniority. They have been closed to new members since 1 April 2006.
- The defined-contribution plan has a pension scheme that is based on a percentage of each employee's annual pensionable salary. This scheme is optional for employees and is co-funded by the company and employees.

United States

- The Networks Business has twelve defined-benefit plans, covering union and non-union employees, for which the company makes the contribution, with benefits being based on salary and years of service. As of 1 January 2014, all defined-benefit plans were closed to new members, except for the plans of The Berkshire Gas Company Pension Plan, Connecticut Natural Gas Corporation Pension Plan and Southern Connecticut Gas Company Pension Plan for Salaried and Certain Other Employees. The Networks Business also has defined-contribution plans with distinct and separate operations covering employees who are both subject and not subject to the collective bargaining agreement. Employees can make contributions as a percentage of their pre-tax salary (generally up to 50%). Almost 100% of the workforce is eligible to join these defined-contribution plans, with some 91% having signed up.
- The Renewables Business has a corporate defined-benefit plan, with contributions assumed by the company and benefits determined based on salary and years of service. Vesting in this plan was frozen as at 30 April 2011. It also has a defined-contribution plan with three different types of company contributions. Employees can make contributions as a percentage of their pre-tax salary. 100% of the workforce are members of these defined-contribution plans.

Brazil

After the integration of all of the businesses of the company Elektro Holding into Neoenergia on 24 August 2017, the pension plan scheme is as follows:

- At Elektro, the Networks Business has a defined-benefit plan for employees who joined before 31 December 1997, and a mixed plan (70% of salary as defined benefit and 30% as defined contribution) for those who joined after 1 January 1998, which is closed to new entrants as from 31 December 2016. 84% of the workforce are members of both plans. For the companies of Elektro Holding (Elektro Redes S.A., Elektro Comercializadora de Energia LTDA, Elektro Holding S.A., Elektro Renováveis Do Brasil S.A., Enerbrasil-Energias Renováveis Do Brasil S.A., Elektro Operação and Manutenção LTDA.), as at 31 October 2016, a defined-contribution plan was implemented by means of which employees may make contributions as a percentage of their salary, with the business contributing the same amount.

- Coelba has a defined-benefit plan for employees who joined before 1 October 1998 (closed to new participants), and a defined-contribution plan for those joining after such date. 98% of the workforce are members of both plans.
- Celpe has a defined-benefit plan for employees who joined before 1 May 2006 (closed to new participants), and a defined-contribution plan for those joining after such date. 97% of the workforce are members of both plans.
- Cosem has a defined-benefit plan for employees who joined before 1 March 1999 (closed to new participants), and a defined-contribution plan for those joining after such date. 98% of the workforce are members of both plans.

Mexico

The commitments to the organised employees of Iberdrola Mexico, arising from the auctions by the Federal Electricity Commission, in which Iberdrola is required to apply a Collective Labour Agreement for organised staff, are provisioned as internal funds. A defined-contribution pension plan was implemented in 2015, with 62% of the non-organised workforce with pension plan rights signing up.

201-4 Financial assistance received from governments

Financial assistance received

Financial assistance received by the Iberdrola group is shown in the following table on a consolidated basis:

Financial assistance (€ millions)	2017	2016
Capital subsidies	10	13
Investment tax credits	30	0
Emissions rights	0	0
Assistance for other items included in the GRI Protocol	0	0
Iberdrola consolidated total	40	13

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

Government participation in shareholding structure

The Iberdrola group is not aware of government participation in the shareholding structure.

GRI 202 Market presence

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Consistent with its presence in the international market, the Iberdrola group has a global tool that allows for monitoring of the selection process, and a unique reporting system (SAP OneHR). Both elements allow for the internal and external publication of vacancies at the international level, and favour the mobility of employees through the various organisations and companies of the group. 2,223 internal vacancies were published in 2017, with the participation of more than 5,000 employees.

The global publication of external vacancies ensures the inclusion of all candidates within the company's processes on equal terms. More than 230,000 external candidates were recorded during financial year 2017.

The management approaches described in section 406 "Non-discrimination" of the "Social dimension" chapter of this report are applied to both remuneration as well as the selection of professionals.

202-1 Ratios of entry level wage to local minimum wage

The current collective bargaining agreements at the companies of the Iberdrola group ensure equality in starting wages for men and women.

Entry-level wage compared to legal minimum wage (%)	2017	2016
Spain	140.72	150.63
United Kingdom	125.52	127.32
United States	125.00	137.50
Brazil	135.18	N/A ²³
Mexico ²⁴	464.09	480.24

202-2 Senior management hired from the local community

Iberdrola's approach is to promote and favour the hiring of employees in the geographic boundaries within which it does business, also encouraging these individuals to reach executive positions in the corresponding companies. In 2017, 98.65% of executive officers at the companies of the group were local managers, defined as anyone with management responsibilities in a particular geographic area coming from the local community, therefore excluding professionals of other nationalities who are assigned there temporarily under an international mobility programme.

GRI 203 Indirect economic impacts

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



²³ Data from Brazil for prior year not provided due to change in boundary.

²⁴ In Mexico, the minimum wage is generally not used as a reference for market wages; it is applied in sanctions by the labour authority, fines and limits on tax deductibility.



Management approach

In addition to the direct economic impacts that occur as a result of the cash flows that are generated, the Iberdrola group also induces additional effects or indirect impacts such as those described in this aspect.

203-1 Development and impact of infrastructure investments and services supported

During the construction and operation of its facilities, Iberdrola carries out certain infrastructure activities that are unrelated to its facilities and without a specific commercial purpose, but rather that are intended to meet the needs of the social environment, resolving existing shortcomings in the local communities. A summary of these projects with strong social impact during 2017 is provided below:

Infrastructure

In Spain, it has cooperated on the refurbishment of various municipal infrastructures.

In Mexico, it has participated in the construction and/or improvement of various recreational, educational and health centres, as well as infrastructure improvement and expansions of potable water and sewerage networks.

In the United Kingdom, action has been taken to improve the various infrastructures as well as landscape improvements for the enjoyment of the people near the different production centres.

In Brazil, there has been a continuation of the energy efficiency programme, both at the level of awareness-raising and disclosure as well as review and adjustment of lighting, with an expected savings of 800 MWh / year.

Services

Significant service activities include support for professional formation and training in areas near Iberdrola's facilities. In 2017, more than 12,000 people visited the Energy Classrooms near the windfarms in Spain. There are also two visitor centres in the United Kingdom, located at the Cruachan hydroelectric plant and at the Whitelee windfarm, where visits are received from the general public and from school groups.

Of note is the collaboration with Hydrographic Confederations and other bodies in Spain to enable various activities near the hydroelectric reservoirs (sports events, support for reproduction of certain species, etc.), by adjusting flows at certain times, as well as specific assistance in the repopulation of species.

203-2 Significant indirect economic impacts

Indirect impacts of the businesses and facilities

From an economic standpoint, the expansion of electricity systems drives the regional economy in the region where it occurs and creates employment opportunities, contributing to economic and social enhancement.

Positive effects include:

- Facilities for the production, transmission and distribution of electrical energy are built in dispersed geographic locations. This contributes to the generation of economic activity and jobs in urban and rural environments. This can also support the revitalisation and repopulation of underpopulated rural areas.
- These same facilities create significant indirect employment in the region in the form of local contracting companies, creating demand for various lodging, security, health, mechanical, supplier services, etc.
- In local communities, professional training is promoted and skilled labour, such as services for building and maintaining wind farms, is boosted.
- Local communities are supported through sponsorship of the initiatives of social and environmental institutions and organisations.
- Due to their geographic reach, electricity activities generate fees, taxes and duties at the local, regional and national levels.

Negative effects can be considered to include the following:

- The landscape impact of the facilities, especially large ones, and the possible negative effects (during construction or operation) on traditional activities, particularly in the rural environment, such as ranching, hunting or fishing.
- Environmental risks, which may give rise to undesirable consequences for the environment, such as spills and improper emissions, or waste management; these situations might occur despite the ever more demanding operational practices developed by the group.

Indirect impacts of the supply chain

The high volumes of Iberdrola's purchases (described in disclosure 102-9) of equipment, works and services, as well as fuel, becomes an engine for growth in the countries in which the company is present.

Entrepreneurial support

Iberdrola supports the creation and strengthening of new entrepreneurial projects through a number of significant initiatives, including the following during 2017:

- In 2017 Iberdrola procured a volume equivalent to 38 million euros from companies in Spain that have been operating for less than 5 years, which is clear support for entrepreneurship.
- Inclusion of the specific category *Generation of employment and employment of youth* at the Supplier of the Year Awards in Spain: incentivising the suppliers to commit to youth and female employment and encouraging them to offer high-quality professional opportunities to youth, which will undoubtedly lead to an improvement in competitiveness and innovation at the companies and will allow them to retain talent.
- Iberdrola's venture capital program, *Iberdrola Ventures - Perseo*, funded with 70 million euros, is an opportunity for companies dedicated to innovative technologies and business models, ensuring the sustainability of the energy model.

GRI 204 Procurement practices

Contribution to SDGs of the performance described by the indicators of this section(according to SDG Compass www.sdgcompass.org)

Management approach

A description of the Iberdrola group's supply chain can be found in disclosure 102-9 of this report.

204-1 Spending on local suppliers

Iberdrola maintains a strategy of creating value in the regions in which it operates. The volume of purchases made by the company each year translates into indirect employment in auxiliary industries and at service providers.

The following table shows the percentage volume of procurement from local suppliers:

Acquisition or contracting of materials, equipment, works and services from local suppliers ²⁵ (%)	2017	2016
Spain	88	93
United Kingdom	85	69
United States	98	98
Brazil	100	100
Mexico	60	66
Other countries	76	N/A
Total	88	84

But aside from purely economic value, Iberdrola drives the market on sustainability and responsibility, encouraging suppliers to improve their environmental, ethical and social record through actions that foster excellence in their management, beyond mere technical quality, thereby helping suppliers become more competitive:

Amount awarded to suppliers with management systems (%) ²⁶	2017	2016
Amount awarded to qualified suppliers	87.2	89.0
Certified quality management system	85.0	86.6

²⁵ Based on the Tax ID or CIF assigned to the supplier, those registered in the main countries in which Iberdrola does business are considered to be local.

²⁶ Scope: Suppliers of materials, equipment, works and services with orders for amounts equal to or greater than €400,000 during the year, which represents more than 92% of the total amount contracted (information from November 2017). Does not include Neoenergia.

(ISO 9001 or equivalent)

Certified environmental management system (ISO 14001 or equivalent)	79.5	82.3
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Certified risk prevention management system (OHSAS 18001 or equivalent)	71.4	79.4
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GRI 205 Anti-corruption

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The group's firm commitment to fight corruption and to establish mechanisms to ensure the existence of a culture for preventing irregularities is reflected in such documents as the group's [Code of Ethics](#), the [Crime Prevention Policy](#) and the [Anti-Corruption and Anti-Fraud Policy](#), all of which have been approved by the Board of Directors.

As an example of this commitment, at the beginning of 2017 Aenor granted Iberdrola, S.A. ISO 37001 certification, by which it is verified that the company has an effective Anti-Bribery Management System, resulting in Iberdrola being the first Spanish company and one of the first in the world to obtain this recognition. This is the international standard that sets the requirements and provides a guide to establish, implement, maintain, review and improve mechanisms to combat bribery practices at companies.

Within the framework of the Compliance System, various activities are carried out to encourage the organisation to act in accordance with the most stringent ethical standards and in accordance with applicable laws and regulations. In order to develop the *Crime Prevention Policy*, the company, through the Compliance Unit and other appropriate bodies, has implemented a specific and effective programme (the *Crime Prevention Programme*) as a set of measures focused on the prevention and detection of and reaction to possible crimes, which also extends to the prevention and control of other frauds, administrative infractions and serious irregularities, all within the framework of the process of review and adjustment to the most recent changes to the Spanish Criminal Code following the introduction of criminal liability for legal

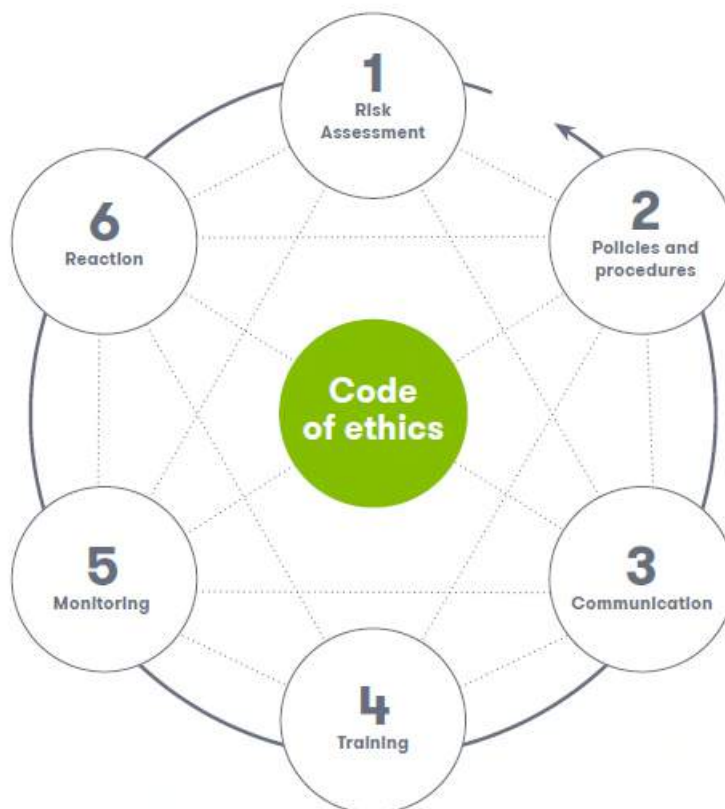
entities, without prejudice to the legal provisions applicable in any other jurisdiction in which the company does business.

Within this context, this year Aenor granted Iberdrola, S.A. UNE 19601 certification, by which it is verified that the company has an effective criminal compliance management system, resulting in Iberdrola being one of the first IBEX 35 companies to obtain it. This norm is the national standard for best practices for preventing crime, reducing risk and encouraging an ethical business culture and a culture of compliance with the law.

In 2017 the Compliance Unit also approved the *Protocol for Conduct in Professional Relations with Governments, Political Parties, Authorities and Public Officials* in order to strengthen the specific mechanisms already existing at the companies of the group to prevent any acts that might be considered corrupt or bribery in relations with said third parties.

In addition, as part of the Compliance System, the Compliance Unit promotes the development and maintenance of other initiatives for compliance with the *Code of Ethics* and legal provisions on fraud and corruption, the main goal of which is to foster a culture of corporate ethics and transparency, disseminating the principle of “zero tolerance” with respect to fraud and promoting mechanisms and actions to prevent corruption and fraud.

The *Code of Ethics* is the “cornerstone” on which the Compliance System is based and permanently functions as an element “inspiring” the other elements thereof, which are shown in the following chart:



These elements include: i) the regular assessment of risks, ii) the development and maintenance of policies, procedures and protocols on conduct of the professionals of the group describing the expected, appropriate and proper behaviour thereof, iii) the preparation of communication plans, iv) training for

employees and third parties with which we have relationships, v) permanent monitoring and review of the Compliance System through internal and external audits and control and detection methods like management of the ethics mailboxes, and vi) the establishment of response and reaction plans in case of conduct or situations that are improper or contrary to applicable legal provisions.

All activities performed by the group within this Compliance System are monitored quarterly by the Unit through the *Global Compliance Scorecard*, in which the Compliance Divisions of each country subholding and/or head of business company report quarterly, within the framework of the *General Coordination, Collaboration and Information Protocol*, the changes in a number of monitoring indicators regarding the principal elements making up the compliance programs of the respective companies.

Finally, it should be noted that in 2015 Iberdrola joined the Partnering Against Corruption Initiative (PACI), a platform through which leaders belonging to the World Economic Forum undertake to promote business conduct and practices designed to fight corruption within their organisations and to make such commitments binding on the third parties with whom they engage. Iberdrola is currently the only Spanish company to be a member of this platform.

205-1 Business units assessed for risks related to corruption.

One of the principal elements of the Compliance System of the Iberdrola group is the performance of a periodic and on-going evaluation to identify situations, factors or actions that could be exposed to improper acts or to situations of corruption or fraud.

The Compliance Unit develops a dynamic review and updating process for the risks mentioned in the preceding paragraph and establishes review mechanisms and tools to determine the perception of fraud risks by officers and professionals with key responsibilities within the group, while monitoring the potential factors of exposure to the risk of corruption on an ongoing basis.

Both the corporate divisions of the company as well as all of the businesses and countries in which the group does business participate in this process and are analysed in collaboration with the Compliance Divisions of the country subholding companies and head of business companies. All of this is done following guidelines established by the Unit, which each Compliance Division adjusts and develops at their respective companies in accordance with the specific object and activities thereof.

An evaluation process was performed in 2017 based on surveys involving professionals in charge of areas and relevant processes at each of the country subholding and/or head of business companies of the group. Specifically, the scope of the analysis was the following:

- 100% of the country subholding companies making up the group: Avangrid INC, Iberdrola España, S.A.U., Iberdrola México, S.A. de C.V., Iberdrola Participaciones, S.A.U., Neoenergia, S.A.²⁷ and Scottish Power LTD as well as the principal business thereof: i) Networks Business, ii) Wholesale and Retail Business, and iii) Renewables Business.
- Furthermore, as regards the corporate divisions of the group, those areas or divisions considered to be of higher potential risk in this area have been analysed. Specifically, the following have participated: Procurement, Human Resources and General Services, Financing and Treasury, Corporate Development, Administration and Control, Investor Relations and Communication, Innovation, Sustainability and Quality, Internal Audit and International Relations.

²⁷ As a result of the integration of Neoenergia in the middle of the year, the risk analysis at this organisation was performed using its own methodology.

To perform this evaluation, guidelines and a methodology are provided that allow the compliance directors as well as the heads of the businesses and corporate functions to identify and evaluate the risks of fraud and corruption within the group, with the latter in charge of managing such risks. Based on an analysis of the information received, each Compliance Division prepares its own risk map, identifying the main controls at the group to mitigate them, and proposes improvement actions to strengthen the effectiveness of such controls, if appropriate.

This analysis is used as a starting point to determine the most effective prevention and control measures and thus allow for the appropriate allocation of resources and efforts to those areas or factors in which a potential for improvement has been identified. Accordingly, the assessment constitutes a tool upon which various actions are based and which are included within the other elements of the Compliance System.

The group has also continued to develop and strengthen its Compliance System, particularly in the anti-corruption area, focusing on the analysis and evaluation of third parties with which Iberdrola is connected. In this context, the group has multiple internal controls that try to mitigate exposure to these types of third-party risks, including:

- a) Suppliers. The group's procurement process includes *Guidelines for analysis of the risk of corruption at suppliers*, the purpose of which is to provide guidelines for the analysis of the risk of corruption associated with suppliers of equipment, materials, works and services. The documentation attached to the supplier contracting terms also includes the *Suppliers' Code of Ethics*.
- b) Public administrations and officials. In 2017, the Compliance Unit approved a new *Protocol for Conduct in Professional Relations with Governments, Political Parties, Authorities and Public Officials*, applicable throughout the group, governing employee relationships with these Stakeholders. Apart from establishing certain principles of conduct to be observed by all of the professionals, this protocol establishes certain requirements to report to the Compliance Area prior to the formalisation of any contract, agreement or pact with officials or public administrations.
- c) Corporate transactions. The Unit also approved the *Corporate Transactions Protocol* in order to establish the steps to take regarding risks associated with compliance in the case of mergers and acquisitions and other kinds of corporate transactions contemplated in the area of application thereof. This protocol contemplates the performance of due diligence prior to any transaction to be carried out within the group.
- d) Sales agents. As to these third parties, the group has specific protocols at companies that hire sales agents. This protocol also contemplates the performance of due diligence prior to any hiring of these types of third parties.
- e) Donations, sponsorships and social welfare activities. In 2016 the Unit approved the *Protocol for Transactions with Social-Welfare Content, Donations and Sponsorships*, the object of which is to evaluate the legitimacy of the beneficiary of the contribution or sponsorship and regulate the information to be collected by the proposing unit, without prejudice to the additional specific work of research and analysis that each specific contribution may require.

Review of the provision of general supplies in countries presenting a risk of corruption

To analyse supplies in countries with a risk of corruption, the company uses the *Transparency International Corruption Perceptions Index 2016 (TI CPI 2016)* as a source to classify countries by their risk level.

Procurement volumes classified by corruption risk levels are set out in the following table:

Corruption risk ²⁸	% of 2017 general supply purchases in countries on the CPI Index 2016
Low	58
Medium	17
High	25

According to the TI CPI 2016, countries with a high risk of corruption in which purchases were made from suppliers registered are mainly Brazil and Mexico. This volume of procurement is directly related to Iberdrola's investment effort in these countries, where 25% of the group's total investments were made in 2017.

Iberdrola has not made any significant purchase of general supplies from suppliers located in tax havens.

In supplier management and during the procurement process, the measures adopted by the company to protect against this risk are based either on the *Procurement Policy* or the *Suppliers' Code of Ethics* or on the specific clauses included in the contract terms attached to the orders made.

Review of fuel supplies in countries presenting a risk of corruption

An analysis of the purchases of fuel shows the following ratios in 2017:

Corruption risk ³²	% of 2017 fuel purchases in countries on the CPI Index 2016
Low	48
Medium	0
High	52

According to the TI CPI 2016, the countries with a high risk of corruption in which purchases were made from suppliers registered there are mainly Mexico and Brazil. However, the company believes that the calculation should exclude purchase of fuel in these two countries because they are made in strongly regulated environments that require contracting with state-owned companies. Excluding both countries from the calculation, the high risk percentage would decrease to 14%.

205-2 Training and communication on anti-corruption policies and procedures

The development of effective communication and training plans is one of the key elements relied upon by Iberdrola's Compliance System to achieve its main goal of promoting a culture of corporate ethics and transparency and to prevent improper or fraudulent conduct.

Along these lines, the principal powers of the Compliance Unit include those of instituting the preparation and implementation of suitable training programmes, both in-person and online or by any other appropriate method, for the professionals of the group to receive training regarding the duties imposed, mainly by the *Code of Ethics*, the *Anti-Corruption and Anti-Fraud Policy* and the *Crime Prevention Policy*.

The initiatives included in these plans include the following activities during the course of the year:

²⁸ Low risk: country index ≥ 60 / Medium 59-50 / High risk: < 50 on a scale of 0 (perception of high corruption levels) to 100 (perception of low corruption levels).

Training for governance bodies

- As part of the training programme for the directors of Iberdrola, S.A., there was a training initiative in 2017 for all members of this body regarding the Iberdrola group's Compliance System.

The Compliance Unit also regularly reports to the Corporate Social Responsibility Committee on the most significant compliance issues for the period, having appeared before this body a total of four times in 2017. The issues reported on include the following: *Code of Ethics*, report on annual reports, incidents relating to the *Internal Regulations for Conduct in the Securities Markets*, *Crime Prevention Programme*, update of internal rules and regulations, scorecard, results of external evaluations and significant integration processes within the group, etc.

Training for employees of the group

- Training and awareness-raising regarding the *Code of Ethics* and the prevention of violations thereof. In coordination with the various country subholding companies and/or head of business companies, the Unit develops and regularly updates training programmes on the *Code of Ethics* and the other rules and regulations in this area applicable to all group professionals. Such programmes foster knowledge of the action standards required at the group and promote ethical values and the principle of "zero tolerance" towards the commission of unlawful acts and situations of corruption and fraud. Various initiatives have been developed, including:
 - o Online *Code of Ethics* course. This course was launched globally throughout the group²⁹, with a frequency of at least every two years, and a new refresher course was launched in 2017 which has been taken by a total of 21,899 employees, which is 80% of the objective.

<i>Code of Ethics</i> training	No. of employees trained	% of employees trained
Spain	8,276	80%
United Kingdom	2,954	50%
United States	6,620	99%
Brazil ³³	3,431	91%
Mexico	618	96%
Report boundary	21,899	80%

During the year, Neoenergia has had an online course regarding its *Code of Ethics* and anti-corruption issues available to all of its employees, which has been completed by 90% of its professionals, or 6,063 employees.

- o On-site training and awareness-raising sessions on the *Code of Ethics* and anti-corruption provisions given by the compliance directors of each company. During 2017 more than 2,000 employees of the Spanish companies of the group have received on-site training within this programme.
- Training on *Crime Prevention Programmes* applicable to companies domiciled in Spain. In 2016 the Compliance Unit made available to the professionals of the Spanish companies of the group an online training initiative on this topic. This online course has been available to new hires during 2017 and was taken by 269 new professionals of the Spanish companies of the group.
- Specific anti-corruption training in accordance with the legal provisions in effect in the countries in which the group operates:

²⁹ As a result of the integration of Neoenergia in the middle of the year, this company was not included in the scope of this initiative, although the company has its own specific training in this area.

- There has been a training session in Spain with the help of the law firm CMS Albiñana & Suárez de Lezo in the area of anti-corruption regulation, and more specifically regarding the *UK Bribery Act* for those employees forming part of the gas supply transactions team of Iberdrola Generación. A total of 17 employees attended this on-site training.
- In the United Kingdom, the company provides periodic online training on the UK Bribery Act and obligations under the Anti-bribery and Corruption Policy (ABC Policy) as well as on related legal provisions. The training this year has been included as an additional module in the online *Code of Ethics* course, in which more than 3,600 employees have participated. The Compliance Division of this company has also provided on-site *Code of Ethics* and anti-corruption training to intermediate management, with the participation of more than 250 professionals.
- The *Code of Ethics* training in the United States includes a short training session on anti-corruption, in which more than 6,600 employees participated. On-site training courses have also been provided to the respective Boards of Directors; specifically, a total of 14 directors of Avangrid, Inc. and 8 directors of Avangrid Networks, Inc. have received training on the U.S. Foreign Corrupt Practices Act.
- In Mexico, apart from online training on the *Code of Ethics*, which includes aspects promoting the fight against corruption, throughout 2017 the Compliance Division of this company developed on-site training meetings on key aspects of ethics and compliance. 389 professionals have participated in this training.
- Likewise in Brazil, in addition to online *Code of Ethics* training, the scope of which covered all employees of Elektro, in 2017 the Compliance Division of the company participated in a leadership event on the company's strategy to underscore the role of the executive officers in the Compliance System. A total of 200 professionals attended this event.

205-3 Incidents of corruption

The company has not been informed, either through the ethics mailboxes or through the corresponding legal channels via its Legal Services, of any court decisions relating to cases of corruption during the reporting period. There were also no incidents reported through the channels established for such purpose resulting in the cancellation of orders or of contracts with group suppliers.

During 2017, the European Investment Bank (the "EIB"), Iberdrola Ingeniería y Construcción, S.A.U. and Iberdrola S.A. (in its capacity as owner of all of the share capital of Iberdrola Ingeniería y Construcción, S.A.U. through the country subholding company Iberdrola Participaciones, S.A.U.) have signed a settlement agreement (the "Agreement") within the framework of the EIB's investigation relating to the Riga TEC-2 project to rebuild a thermal plant in Riga (Latvia), which was awarded to Iberdrola Ingeniería y Construcción, S.A.U. on 8 December 2005 and financed by this institution.

The Agreement contemplates that Iberdrola Ingeniería y Construcción, S.A.U. will not participate in projects financed by the EIB for a period of one year (which may be extended for six additional months if the company does not comply with certain conditions), and assumes the commitment to develop, finance and implement a specific sponsorship programme, consisting of an array of activities and measures in favour of the fight against corruption and fraud that will be performed for a period of four years from the signing of the Agreement.

Along these same lines, the Agreement includes an obligation to cooperate with the EIB and to extensively assist it in the investigation of conduct prohibited in the projects financed by the institution, and to exchange with the EIB its best practices in the area of compliance.

GRI 206 Anti-competitive behaviour

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)

Management approach

Pursuant to the *Code of Ethics*, the group undertakes to compete fairly in the market and not to engage in advertising that is misleading or denigrates its competitors or third parties. Furthermore the group undertakes to obtain information lawfully, to promote free competition for the benefit of consumers and users, and to promote transparency and free market rules, as provided in the group's [General Corporate Social Responsibility Policy](#).

In relation to the foregoing, and specifically pursuant to the provisions of the *Anti-Corruption and Anti-Fraud Policy*, the companies of the group promote a transparent environment, maintaining appropriate internal channels to favour the communication of possible irregularities, including the use of the channel of communication with the Audit and Risk Supervision Committee to report financial or accounting irregularities, and the Ethics Mailboxes, which allow professionals of the group, suppliers and shareholders of the company to communicate conduct that may entail a breach of the company's Corporate Governance System or the commission by a professional of the group of an act contrary to the law or to the rules of the *Code of Ethics*.

At the country level, each of the country subholding companies endeavours to ensure strict compliance with legal provisions on separation of activities. In many countries like Spain, where a *code for the separation of activities of the companies of the Iberdrola group in Spain* applies, applicable internal rules go beyond what is required by law, significantly strengthening the measures to prevent any anti-competitive practices deriving from a lack of separation between the liberalised and regulated businesses.

The liberalised head of business companies also have specific controls to avoid any type of anti-competitive practices, particularly in areas like advertising campaigns directed towards individuals and price manipulation.

In Spain, the generation head of business company has access to Autocontrol, a private entity that works for truthful, legal, honest and trustworthy advertising, which among other activities provides a consulting service to advise on the ethical and legal adequacy of campaigns before they are launched. It has also implemented internal processes to ensure compliance with *Regulation (EU) 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency* and the legal provisions in further development thereof, which establish rules prohibiting abusive practices that affect the wholesale energy markets. In other jurisdictions, the liberalised head of business companies have equivalent internal policies and rules.

In the practical application of applicable law, the complexity thereof might give rise to interpretations that are not shared by other market players or by the regulatory authority itself, giving rise to situations such as those described in section 206-1 requiring the intervention of the competent courts.

206-1 Legal actions for anti-competitive behaviour, anti-trust and monopoly practices.

Cases related to monopoly practices or anti-competitive behaviour that have been recorded at the Iberdrola group are described below.

In Spain, in 2010 Céntrica Energía, S.L. ("Céntrica") filed a claim with Commercial Court No 1, in Bilbao, claiming 11,900,000 euros in purported damages on the basis of the penalty imposed by the CNC for alleged abuse of dominant position for having failed to allow widespread access to the points-of-supply database. Iberdrola Distribución Eléctrica, S.A.U. filed a defence opposing this claim on the grounds that the case was time-barred and, in any event, because it had strictly complied with applicable laws and regulations governing the industry and with the standards established by the National Energy Commission (*Comisión Nacional de Energía*) (CNE) on this matter since 2002. Judgement was rendered for Iberdrola Distribución Eléctrica, S.A.U. in July 2010, holding that the action was time-barred. This judgement was appealed by the opposing party to the Provincial Court of Biscay (*Audiencia Provincial de Vizcaya*), and a new judgement confirming the previous judgement was handed down in July 2011. However, Céntrica Energía filed a constitutional petition for relief with the Civil Chamber of the Supreme Court, which issued a judgement in September 2013 upholding such petition, rejecting the finding that the action was time-barred, and providing for a return of the proceedings to the Provincial Court of Biscay for a resolution on the merits. As a result of the foregoing, the Provincial Criminal and Administrative Court rendered judgement in March 2014 dismissing the complaint filed by Céntrica Energía, S.L. in its entirety and deciding on the merits of the case, holding, among other things, that the causal link between the conduct followed by the distribution company and the damages claimed has not been established. In May 2014 Céntrica filed a constitutional petition for relief (*recurso de casación*) against the aforementioned judgement with the Third Division of the Supreme Court. On 6 July 2017 the Supreme Court rendered a Decision rejecting the cassation appeal, with the imposition of costs on the appealing party. The matter is thus definitively closed.

The proceeding provided for in article 88 (2) of the *EC Treaty* by the European Commission against Spain (State Aid C3/2007) continues in connection with the possibility of the regulated electricity tariff system being considered as state aid, which is forbidden under the Treaty, the beneficiaries of which would be end consumer companies, on the one hand, and electricity distribution companies, on the other. In these proceedings, which were commenced following a complaint filed by Céntrica, P.L.C. and Céntrica Energía, S.L., written comments of both Unesa and Iberdrola Distribución Eléctrica, S.A.U. were filed, with the defence focusing on the absolutely regulated nature of electricity distribution in Spain and the absence of any advantage for distributors compared with liberalised retail electricity supply companies, and considering, in short, that there was no forbidden state aid in favour of the former. In this case, which is limited to financial year 2005, a favourable final outcome is expected with a declaration that there is no unlawful assistance as regards electricity distribution companies.

In addition to the complaints filed with the EC, Céntrica has also filed various appeals applying for the annulment of national tariff provisions recognising deficits in regulated activities, to the extent that no similar deficits are recognised for retail supply activities. Both the Supreme Court and the National High Court have resolved to postpone the dates for voting and rendering a decision on such appeals until the issuance of a European Commission resolution putting an end to the proceedings concerning State Aid C 3/2007, commenced as a result of Céntrica's complaint.

Furthermore, in 2012 notice was given of the disciplinary resolution under case file S/0213/10 of the National Competition Commission, which imposes on Iberdrola, S.A., Iberdrola Generación, S.A.U. and Iberdrola Comercialización de Último Recurso, S.A.U., jointly and severally, a penalty of 10,685,000 euros for the serious infringement of distortion of competition through anti-competitive acts consisting of the transfer of contracts from the last-resort retail supplier to the liberalised retail supplier, without securing the

express consent of the consumer required under industry regulations. In 2013 notice was provided of the decision dismissing the contentious-administrative complaint filed by the three companies against the penalty. In 2013 an appeal for relief was filed against the dismissal and on 3 February 2017 a judgement on the on the appeal was rendered pursuant to which the Supreme Court annulled the sanction decision and reduced the amount of the sanction to 5,342,500 euros due to violation of the principle of proportionality, without imposing costs for the first instance proceeding before the National High Court or the petition for relief before the Supreme Court.

In the United States, a class action suit has been filed in relation to the LDC Gas Transport Service in the Algonquin Gas Transmission (AGT). On 16 November 2017, a Class Action Complaint (Breiding et al. v. Eversource y Avangrid) was filed with the District Court of Massachusetts on behalf of New England customers against the company and Eversource, alleging that certain of their subsidiaries, which used the gas transmission service provided by Algonquin Gas Transmission (AGT), which for Avangrid would be SCG and CNG, participate in natural gas pipeline capacity scheduling practices that resulted in an artificial increase in electricity prices in New England. The plaintiffs claimed redress under the federal and state antitrust, unfair competition and consumer protection laws, and under the common law of unjust enrichment. They seek to recover damages, restitution, disgorgement, costs of suit and attorneys' fees. The company is reviewing the Complaint and will vigorously defend against such claims.

As announced by the company in the Due Diligence call and in its third quarter Form 10-Q, the Connecticut regulators commenced a proceeding to review the gas supply portfolio, asset strategies and practices of the three local distribution companies. In addition, FERC and the Massachusetts State Commission are reviewing the matter. SCG and CNG are required to provide a safe and reliable natural gas service to their customers. SCG and CNG reserve and nominate / schedule the gas pipeline schedule to protect their customers against interruptions, even during extreme and unpredictable weather conditions. These companies operate in Connecticut, where they are required to serve as the "last-resort supplier" for retail, commercial and industrial natural gas customers interconnected to the gas distribution companies. In providing service to the customers, Avangrid seeks to comply with all regulatory requirements, both state and federal.

No cases related to monopoly practices or anti-competitive behaviour have been recorded at the other companies of the Iberdrola group.

B. Electric Utilities Sector Specific Aspects

Availability and reliability System efficiency

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Spain

The planning of generation in Spain is a government function and is indicative in nature, as participants make investment decisions within a free-market environment.

Analysing the reliability of the short-term electricity supply is a task assumed by the System Operator, which regularly studies different operation scenarios to verify the robustness of the system. Iberdrola significantly contributes to increasing reliability in the operation of the system by providing great flexibility through hydroelectric generating capacity as well as with a pioneering renewable energy control centre.

The Networks Business also contributes to guaranteeing reliability, performing studies to identify the short- and long-term investments needed to meet the increase in demand and to renew older facilities by adopting more modern technologies, with a view to guaranteeing a more operational and reliable network. Of note is the major deployment of smart meters in the electric grid, with more than 10 million already installed, a modernisation of 97% of the company's meters in Spain. The investments in smart distribution grids helps to improve reliability and availability of the networks.

United Kingdom

A large part of the United Kingdom's generating facilities is reaching the end of its use life, and the government is determining an energy policy and regulations to enable renewal without endangering the safety of supply. There are auctions of capacity in which the government calculates the amount of capacity required, depending upon its system reliability target, and industry players offer their facilities until such need is met. February 2018 saw the fourth long-term T-4 auction, in which both existing plants and new projects took part. Iberdrola is developing new projects in the technologies promoted by government policy over the next decade: offshore wind and combined cycle.

Electricity transmission network activities are governed by the RIIO-T1 plan over the 2013-2021 period. Significant investments are being considered during this period, with a dual purpose: first, to increase the transmission capacity of interconnections between Scotland and England, and second, to enable the

evacuation of energy from all renewable facilities expected in the short to medium term. Both objectives will make it possible to guarantee reliable, high-quality service in the coming years.

The reliability of electricity distribution networks is ensured through studies that make it possible to identify the short- and long-term investments needed to meet new demand and to renew older facilities, all of which is managed in accordance with the RIIO-ED1 framework for the 2015-2023 period. The investments in smart distribution grids helps to improve reliability and availability of the networks.

United States

Iberdrola is among the leading producers of wind energy in this country. The construction of a new electricity transmission corridor from Canada to the United States through the State of Maine is an element that allows for the integration of growing wind production, improving grid stability and the reliability of both systems.

The group's North American companies act in accordance with the laws and regulations of the states in which they operate. In the state of New York, the companies participate in planning activities through official bodies, ensuring that they can meet short- and long-term demand under proper conditions of reliability and safety.

The System Operator (ISO) operates within the reliability margins set by the North American Electric Reliability Council, the Northeast Power Coordinating Council and the New York State Reliability Council (NYSRC). NYSRC sets the installed capacity reserve margin, as well as the required level generating capacity, such that the loss of load in the New York control region is no more than one day per ten years. In New England, ISO-NE sets installed capacity requirements (ICR) using similar criteria.

In the State of Maine, transmission and distribution companies have no authority over energy planning, and cooperate with official bodies on operational matters that may be required by such bodies. In any case, electricity distribution companies guarantee reliability, carrying out studies that make it possible to identify the short- and long-term investments needed to meet the increase in demand and to renew older facilities by adopting more modern technologies, with a view to ensuring a more operational and reliable network.

Brazil and Mexico

The group's companies in Brazil manage major electric distribution areas and electricity production plants. It works in close cooperation with the public administrations, developing systems to help them attain energy planning goals, achieving the desired balance between available resources and the quality and reliability of the electricity supply.

Iberdrola's Networks Business contributes to ensuring the reliability of electricity supply, making investments to meet the rapid increase in demand and electricity consumption in the areas in which it distributes, ensuring a more functional and reliable network. It also invests in electricity transmission projects that will encourage robustness by improving the backbone of the system.

The group's companies in these countries also participate in developing generating facilities (thermal and wind, hydroelectric, wind and photovoltaic power).

Fuel

A key element in managing the availability of electricity service is the procurement of the necessary fuel. Iberdrola ensures it has a global portfolio of gas and coal contracts that is flexible and geographically diverse. This is in addition to a stable, long-term and low-risk supply of nuclear fuel.

The risk of fuel cost is managed using financial contracts that fix the price of the fuel at a particular time, allowing for reduction of risks and ensuring a margin on forward sales. These financial contracts are primarily used to fix the costs of coal and gas under long-term contracts. Derivatives are also be used to cover fuel costs in euros, as purchases are usually made in U.S. dollars.

EU10 Planned capacity to address projected electricity demand over the long term

The companies of the Iberdrola group have no direct responsibility for long-term planning processes for the corresponding electricity systems in the countries in which they operate.

Public authorities conduct the studies needed to anticipate the long-term needs of the respective electricity system, and Iberdrola's companies act as market agents, making investment decisions that are consistent with their business plans.

EU11 Average generation efficiency of thermal plants

The efficiency of Iberdrola's thermal generating facilities is shown in the following table:

Average thermal efficiency ³⁰ at generating facilities (%)	2017	2016
Combined cycle	53.57	51.82
Conventional thermal	34.38	33.00
Cogeneration	53.81	56.14
Report boundary	52.76	51.08

Combined cycles represent 62% of the group's thermal production³¹, as derived from the information reported in disclosure EU2 of this report.

Information on thermal efficiency in the various countries is described Annex 3 Supplementary Information.

EU12 Transmission and distribution losses

Transmission and distribution network losses (%)	2017	2016
Transmission		
United Kingdom	2.12	1.13
United States	2.67	2.66
Distribution		
Spain	6.70	6.89
United Kingdom	6.32	6.22
United States	3.59	4.79
Brazil ³²	12.24	12.46

³⁰ Average of efficiencies weighted by the annual production of each thermal power plant.

³¹ Includes nuclear generation.

³² All Iberdrola group networks in Brazil are classified as distribution.

Loss reduction programmes are implemented each year in all regions to improve the reliability and availability of the supply network, which has made it possible to reduce, or at least maintain in most cases, the level of losses. The measures taken are identified in disclosure 302-4 Reduction of energy consumption.

Demand-side management

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

As part of its demand-side management programmes, Iberdrola's main objective is to improve energy efficiency and the smart use of active electrical grids to thus contribute to the more efficient use of energy by consumers, and thereby reduce CO₂ emissions and contribute to the fight against climate change. The types of actions taken include those relating to information, training and the supply of solutions and technologies that help them improve energy efficiency and reduce the environmental impact of their energy habits and consumption. Iberdrola engages in demand-side management in all of its geographic areas and for its various types of customers.

The most significant specific features of this type of programme in each market are as follows:

Spain and Portugal

Iberdrola sells a wide range of products and services that promote efficiency, energy saving and environmental protection:

- Energy efficiency: efficient air conditioning and lighting, capacitor banks, home automation systems and other solutions.
- Renewable energy facilities: solar photovoltaic energy.
- Comprehensive management of energy supplies.
- Electromobility.

In 2017 more than 800,000 customers benefited from products and services that improve energy efficiency.

Noteworthy is the launch in 2017 of the *Smart Irrigation* product, which permits the programming and more efficient control of residential sprinklers. This product supplements others launched in prior years, like smart thermostats, electricity meters capable of distinguishing consumption by the main appliances, etc.

In the industrial and commercial sectors, there are initiatives to diagnose and propose measures for energy savings and efficiency, like efficient lighting, efficient air conditioning, etc.

Iberdrola has also commenced the development of 2 energy efficiency programmes that were approved in Portugal's *Plan to promote efficiency in energy consumption* (PPEC 2017-2018), which is expected to close in 2018.

Other activities to promote energy efficiency were also carried out through the website, campaigns, customer invoices, etc.

United Kingdom

In the residential customer market, ScottishPower is participating in the *Energy Company Obligation (ECO) Programme*, sponsored by the British government, the purpose of which is to reduce CO₂ emissions and heating costs. It also provides energy consultancy and support services through a range of channels.

The company's projects in the area of commercial and industrial customers are focused on energy savings, cost reductions and CO₂ emissions. These include projects for managing connectivity at buildings and audits to identify low-cost and easily-applied energy savings measures.

In addition, there has been continued development of the Demand-Side Response (DSR) products to generate business opportunities through the management of one's own energy consumption based on network requirements.

United States

In Maine, residential demand-side management programmes are developed by the *Efficiency Maine Trust*, rather than by electricity companies directly. In addition, the New York Public Service Commission defines goals for the State of New York. In both cases, both the goals and the scope for the 2016-2018 period have been defined. It should also be noted that the Massachusetts energy efficiency programmes have reached 1st place in the American Council for an Energy-Efficient Economy ranking, for the sixth consecutive year, with *Home Energy Solutions* being most noteworthy for reducing total energy consumption of the homes within the programme.

Brazil

The companies of the Neoenergia group carry out various energy efficiency programmes for residential customers. For example, there is a programme aimed at low-income customers and focused on replacing incandescent lights with led lights, old refrigerators with more efficient ones, etc. Another programme is directed towards environmental improvement, and consists of the exchange of urban solid waste for financial credits on customers' electric bill, to help raise awareness regarding recycling and caring for the environment. There is also a programme for training in the efficient and safe use of energy for educators, students and the general population.

In the institutional segment, Neoenergia has carried out a range of projects relating to the improvement of energy efficiency, the replacement of inefficient lighting and the generation of solar energy.

Research and development

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

As part of a clear strategy, which is set out in the *Innovation Plan 2015-2017* and continues in the new *Innovation Plan 2018-2020*, innovation is Iberdrola's primary tool for ensuring the company's sustainability, efficiency and competitiveness, based on:

- Disruptive technologies, which seek efficiency, sustainability and environmental friendliness, and optimise the operation of facilities and processes.
- Digitisation and automation in all businesses and processes, to create value in the management of the life cycle of assets, optimisation and aggregation of the network, and the design of integral services for a digital customer.
- Innovation with start-ups, entrepreneurs and suppliers. The company is a pioneer in encouraging innovation by start-ups, entrepreneurs and suppliers in order to develop new disruptive business models, favour the exchange of knowledge and be a driving force among its partners.
- Culture of innovation and talent. Iberdrola promotes a culture of innovation through the transfer of knowledge, attraction of talent and promotion of the entrepreneurial spirit. This includes the *Accelerator* project, which wagers on the internal talent of its employees in order to ponder the keys to making the company the "utility of the future" and launching the *Iberdrola Universities Project*, which groups together all activities in the academic world.

Thanks to human and financial efforts (246 million euros in 2017) allocated to research, development and innovation (R&D&i), Iberdrola is in the vanguard of developing new products, services and business models that are transforming the energy sector.

Some of the innovative initiatives are set out below, classified by major category:

Renewable energy

2017 saw continued work on R&D&i projects specifically designed to develop solutions to reduce costs and improve energy efficiency, to integrate renewable energy and to develop new construction designs or processes: projects like *ROMEO*, coordinated by Iberdrola, for early detection of failures using big data techniques, the *ESS2Wind* project for the analysis of windfarm storage systems, and the *Andalusia* substation at the Wikinger wind farm, with an innovative design.

Clean generation technologies

In 2017, efforts in the generation area centred on operational flexibility and efficiency, respect for the environment and improved safety at facilities:

- **Flexibility, operational efficiency and safety of facilities:** The *Prexes* project has been successfully carried out, with the development of a model for predicting expansion in concrete hydraulic structures. As for safety of the facilities, there has been continued operation of the *Vidagen* project to design and develop a tool for the lifetime management of pressurised equipment.

In the nuclear segment, the *Filtronuc* and *OPD* projects are of note. The first, completed in 2017, developed a new filtered venting system to maximise performance without diminishing the safety of the system. The *OPD* project seeks to develop an open phase detection system in feeding the start-up of nuclear plants.

- **Environment:** Iberdrola has completed the *CO₂FORMARE* project, focused on cooling systems at plants to reduce their environmental impact, by means of which it has developed and validated a solution to the problem of macrofouling in these systems.

Retail - New projects and services

Innovation is essential in retail activities, in order to be able to offer customers the products and services best suited to their needs. Iberdrola continues to work on the development of new products and services, including the *Customer app*, with improvements in performance and a redesign of the app, launched in 2017 for Android and expected to launch in 2018 for the iPhone, and *Smart Irrigation*, which allows one to more efficiently programme and control residential water sprinklers.

Smart grids

The group's R&D&i activities in electric energy distribution focus on optimising the distribution grid, with special attention on the development of smart grids, with various projects in all of the countries in which it distributes electricity.

In Europe there has been completion of the *UpGrid* project, which enhances the group's ability to integrate active demand and distributed generation under low voltage. The *ASSURED* project has also commenced to develop solutions for fast charging of heavy-duty electric vehicles. Iberdrola also participates in the *INTENSIS44EU* project, which seeks a new focus in the area of smart grids and energy storage.

In the United Kingdom there is development of the *Fusion* and *LV Engine* projects to optimise low-voltage grids, *FITNESS* to continue developing sustainable solutions for the deployment of a new smart grid, and *Assess Late* to analyse future impacts on the distributed generation network.

In Brazil, there are innovation projects to develop smart grids, like *Bid Monitor*, which seeks to develop a support system for decision-making in electricity sales, and *Smart City* for the implementation of an urban benchmark model based on smart grids.

In the United States, there are initiatives included in the *Energy Smart Community* programme to efficiently connect consumers, community and the distributed energy resources market. Also noteworthy in the State of New York are the *Energy Marketplace* projects to facilitate transactions between suppliers of distributed energy and customers, and *Flexible Interconnect Capacity Solution*, which seeks to define less costly and more rapid methods of connecting large distributed energy resources.

Iberdrola has an R&D&i smart grid technology centre in Qatar, at which it continues to develop projects in this field.

Iberdrola Ventures - Perseo

Iberdrola Ventures - Perseo is Iberdrola's corporate venture capital programme with €70 million euros to promote the development of a dynamic ecosystem of start-ups and entrepreneurs in the energy sector. Since its creation in 2008, more than €50 million have already been invested in start-up companies developing technologies and new businesses in the energy sector worldwide. The main activities in 2017 included:

- Investment in the equity of the U.S. company *Innowatts*, focused on the development of artificial intelligence solutions for the energy sector.
- Social investment includes investment in the company *Ilumexico*, dedicated to electrification in rural areas of Mexico. This is Perseo's second investment in projects with high social impact, and is also included within Iberdrola's *Electricity for all* programme.

Further information on the R&D&i projects in which Iberdrola participates can be found in the [Innovation](#) section of the corporate website.

Nuclear plant decommissioning

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The company Empresa Nacional de Residuos Radiactivos S.A. (hereinafter, “Enresa”) has been responsible for decommissioning nuclear power plants since 1984. This state-owned company is also in charge of managing radioactive waste and spent fuel.

Enresa prepares the *General Radioactive Waste Plan (Plan General de Residuos Radiactivos)* (PGRR), which is the basic document setting forth the strategies to be followed and activities to be carried out in Spain in the fields of decommissioning nuclear power plants and managing radioactive waste and spent fuel. The plan, which also includes a financial/economic study of such activities, is submitted for approval to the Ministry of Energy, Tourism and Digital Agenda (MINETAD) every 4 years or upon request therefrom.

A fund managed by Enresa has been set up to finance the activities contained in the PGRR. The fund includes provisions for the decommissioning of nuclear power plants.

As a company that owns part or all of 7 nuclear reactors, Iberdrola makes contributions to the nuclear plant decommissioning fund through a fee that is calculated by Enresa and approved by the government, in order to cover all management expenses for radioactive waste, spent fuel and the decommissioning of such plants.

In addition, Iberdrola allocates funds to cover the pre-decommissioning stage of its nuclear power plants. Pre-decommissioning means the period between the final shutdown of the plant and the moment when the ownership of the plant passes to Enresa for it to commence decommissioning. This is an estimated period of 3 years, during which all spent fuel - from both the reactor and the pool - must be removed, treated and stored in containers.

Nuclenor, S.A., a company 50%-owned by Iberdrola, created a provision for the pre-decommissioning of the Garoña nuclear plant, from which it has begun to pay expenses upon the cessation of the plant's commercial operation.

C.

Specific aspects of the Iberdrola group

Supply costs

Management approach

The cost of electricity supply and the energy transition are taking on a greater role in the political and social agenda. The principal challenge is to reconcile secure and environmentally friendly supply with the use of renewable energy at prices that are competitive and can be afforded by society as a whole.

The electricity sector, which by nature is a basic service for society, is broadly regulated in the various countries in which Iberdrola operates, with varying levels of liberalisation in each. The most significant issues being debated and regulatory developments currently occurring in these countries are described below:

European Union

- The Agency for the Cooperation of Energy Regulators and the European Commission, in studies on electricity prices published in 2016, confirmed that taxes and components associated with energy and environmental policies have grown the most, reaching half of the bill in countries like Spain. This increase in costs associated with energy and environmental policies is mainly due to the electricity sector being the only sector that financially supports the renewable energy development goal imposed by the European Union. A competitive electricity supply requires the elimination of cost components outside of the service itself, and paying for these costs through general taxes or taxes on all polluting energies.
- The strategy of the Energy Union that commenced in 2015 and that was specified in legislative proposals like the *Clean Energy for All Europeans* (2016) "package" responds to the need to comply with the 2030 environmental agenda (40% reduction in GHG emissions, 27% increase in renewables and 30% improvement in energy efficiency), monitoring the safety of supply and the competitiveness of the European industry, and allowing prices that are accessible for European citizens.

Spain

- The price of electricity supply in Spain is less than the European average. This is despite the fact that less than half the costs of supply are directly related to providing the service. The rest derive from the pursuit of energy policy goals (aid for renewable energy and cogeneration) and social goals (subsidies for electricity in non-mainland territories, recovery of tariff deficits from previous years, etc.).
- Iberdrola has established a *Vulnerable Customer Protection Procedure* in order to ensure energy supply to economically disadvantaged citizens. These are supplies under subsidised rates (*bono social*) due to being pensioners or to the unemployment of all members of a family unit. Since 2015 Iberdrola has also been encouraging the signing of agreements with various public institutions and NGOs, consistent with its goal of protecting customers who cannot pay their gas and electricity bills. 100% of the domestic customers of Iberdrola reside in a locality protected by an agreement.

United Kingdom

- The debate on prices has focused on higher standard variable tariffs (SVTs, which only apply to customers who have not made an explicit contract decision): reducing the number of people with SVTs and the disadvantages thereof. Iberdrola has the lowest proportion of SVTs amongst the large suppliers.
- Although the government continues to focus on minimising the costs that it controls, it has maintained capacity auctions, the minimum price of CO₂, and has announced the next auction of Contracts for Differences.

United States

- 2017 was marked by the approval of the Tax Reform: decrease in corporate tax, elimination of the Alternative Minimum Tax, etc. This reform does not include a chapter dedicated to energy, for which reason the tax credits for renewable energy (PTC/ITC) continue in force as established in 2015.
- The Department of Energy (DOE) proposes a revocation of the *Clean Power Plan* without defining its plans for future rules governing emissions.
- In 2017 a DOE report was published on the reliability of the system, the principal conclusion of which is that the reduction in installed coal and nuclear capacity is to a large extent the result of low natural gas prices and not competition from renewable technologies.
- Tariff revisions reflect pressure by regulators to limit returns on capital, while maintaining the investments required to improve the network infrastructure.
- The development of smart grids, the rapid replenishment of supplies in the face of extreme weather conditions, new EPA regulations, and the integration of new energy sources require major investments, which sometimes conflicts with the goal of reducing final tariffs.

Mexico

- Energy reforms were launched in 2014, with one of the key goals being to improve competition and lower electricity prices for end users.
- With the opening of electric power generation to private investment, renewable generation objectives and other measures, such as auctions for the purchase of clean energy certificates, the reform is encouraging competition in order to diversify the energy matrix and reduce the costs of generation
- In November 2017 the CRE published a new methodology for calculating the regulated rate for basic supply, which is now additive, reflecting the costs of the system. It will be implemented progressively during the first months of 2018, except for domestic consumption, which remains with the old methodology indefinitely.

Brazil

- 2017 was marked by a position of energy overcontracting by the distributors, caused by the reduction in consumption deriving from the economic crisis, consumer migration to the free market without distributors being able to reduce the contracts, and assignment of contracts for a higher-than-necessary amount. The regulatory bodies and government have approved a set of measures resolving this distributor risk.

As an electricity operator in these countries, Iberdrola maintains a spirit of cooperation with regulators of the electricity supply systems to help to define their growth, and will operate within the established regulations, supporting frameworks that expand free-market activities and market transparency and

encourage required investments and efficient operations, through tariff schemes that send efficient signals to consumers and do not penalise them with costs unrelated to the supply of electricity.

Green financing

Management approach

Iberdrola is the first Spanish company in the world to issue *green* bonds, in order to align with its vision and values, optimise the cost of its debt and diversify its sources of financing.

The differentiating feature of such bonds is the commitment of the issuer to use the proceeds to finance or refinance socially responsible projects like renewable energy, improving efficiencies in electricity transmission grids and researching more efficient energy sources. The issuer also commits to regularly report the return on its investments in these projects in terms of sustainability.

The company issued its first *green* bond in 2014, and since then has intensified its financing in this SRI (Socially Responsible Investing) focused market, with many more issues, in various areas: both public and private, senior and subordinate (November 2017 hybrid bond), by the corporation as well as its subsidiaries (Avangrid *green* bond in November 2017).

The validation of the projects eligible for each issue can be found in the corresponding *Second Party Opinion* prepared by VigeoEiris and available on the corporate website. It is important to note that the issue of this type of financial asset requires not only compliance with the *Green Bond Principles* at the operational level, but also the existence of a strong sustainability profile of the issuing group.

The table below summarises the environmental benefits in 2017 related to investments financed with the *green* bonds issued by Iberdrola.

Bond	Area of investment	Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
XS1057055060	Renewables*	474	944	245,471
XS1398476793	Renewables	736	1,432	401,507
XS1490726590	Renewables	403	792	278,812
XS1527758145	Renewables	539	1,070	276,091
XS1564443759	Renewables	111	221	56,926
XS1575444622	Renewables	340	220	56,712
XS1682538183	Renewables	279	301	106,082
XS1721244371	Renewables	648	916	322,544

* Among others

For more details on these issues and their sustainability returns, see the *Report on Green Bond Returns* available in Annex 2 of this report.

Fiscal responsibility

Management approach

The fiscally responsible behaviour of all companies of the Iberdrola group forms part of the [General Corporate Responsibility Policy](#) which contemplates basic principles of conduct that must be respected. The taxes that the group pays in the countries and territories in which it operates are the main contribution of the companies of the group to sustaining public expenditures, and thus one of their contributions to society.

The values that guide the corporate policies, internal rules and other internal codes and procedures include ethical principles, good corporate governance and institutional transparency and loyalty.

In 2010 the Board of Directors approved a [Corporate Tax Policy](#), which was last updated on 21 February 2017. This Policy contains the tax strategy of Iberdrola, S.A. and its commitment to the application of good tax practices, and is applicable to all companies of the group in all of the countries in which it operates.

The *Tax Policy* defines a number of principles, including:

- *"The prevention and reduction of significant tax risks, ensuring that taxes bear an appropriate relationship to the structure and location of activities, human and material resources, and the group's business risks".*
- *"The strengthening of the relationship with tax authorities based on respect for the law, fidelity, reliability, professionalism, cooperation, reciprocity, and good faith, without prejudice to the legitimate disputes that, observing the aforementioned principles and in the defence of the corporate interest, may arise with such authorities concerning the interpretation of applicable legal provisions".*
- *"Envisaging the taxes that group companies pay in the countries and territories in which they operate as the principal contribution to sustaining public expenditures, and therefore one of their contributions to society".*

And by application of these principles, the group assumes the following good tax practices, among others:

- *"Not to use artificial structures unrelated to the Company's business for the sole purpose of reducing its tax burden nor, in particular, enter into transactions with related entities solely to erode the tax basis or to transfer profits to low-tax territories".*
- *"Avoid opaque structures for tax purposes, which are understood as structures calculated to prevent knowledge by the competent tax authorities of the party ultimately responsible for the activities or of the ultimate owner of the assets or rights involved".*
- *"Not to create or acquire companies resident in tax havens, with the sole exception of those cases in which it is forced to do so because it is an indirect acquisition in which the company that is resident in a tax haven is part of a group of companies that are being acquired".*

- *"Follow the recommendations of the good tax practices codes implemented in the countries in which the companies of the Group do business, taking into account the Group's specific needs and circumstances".*

Iberdrola, S.A. has thus adhered to the *Code of Good Tax Practices* approved on 20 July 2010 by the full Forum of Large Businesses (*Foro de Grandes Empresas*), established on 10 July 2009 at the behest of the National Tax Administration Agency (*Agencia Estatal de Administración Tributaria*). Iberdrola's commitment to compliance with, further development and implementation of the Code will extend to any other good tax practices that stem from the recommendations of the Code in effect at any time, even if not expressly set forth in the *Corporate Tax Policy*.

The Iberdrola group does not include within its controlled affiliates and assets any that are resident in tax havens, pursuant to the laws in this regard (Royal Decree 1080/1991 of 5 July and respective updates thereof). With the integration of Neoenergia into the Iberdrola group at the end of August 2017, it indirectly holds an interest in a company called *Garter* (an inactive company resident in the British Virgin Islands) that is expected to be liquidated in the near future.

Furthermore, although the State of Delaware is not considered a tax haven under the above legal provisions, due to the interests involved, it is appropriate to state that various companies within the Iberdrola group were incorporated in this state. In fact, in the United States, it is customary practice to incorporate companies in the State of Delaware, due to the development of its commercial law and strong jurisprudence. This combination provides strong legal security in the commercial arena.

However, the tax domicile of the companies (which determines the tax system applicable thereto and where they should register for such purpose and pay taxes) is determined by the place where the administration and management of the businesses of the companies is concentrated, regardless of the place of incorporation. Thus, the companies of the Iberdrola group incorporated in Delaware as well as in any other state of the United States have their tax domicile and pay taxes in the states in which the centres of activity of the consolidated tax group of which they form a part are located, which does not include Delaware. In summary, the companies of the Iberdrola group are incorporated according to objective business standards and not to tax engineering structures.

Iberdrola is fully aligned with the principles and actions proposed by the OECD's "BEPS Plan". Specifically, as regards Transfer Pricing, state that the group assesses related-party transactions at arms'-length prices in line with the OECD Guidelines in this area. Furthermore, all existing related-party transactions of the group are duly documented on the terms provided by the legal provisions of the various countries. The group is also committed to the preparation and presentation in due time and form of the Country-by-Country Report upon the terms provided by the law of its parent company, Spain. In the Country-by-Country Report 2016, submitted in 2017, information regarding the activities of the group during 2016 was reported, as was information regarding all taxes paid and collected by the companies of the group in the various tax jurisdictions in which it is present.

In 2017 Iberdrola was ranked as the leading company on the tax transparency ranking of Ibex 35 companies, prepared by Fundación Compromiso y Transparencia based on 2016 information, in recognition of its good tax practices and its transparency.

The taxes paid are presented in the following table:

Tax contribution (€ millions)	2017	2016 ³³
Iberdrola consolidated		
Company contributions	2,723	2,768
Contributions due to third-party payments	4,388	4,360
Total	7,111	7,128

99% of taxes paid (total contribution) by the group occur in the five most relevant countries. A detailed breakdown by geographic area can be found in Annex 3 Supplementary Information.

“Cybersecurity”

Management approach

In order to ensure appropriate protection of the group's physical and IT assets, in April 2015 Iberdrola's Board of Directors approved the *Cybersecurity Risk Policy*, which establishes a global framework for the control and management of the cybersecurity risks applicable to all the companies of the group. In particular, it refers to the risks arising from threats to and vulnerabilities in information, information technology and communications systems, facilities and any other asset that forms part of the group's cyber-infrastructure. It also establishes the guidelines for a cybersecurity management model common to the entire group, based on the establishment of a Cybersecurity Committee and on the development of global rules and standards to be applied within all the businesses and corporate functions.

The group's Cybersecurity Committee, on which all businesses and corporate functions are represented, promotes and supervises the deployment of this policy and the cybersecurity strategic plan throughout the organisation, based on risk analysis and management, the application of technical and organisational measures for appropriate protection and resilience of assets based on the critical nature thereof, training and awareness-raising of the entire workforce, cybersecurity in the supply chain and the management of threats and incidents, including external monitoring work to defend the brand and the company's customers against potential cybernetic risks and frauds through social engineering.

Privacy of the personal information of Stakeholders

Management approach

Iberdrola has a *Personal Data Protection Policy*, approved by the company's Board of Directors in 2015 and last amended on 20 February 2018 to conform to the new European Data Protection Regulations, to ensure the privacy of the personal information of the group's Stakeholders. Its purpose is to guarantee the right to the protection of data of all individuals dealing with companies belonging to the group, ensuring respect for the right to dignity and privacy in processing of the personal data, and particularly the establishment of the common principles and guidelines to govern the group regarding the protection of personal data, guaranteeing compliance with applicable law on this topic in all countries in which the group is present.

To further develop this policy, on 20 June 2017 the Global Cybersecurity and Data Protection Committee approved a *Global Personal Data Protection Framework* of the Iberdrola group, which establishes the general standards and the global governance model on personal data protection and defines responsibilities in this area. The Legal Affairs Division and Corporate Security Division are the bodies of the

³³ For better comparability of the 2017 and 2016 information, 100% of the taxes paid by Neoenergia in Brazil during 2016 are included.

company responsible for applying these principles, with the technological support of the System Division for the processing of personal data by the group, as well as the areas using them.

The Iberdrola group has also appointed a Global Data Protection Officer, who will rely on a network of Data Protection Officers in each of the countries in which the group operates to ensure proper supervision of compliance with applicable law at the local and transnational level.

B. ENVIRONMENTAL DIMENSION

Contents of the chapter

The aspects dealt with in this chapter are the following:

A. Topics of the GRI Standards

- GRI 301 Materials
 - o Management approach and disclosures 301-1, 301-2 and 301-3
 - o Additional information required by the GRI *Sector Supplement*
- GRI 302 Energy
 - o Management approach and disclosures 302-1, 302-2, 302-3, 302-4 and 302-5
 - o Additional information required by the GRI *Sector Supplement*
- GRI 303 Water
 - o Management approach and disclosures 303-1, 303-2 and 303-3
 - o Additional information required by the GRI *Sector Supplement*
- GRI 304 Biodiversity
 - o Management approach and disclosures 304-1, 304-2, 304-3 and 304-4
 - o Additional information required by the GRI *Sector Supplement* and indicator EU13
- GRI 305 Emissions
 - o Management approach and disclosures 305-1, 305-2, 305-3, 305-4, 305-5, 305-6 and 305-7
 - o Additional information required by the GRI *Sector Supplement*
- GRI 306 Effluents and waste
 - o Management approach and disclosures 306-1, 306-2, 306-3, 306-4 and 306-5
 - o Additional information required by the GRI *Sector Supplement*
- GRI 307 Environmental compliance
 - o Management approach and disclosures 307-1
- GRI 308 Supplier environmental assessment
 - o Management approach and disclosures 308-1 and 308-2

Scope of information

The information reported in this chapter corresponds to the “report boundary”, as defined in section 102-45 of this report.

A.

Topics of the GRI Standards

Specific management approach to the environmental dimension

Protection of the environment is one of the concepts that defines Iberdrola as a company, with leadership in the development of clean energy and respect for the environment being significant aspects of its business model, a competitive element that distinguishes it in the industry as one of the leading companies worldwide.

Environmental management system

Iberdrola supports this vision in a benchmark environmental management system for all organisations of the group which is common, homogeneous and integrated. This system allows for alignment of the environmental dimension within the group's sustainability model, integrating the Sustainable Development Goals and articulating the mechanisms to measure and evaluate the group's environmental performance from the Life Cycle perspective, including in the management thereof the concept of circular economy and return on natural capital.

The system facilitates the development of an on-going, global and homogeneous diagnostic regarding the environmental behaviour of the company in each of its management levels.

The elements making up this system are:



The Environmental Management System is strengthened by a series of complementary activities, including:

- Environmental training, with more than 24,000 hours dedicated in 2017.
- Environmental tracking of suppliers.
- Communication with Stakeholders.

Organisation of environmental management duties

In order to comply with the approved policies, the company has an organisation that approaches environmental management in a decentralised manner. Thus, applying the principle of “subsidiarity”, all matters relating to the environment must be dealt with and resolved in each region by the affected business, although they must all be included in Iberdrola’s environmental management system.

The environmental function is thus distributed among all organisational and hierarchical levels of the group, from the Chairman’s Office down to each person with local power over his or her surroundings.

Based on this model, Iberdrola’s environmental organisation is structured in the following manner:

- **The Board of Directors and senior management of Iberdrola:** sets and defines the policies, strategy, environmental organisation and global objectives of the company, and provides the resources necessary to perform the environmental functions of the company.
- **The Innovation, Sustainability and Quality Division:** has the following duties relating to the environment:
 - o Define, implement and verify the Environmental Management System.
 - o Propose and ensure compliance with the environmental policies.
 - o Set the environmental guidelines.
 - o Coordinate and align all environmental activity of the company.
- **Environment in the businesses or areas:** those responsible for the environmental management of the business or area, whose principal duties are to:
 - o Prepare and update the documentation of the environmental management system of the business or area.
 - o Identify and verify compliance with legal requirements and other environmental requirements.
 - o Identify the environmental aspects and impacts that affect them.
 - o Determine the environmental risks of the business and actions to handle them.
- **Environment at facilities:** Made up of the persons with local environmental powers at the facilities who report to the Environmental Area of their business and mainly perform environmental duties at the facilities in accordance with the requirements of the Global Environmental Management System.

The corporate committee on the environment, made up of the environmental heads of the regions or businesses and the Innovation, Sustainability and Quality Division, is in charge of coordinating the group’s environmental management. The Committee meets on an ordinary basis at least once per year to present the environmental results from the prior year and future projects.

Corporate policies

Iberdrola has four specific [corporate policies](#) for environmental management, all approved by the Board of Directors:

- [Sustainability Policy](#)
- [Environmental Policy](#)
- [Policy against Climate Change](#)
- [Biodiversity Policy](#)

Corporate Environmental Footprint (CEF)

Iberdrola's environmental management includes the CEF methodology, which evaluates the effects of the company's activities on the environment from the life cycle viewpoint (ISO/TS 14072:2014 standard). The objectives of the CEF are:

- To quantify, homogenise and unify the group's environmental performance.
- To determine the effect of Iberdrola's activities in the different environmental impact categories.
- To help monitor the organisation's environmental performance and allow for tracking of the objectives of the businesses and of environmental improvements.
- To identify and assess the environmental aspects having the greatest significance for Iberdrola's activities.

For more information, see [Iberdrola's Environmental Footprint](#).

Certifications

The group's Environmental Management Model groups together all of the partial certifications of each of the businesses and processes, based on ISO 14001. 80% of the group's energy production took place under certified environmental management systems after passing follow-up or renewal audits in 2017, which production is distributed as shown in the following table:

Energy production of the group under certified systems (%)	2017	2016
Spain	97.4	98.8
United Kingdom	93.2	94.7
United States	13.9	15.2
Brazil	35.5	35.7
Mexico	98.2	96.7
Other countries	0.0	0.0
Total	80.0	82.4

A verification certificate has also been obtained yet another year for:

- The greenhouse gas emissions inventory for the entire Iberdrola group pursuant to the UNE ISO 14064-1:2006 standard.
- The *Corporate Environmental Footprint* of the Iberdrola group under the ISO TS 14072 standard.

More information is available in the [Certifications and Verifications](#) section.

Environmental Grievance Mechanisms

Iberdrola makes grievance mechanisms and tools and the management processes associated therewith available to its Stakeholders. This is fully described in the "Grievance mechanisms for impact on society" section of the "Specific management approach to the Social Dimension" of this report.

Iberdrola has an email mailbox medioambiente@iberdrola.es, which serves as a channel of communication with its Stakeholders, and which can be accessed in the [contact](#) section, offering the ability to ask questions, provide suggestions, place concerns or make complaints. The mailbox is included in the Environmental Management System of the company, and is certified under the ISO 14001 standard. 1,865

messages were received through this mailbox in 2017, of which only 2 were an environmental grievance, and which were managed with those responsible and closed during 2017.

In addition to the environment mailbox, and by way of supplement, Iberdrola can also receive messages relating to the environment through various channels that it maintains in [social media](#).

Expenses and investments

Iberdrola generally considers all expenses or investments regarding projects that have a clear environmental impact, whether direct or indirect, to be environmental expenses or investments, as classified below:

- Treatment of emissions, which includes expenses or investments relating to emissions treatment equipment or systems.
- Treatment of waste, which includes investments and expenses relating to the management and treatment of waste, both hazardous and non-hazardous.
- Reduction of environmental impact through the removal of pollution or pollutants from the environment, soil, groundwater, sediment or surface water.
- Environmental prevention, which considers investments in new renewable energy facilities.
- Environmental management, which encompasses investments and expenses relating to the management of the environment that are not included in the above categories.

All of this is aimed at emphasising environmental activities and initiatives, which are undertaken in order to move towards a more sustainable energy model.

The expenses and investments of an environmental nature made by Iberdrola during 2017 to preserve the environment of the area in which it operates are set forth in the following tables:

Environmental Investments and Expenses (€ millions)	2017	2016
Environmental investments	2,239,917	2,262,237
Environmental expenses	513,233	527,140

Social awareness-raising on climate change

The fight against climate change, and all that it entails (reduction of greenhouse gas emissions, transition to decarbonised energy model, efficient use of energy, change in consumption habits, etc.) is the work of all of us. Achieving it will require greater awareness and an increased disposition towards action by all of society's players. As part of this commitment, in 2016 Iberdrola included a *Plan to Raise Social Awareness on Climate Change* as an additional linchpin of its action for the climate, which it has since been carrying out with various activities directed towards different public audiences.

This plan consists of four main focus points for action to be implemented globally:

- 1) internal action directed towards employees,
- 2) external communication through the development of specific products, climate awareness-raising events and dissemination activities,
- 3) actions directed towards youth due to their particular importance as present and future consumers, and

- 4) establishment of alliances with the public and private sector as an accelerator and enhancer of action.

The most notable activities performed during 2017 include:

- The launch of a global online course on climate change, its causes and solutions, which in 2017 was completed by more than 8,837 employees and which will continue in 2018.
- The *Moving for Climate NOW* awareness-raising initiative, consisting of a cycling route co-organised with the Red Española del Pacto Mundial (Spanish Global Compact Network). This groups private companies, governments, multilateral institutions, universities and NGOs under a single initiative to bring to the Climate Conferences a call to urgency and climate action.
- On-site school workshops on climate change by Iberdrola volunteers, more than 300 of which were presented during the 16-17 school year, reaching approximately 9,000 students in Spain. A second edition was launched for the 17-18 school year, expanding the scope to Mexico and Brazil.
- Sponsorship of the tour of a children's theatre play on climate change in 6 Spanish cities which was seen by more than 20,000 students between 2016 and 2017.
- Technical advice in the documentary "Vigilantes del Planeta" (Guardians of the Planet) broadcast on various Spanish television channels.

GRI 301 Materials

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Electricity generation is one of the main activities carried out within the group. Iberdrola has continued to wager for years on the most efficient technologies per unit of production, with the lowest environmental impact (eco-efficiency), via:

- Proposed closure of all coal units, pursuing a business strategy of replacing conventional technologies with others offering production with lower emissions.
- Selection of products having a reduced environmental impact.
- Sustainable management and use of chemical products, oils, lubricants and coolants, always respecting the natural environmental and taking the necessary measures to reduce the risks of affecting it.

There is a residual presence of polychlorinated biphenyls (PCBs³⁴) at Iberdrola, which continues with its policy of eliminating equipment containing PCBs from its facilities.

301-1 Materials used by weight or volume

Use of materials

³⁴ PCBs: Dielectric used in transformers and capacitor banks prior to 1999.

The consumption of fuel from non-renewable sources over the last two years and the distribution thereof by country is shown below:

Use of raw materials	2017	2016
Coal (t)	1,205,609	1,746,457
Fuel (t)	48,376	45,117
Natural gas (Nm ³)	12,293,620,800	11,832,458,331
Gas-oil (m ³)	15,272	29,520
Uranium (kg) ³⁵	65,407	56,915
Waste derived fuel (WDF) (t)	2,666	1,800

The following table shows the distribution of fuel consumption (%) for 2017:

Distribution of fuel consumption (%)	Coal	Fuel-oil	Natural Gas	Gas-oil	Uranium	WDF
Spain	100.0	100.0	11.9	31.3	100.0	100.0
United Kingdom	0.0	0.0	11.7	0.0	0.0	0.0
United States	0.0	0.0	4.0	0.0	0.0	0.0
Brazil	0.0	0.0	6.0	0.0	0.0	0.0
Mexico	0.0	0.0	66.4	68.7	0.0	0.0
Other countries	0.0	0.0	0.0	0.0	0.0	0.0

The following table shows the net generation (renewable and non-renewable) for 2017 by country and by technology, with 38.9% of generation from renewable sources.

Net generation by technology and country (GWh)	Spain	United Kingdom	United States	Brazil	Mexico	Other countries
Renewables	19,587	4,880	15,738	8,195	963	1,382
Nuclear	23,249	0	0	0	0	0
Combined cycle	3,812	7,260	12	3,957	39,103	0
Cogeneration	2,607	0	2,354	91	1,800	0
Coal	2,642	0	0	0	0	0

In 2017, 94% of production was achieved using local sources of energy³⁶, as shown in the following table:

Production with local sources of energy	(%)
Spain	83%
United Kingdom	100%
United States	100%
Brazil	100%
Mexico	100%
Other countries	100%

³⁵ The reporting unit is changed compared to the 2016 report, from equivalent tonnes of petroleum to kg of uranium.

³⁶ All renewable and non-renewable sources available in the country are deemed local sources of energy. Nuclear fuel acquired from the Spanish company Enusa is considered local.

Chemical products are also consumed (to a much lesser extent) for water purification, filtering of gases, etc.; oil for lubrication, maintenance of equipment, and office paper. As to this last consumable, it should be noted that implementation of electronic billing continued during 2017, reaching 2,360,886 users, a savings of 482 t of paper compared to the prior year.

Elimination of polychlorinated biphenyls (PCBs)

There are residual PCBs at the group's facilities in Spain, the United States and Brazil. However, no pyralene transformers with more than 500 ppm of PCBs remain.

Iberdrola maintains a service for the analysis, removal and elimination of equipment containing PCBs, including the performance of a free initial diagnosis with no commitment for third parties.

174 t of oil with pyralene in Spain, 6 t in the United States and 134 t in Brazil were managed during 2017. 359 t of this substance are pending elimination in Brazil in the coming years.

301-2 Percentage of materials used that are recycled input materials

There is no substitute in the market for the principal materials used by Iberdrola, for which reason management focuses on the efficient use of energy, water and chemical products, through the best available technologies, optimising the current systems and replacing fossil fuel combustion technologies with other renewable ones.

Waste derived fuel (WDF) is included as recovered material, and 0.01% of the fuel consumed during the year is of this type.

301-3 Percentage of products sold and their packaging materials that are reclaimed by category.

This indicator is not applicable to the Iberdrola group, because electricity does not directly generate any waste upon being used.

GRI 302 Energy

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The Iberdrola group ensures optimisation in the use of energy throughout its entire energy chain (production, transmission, distribution, supply and end use), contemplating energy efficiency from a three-fold perspective:

- As an electricity generator and distributor, it seeks to improve efficiency by introducing the most advanced technologies and equipment in the generation, transportation and distribution of energy.
- As an energy consumer, Iberdrola promotes the on-going improvement of energy efficiency across all its activities (offices and building, vehicles, water, mobility, employee awareness, etc.).

- As an electricity supplier, it wishes to contribute to a more efficient use of energy by consumers, through information, promotion and supply of solutions and technologies that help them improve their energy efficiency and reduce the environmental impact of their energy habits and consumption.

302-1 Energy consumption within the organisation

Internal energy consumption includes the consumption of energy at all of the Iberdrola group's facilities, buildings and offices.

The fuel consumption figure in terms of energy (GJ) is obtained from direct measurement of the fuel used at each facility based on its calorific value³⁷ (NCV):

$$\text{Consumption(GJ)} = \text{Fuel consumption (kg)} \times \text{PCI} \left(\frac{\text{MJ}}{\text{kg}} \right) / 1000$$

The value of the energy purchased or sold is obtained by direct measurement at the facilities, buildings and offices.

$$\text{Consumption(GJ)} = \sum \text{building/facility consumption (MWh)} \times 3.6 \text{ GJ/MWh}$$

The following table shows the evolution of Iberdrola's internal energy consumption in recent years:

Energy consumption within the organisation (GJ) ³⁸	2017	2016
Fuel consumption	760,201,810	764,386,296
Natural Gas	462,114,731	442,096,346
Uranium	262,902,924	274,800,068
Coal	33,020,919	45,338,800
Fuel-oil	1,899,317	1,919,103
Gas-oil	175,699	173,154
WDF	88,220	58,826
Energy purchased	11,664,660	13,951,277
Standby and pumping	10,886,544	13,096,768
Buildings	778,116	736,428
Energy sold (non-renewable)	312,791,322	309,683,361
Steam sold³⁹	18,527,684	26,484,009
Total	440,547,464	442,170,204

The following table shows the evolution of Iberdrola's internal energy consumption in recent years by region:

Energy consumption within the organisation (GJ)	2017	2016
Spain	228,355,590	241,428,586
United Kingdom	30,155,278	47,145,185
United States	10,547,765	11,251,751

³⁷ Net calorific value (NCV) is calculated at each centre based on the fuel used.

³⁸ Energy consumption within the organisation (GJ) = Fuel consumption + Energy purchased - Energy sold (non-renewable) - Steam sold.

³⁹ The reduction in the value of steam sold during 2017 is due to the sale of the cogeneration plants in Brazil.

Brazil	11,861,813	6,788,139
Mexico	159,609,431	135,538,671
Other countries	17,587	17,873
Total	440,547,464	442,170,204

The bulk of Iberdrola's energy consumption is the consumption of fuel for the generation of electricity, and the trend in recent years is shown in the following table:

Fuel consumption (GJ)	2017	2016
Generating plants ⁴⁰	691,154,673	693,437,227
Cogeneration	68,440,622	69,893,794
Non-generating plants ⁴¹	606,515	1,055,275
Total	760,201,810	764,386,296

302-2 Energy consumption outside of the organisation

The most significant consumption of energy outside of the organisation is consumption associated with the transport of fuel by motorway, with trips to/from work by group employees, and with business travel (planes and motorways). All of this information forms part of scope 3 of the calculation of greenhouse gas emissions. Energy consumption outside of the organisation is estimated based on the distances travelled by each means of transport and is transformed by means of conversion factors from official sources⁴². The energy consumption for these items is around 880,909 GJ.

302-3 Energy intensity

Fossil fuel consumption (tep/GWh)

The following table shows fuel consumption at the thermal generation plants over the net production of such plants.

Fossil fuel consumption (tep/GWh) ⁴³	2017	2016
Total	186	189

Internal energy consumption (GJ/MWh)

The following table shows total internal energy consumption (indicated in section 302-1) within the total net production of the group.

Intensity of internal energy consumption (GJ/MWh)	2017	2016
Total	3.20	3.10

302-4 Reduction of energy consumption

⁴⁰ Combined cycle, conventional thermal and nuclear plants.

⁴¹ "Non-generating" facilities are Daldowie (thermal drying) and Hatfield (gas storage) in the United Kingdom.

⁴² Defra: Department for Environment, Food and Rural Affairs (United Kingdom).

⁴³ Conversion factor used: 1GJ= 0.023888889 Tep.

The consumption of fossil fuels for the generation of energy was reduced by 205,934,963 GJ/year in 2017 through the generation of renewable energy and the supply of steam to industrial customers.

The reduction in energy consumption is equal to the savings of primary (non-renewable) energy generated by the production of renewable energy and cogeneration. This value of the energy saved is obtained by direct measurement at the output terminals of the facilities.

$$Consumption(GJ) = \sum generation (MWh) \times 3.6 GJ/MWh$$

Two fundamental blocks for reducing energy consumption are considered; on the one hand the energy savings from renewable energy and steam generation, and on the other those associated with efficiency, as shown in the following tables:

Areas	Energy type	Energy saved (GJ)	
		2017 ⁴⁴	2016
Renewables	Primary energy savings through the production of renewable energy	183,309,359	205,089,621
Cogeneration	Savings through the supply of heat energy (steam) within the group	15,776,528	26,484,009
Total		199,085,887	231,573,630

Areas	Item	Energy saved (GJ)	
		2017	2016
Network efficiency	Savings from network efficiency in Spain, the United Kingdom and Brazil	4,273,557	2,337,062
Efficiency in generation	Savings efficiency improvements at plants in Spain, the United Kingdom and Brazil	44,744 ⁴⁵	936
Total		4,318,301	2,337,998

Efficiency in thermal generation

As in prior years the company continues to take action to improve the efficiency of the plants, avoiding leaks, decreasing emissions, reducing internal consumption, optimising start-up time and procedure and installing recirculation systems, among other things. The savings from efficiency in generation is obtained by measuring the reduction in consumption due to the improvements made.

Efficiency of the electric grid

Energy savings from network efficiency derives from actions the company takes to control or reduce losses, including:

- Updates and modifications to reduce the length of lines through construction of new substations and increases in the power of existing substations, increases in voltage and improvement of power factor, implementation of remote management, and maintenance work.
- Improvements in contract management and supply point inspections: replacement of electromechanical meters with electronic meters, inspection of facilities and regulation of customers and clandestine connections.
- Increase in top-level reviews and strengthening of field activities with supply point inspections to

⁴⁴ The reduction is due decreased renewable generation and the sale of the cogeneration plants in Brazil.

⁴⁵ The increase in savings over 2016 is due to the placement into service of more efficient equipment at the generating plants in 2017.

reduce administrative and non-technical losses.

Efficiency at buildings

Iberdrola continues to implement energy efficiency measures at the buildings and offices of the company all over the world. Energy audits of the buildings allow it to determine the actions to take at the buildings: optimising acclimatisation (heating and air conditioning) performance, improving thermal insulation, efficiency in the lighting of buildings, and automation of the facilities associated therewith.

The savings by application of these measures compared to the prior year was 76,000 GJ.

302-5 Reductions in energy requirements of products and services

Iberdrola fosters efficiency, gradually reducing the environmental impact of activities, facilities, products and services. It also offers advice to its customers, encouraging and researching eco-efficient solutions.

In addition to electricity and gas, Iberdrola sells new products and services to encourage energy and financial savings by its customers, efficiency, and care for the environment.

Energy savings of green products and services (GJ)	2017	2016
Photovoltaic solar energy	1,899	605
Energy audits and plans	100,375	199,980
Gas maintenance service	790,441	809,507
Other savings and efficiency activities	948,554	87,459
Green energy supplied In Spain, the United States and Brazil	49,874,302	51,764,036
Total	51,715,571	52,861,587

The green products and services highlighted in this table are described below:

- Photovoltaic solar energy: *Iberdrola Smart Solar* product focused on improving management of energy consumption through the use of solar technology. The figure is obtained by multiplying the installed capacity during the year (kWp) by 1250 kWh/kWp (factor applied by the Spanish Institute for the Diversification and Saving of Energy, IDAE).
- Audits and energy plans: The potential energy saving from audits is due to Iberdrola Retail. In Spain, there have been sales campaigns promoting energy efficiency and collaboration agreements with consumer and business associations as well as with government administrations to promote energy efficiency. In Brazil, the use of solar thermal equipment is encouraged in energy efficiency projects for low-income customers.
- Gas maintenance service: The contract for this service offered by Iberdrola in Spain allows customers to cut energy consumption by annual cleaning and adjustment of gas boilers. The figure is obtained from the average savings according to a study of efficiency by the independent entity multiplied by the average consumption of gas according to the CNMC⁴⁶ and the average portfolio of customers of Iberdrola España's Gas Maintenance Service in 2017.
- Other savings, energy efficiency and environmental protection actions in the retail area are:

⁴⁶ CNMC: Comisión Nacional de los Mercados y la Competencia de España (National Markets and Competition Commission of Spain).

- Sale of products and services that promote energy saving and efficiency, as well as comprehensive energy management at buildings and facilities and other energy saving solutions.
- Electromobility: Iberdrola Customers in Spain facilitates the development of electromobility, offering recharging products and services (*Green Charge*), participating in R&D&i projects (*REMOURBAN* and *AZKARGA*) and the *CIRVE* project that permits Electromobility, and permits the Spain connection with France and Portugal.
- Value of green energy supplied In Spain, the United States and Brazil: This figure comes from the sum of the GE (green energy) and/or GO (guarantee of origin) invoices.

More information about these and other initiatives is available at the websites of [Spain](#), [Brazil](#), [United Kingdom](#), United States (through [NYSEG](#), [RG&E](#) and [CMP](#)) and [Portugal](#).

GRI 303 Water

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Water is a basic and irreplaceable natural resource in many of Iberdrola's activities. The company's awareness of this dependency and of the risks arising from water shortages has led it to set itself the objective of ensuring an increasingly rational and sustainable use of this resource.

The main actions taken by the group for a more sustainable use of water are:

- Limiting the volume of withdrawal and consumption of inland water in all technologies.
- Establishing and controlling limits on ecological flows at the hydroelectric generation reservoirs.
- Continually improving processes at facilities to reduce consumption and impact.
- Avoiding withdrawal of water in water-stressed areas.
- Reusing and recycling water at facilities.
- Conducting awareness-raising campaigns to achieve a more efficient and responsible use of sanitary water by employees at offices.

A return of 78% of the water extracted from the receptor environment was achieved in 2017.

303-1 Total water withdrawal by source

The following table breaks down the group's total water withdrawal by source:

Source of gross water withdrawal (hm ³)	2017	2016
Surface water (sea, rivers, lakes, reservoirs, wetlands)	1,962	1,839
Groundwater	2	1

Rainwater directly withdrawn and stored	0	0
Purified wastewater	15	13
Municipal water supply or supply from other water companies	5	6
Total	1,984	1,859

Total water withdrawal is the sum of the various sources, and is obtained by direct measurement (flowmeters) or by estimating the performance of the pumps.

Of the total volume of water withdrawn, 1,984 hm³ corresponds to use at generation facilities, while 0.38 hm³ corresponds to use at offices.

The group's use of water is summarised in the following table:

Water use ⁴⁷	2017	2016
Total water use (hm ³)	80	82
Water use/overall production (m ³ /GWh)	597	573
Water use/overall sales (m ³ /\$k)	2.15	2.35
Water use/overall sales (m ³ /€k)	2.56	2.79

The following shows the total intake and discharge of water at the thermal generation facilities (coal, combined cycle, nuclear and cogeneration) in 2017.

Water use (hm ³)	Total thermal generation ⁴⁸ 2017
Withdrawal	
Withdrawal for standby process and services	14
Withdrawal for cooling	1,970
Discharge	
Evaporation of water used for cooling	74
Discharge into receptor environment	1,902

The following table shows the different sources of withdrawal for cooling:

Source of withdrawal of cooling water	Gross water withdrawal (hm ³) ⁴⁹ 2017
Sea and salt water	1,298
Rivers and groundwater	265
Lakes and reservoirs	397
Purification of wastewater	10
Total	1,970

Water cycle in hydroelectric generation⁵⁰

⁴⁷ Use of water is defined as water withdrawn minus water discharged into the natural environment. The complete table is updated including the use of water in thermal generation in the United Kingdom in 2016.

⁴⁸ The total discharge figure includes the return from cooling, the return of water used in processes, and rainwater collected at some thermal facilities without an independent storm sewer system.

⁴⁹ Gross water withdrawal: total volume of gross water withdrawal for cooling.

Water used for hydroelectric generation is not considered withdrawn and thus it is analysed separately. The table below shows net water used in hydroelectric generation in Spain, the United Kingdom and Brazil, defined as turbinated water less pumped water.

Water use in hydroelectric generation (hm ³)	2017	2016
Net water use	49,824 ⁵¹	101,368
Volume of pumped water	2,807	3,623
Annual increase of reservoir water	-1,179	-1,941

Additional information, such as withdrawal locations and discharges from the thermal facilities, can be found at [Water usage](#).

303-2 Water sources significantly affected by withdrawal of water

All water withdrawal is strictly regulated by government authorities, which assign permits and determine the maximum permissible volumes of withdrawal to ensure that there are no significant impacts.

No withdrawals are made that significantly affect water resources or habitats relating to the water withdrawal points. The Iberdrola group does not have any plants located in areas considered to have water stress. As can be seen in disclosure 303-1, 66% of the water withdrawn is salt-water or brackish water.

These areas can be seen in [FAQ](#).

303-3 Water recycled and reused

At the thermal plants with closed or semi-open cooling systems, water withdrawn is reused in the cooling towers an average of approximately three to five cycles per m³ before being purged. The total volume of this reuse was approximately 2,014.31 hm³ in 2017.

The La Laguna and Monterrey plants in Mexico and the Klamath cogeneration plant in the United States use wastewater in their cooling systems, which in Mexico was 4% (10,855 hm³) and in the United States was 78% (3,242 hm³) of the total water withdrawn for each country.

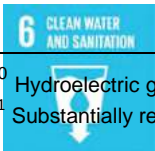

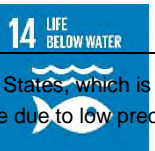
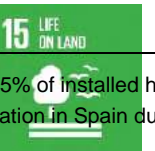
After use in cooling and other auxiliary processes, 78% of the water withdrawn at thermal generation and cogeneration facilities returns to the receptor environment in a physico-chemical condition allowing it to be utilised by other users without affecting the natural environment. The other 22% has been consumed and/or retained in the various processes, or returned to the environment in the form of steam generated in the cooling systems of the thermal power plants.

In addition, at some of ScottishPower's wind farms the control buildings have rooftop rainwater collectors and storage tanks to use the water.

GRI 304 Biodiversity

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)

 <p>6 CLEAN WATER AND SANITATION</p>	 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	 <p>14 LIFE BELOW WATER</p>	 <p>15 LIFE ON LAND</p>
<p>⁵⁰ Hydroelectric generation in the United States, which is 1.15% of installed hydro capacity, is not included (information not available).</p> <p>⁵¹ Substantially reduces net water volume due to low precipitation in Spain during 2017.</p>			

Management approach

Natural capital, understood as natural resources affected in the performance of the company's activities, is one of the fundamental assets in the Iberdrola group's creation of value and a fundamental asset for all of its Stakeholders.

During their respective life cycles, generation, transmission, distribution and sales activities cause interactions with various ecosystems, landscapes and species. Therefore, these ecosystems occupy a leading role in the business strategy through four priority lines of action:

- Mediation for the protection, preservation and sustainable use of natural capital.
- Information through impact assessment and the development and application of guidelines on biodiversity for new projects.
- Relations with Stakeholders, which seeks to consider the legitimate aspirations of the Stakeholders and develop action plans in accordance therewith.
- Commitment to internal and external training, awareness-raising and communication.

Various instruments are used to carry out these lines of action, including:

- [Biodiversity Policy](#): applicable in all of the geographic areas in which the Iberdrola group does business, the basic principles of which are reflected in the lines of action.
- [Stakeholder Relations Policy](#).
- Biodiversity plans based on avoiding and/or mitigating impact, restoring natural capital, assessing impact, Stakeholder relations and awareness-raising.
- Environmental management systems certified in accordance with ISO 14001 or EMAS standards, in order to prevent and control environmental risks.
- [Corporate Environmental Footprint](#), enabling limitation of the group's impact on biodiversity.

For more information, see [Iberdrola and biodiversity](#), which sets out the management approach, strategies and progress in the activities conducted by the various businesses and regions in which Iberdrola has a presence.

304-1 Operational sites owned, leased, managed in or adjacent to, protected areas and areas of high biodiversity value outside protected areas.

The location of the group's infrastructure in protected areas or areas of great value for biodiversity, in strategic regions, is shown in the following table:

Facility	Location with respect to protected area	Affected surface area/length	Type of protection ⁵²
Spain			
Reservoirs	Inside	18,972 ha	Biosphere reserves, Ramsar wetlands, Nature 2000 Network, national parks and nature parks.
Power lines	Inside	19,314 km	Nature 2000 Network, Ramsar wetlands, National Parks, Natural Parks and Biosphere Reserves.
Substations	Inside	144 units	Nature 2000 Network, Ramsar wetlands, National Parks, Natural Parks and Biosphere Reserves.
Transformer centres	Inside	8,793 units	Nature 2000 Network, Ramsar wetlands, National Parks, Natural Parks and Biosphere Reserves.
Wind farms	Inside	139 ha	Nature 2000 Network
United Kingdom			
Thermal and hydroelectric generating facilities	Inside or nearby	3,264 ha (12 production centres)	Ramsar Wetlands, SPA, SAC and SSSI.
Power lines	Inside	3,677 km	NSA, SPA, SAC, Ramsar, NNR, SSSI.
Substations	Inside	367 units	NSA, SPA, SAC, Ramsar, NNR, SSSI.
Transformer centres	Inside	8,608 units	NSA, SPA, SAC, Ramsar, NNR, SSSI.
Wind farms	Adjacent	3 ha	Nature 2000 Network and SAC, SSSI.
Wind farms	Partially inside	9,321 ha	Nature 2000 Network and SAC, SSSI.
United States			
Wind farms	Inside or nearby	0	Protected areas designated by each state, which may be Biosphere Reserves, forests, national parks or national wildlife refuges, and those with high ecological value even though they may not have the same level of protection.
Power lines	Partially inside	392 km	
Brazil			
Power lines	Inside	1,881 km	Environmental protection areas.
Substations	Inside	19 units	Environmental protection areas.
Transformer centres	Inside	4,388 units	Environmental protection areas.
Hydroelectric plants	Inside or nearby	293 ha	Areas protected by Brazilian law.

⁵² Names of principal protected areas:

SPA: Special Protection Area for birds, pursuant to the *EC Birds Directive*.

SCI: Site of Community Importance, pursuant to the *EC Habitats Directive*.

SAC: Special Area of Conservation, pursuant to the *EC Habitats Directive*.

Ramsar: Wetlands of international importance, pursuant to the treaty signed in Ramsar.

SSSI: Site of Special Scientific Interest (United Kingdom).

NSA: National Scenic Areas (United Kingdom).

NNR: National Nature Reserve (United Kingdom).

Mexico			
Generating plant	Adjacent	1 production centre	Environmental protection areas.
Wind farms	Adjacent	1 wind farm	Environmental protection areas.
Greece			
Wind farms	Partially inside	1 wind farm	Nature 2000 Network.
Hungary			
Wind farms	Inside or nearby	2 wind farms	Near Nature 2000 Network areas, one inside a national park.
Portugal			
Wind farms	Inside or nearby	1 wind farm	Near Nature 2000 Network areas, one inside a national park.
Romania			
Wind farms	Near	1 wind farm	Near Nature 2000 Network areas, one inside a national park.

304-2 Significant impacts of activities, products and services on biodiversity.

100% of the projects that so require it are assessed for environmental impact and are submitted to public consultations; the company works with Stakeholders to ensure that the environmental impact is as low as possible. The following links show some examples in [Spain](#), [SP Networks](#), [SP Renewables](#) and [Avangrid](#).

The most significant general impacts on biodiversity are identified in order to avoid, minimise and properly correct possible impacts that might be caused by the group's activities. These impacts are identified during the various phases of the facilities' life-cycles, as shown in the following table:

Impacts in each phase of a facility's life-cycle	
Construction Phase	Entry of vehicles and machinery.
	Opening of pathways and changes in vegetation.
	Prolonged human presence (which temporarily affects the behaviour of species of fauna, and is generally reversible).
	Changes in landscape.
Operation Phase	Emissions.
	Changes in the natural system of rivers and barrier effect of hydroelectric developments (affecting the ecosystems and habitat of certain species).
	Animal mortality due to collisions and electrocution.
	Changes in vegetation to maintain power line corridors, etc.
	Discharges and spills.
Decommissioning Phase	Use of machinery and vehicles to remove and demolish existing facilities.
	Prolonged human presence (which temporarily affects the behaviour of species of fauna, and is generally reversible).

With a view to these impacts, we can single out a number of significant potential effects on biodiversity, arising from the activities, products and services of the group:

Potential impacts	
General impact	Loss of habitat.

	Greenhouse gas emissions.
	Pollution of environment.
Impact on avifauna	Electrocutions.
	Collisions.
Impact on terrestrial fauna	Electrocution, trapping, etc.
Impact on ichthyofauna	Changes in water quality.
	Discharges/spills into hydrological environment.
Impact on flora	Production and spreading of fires.
	Deterioration in the edaphic environment.

Biodiversity Plans have been drawn up to avoid or mitigate these impacts:

Biodiversity plans		
Cross-sectional plan	Sub-Plan for understanding the environment.	
	Sub-Plan for communication.	
Principal plans	Reduction of direct impacts on biodiversity	Plan for direct protection of fauna.
		Plan for direct protection of flora.
		Plan for improvement of habitats.
	Reduction of indirect impacts on biodiversity	Plan for edaphic environment management.
		Plan for hydrological environment management.

304-3 Habitats protected or restored

Based on the needs of each facility and during the life cycle thereof, Iberdrola carries out the following work on the affected areas:

- Flora and fauna monitoring (especially of protected or vulnerable species).
- Forest treatments.
- Forestry restoration with indigenous plants.
- Landscape integration and accommodation, etc.

The various activities commenced in 2017 or prior years and that have continued during this financial year are shown below:

Spain:

Project/ Technology	Actions	Objectives
Power lines	Performance of 99 environmental actions, before and during the construction of substations and power lines (restoration and accommodation of terrain, protection of vegetation, avifauna and the landscape, control of invasive species, training on fires and spills, etc.).	Reduce impact on biodiversity and ecosystem services.
	Performance of 1,058 preventive actions to protect fauna (modification and improvement of supporting services).	Reduce impact on fauna.
	Performance of 1,610 actions to improve the network to protect vegetation.	Reduce impact on flora.
	Management of 32.96 km ² of vegetation-covered surface to reduce the risk of fire at facilities.	
Hydroelectric plants	Limnological control of the most eutrophicated reservoirs in the Duero and Tajo basins (pollutant loads caused by agents unrelated to Iberdrola that travel along these rivers before they flow into the reservoirs).	Prevent potential impacts on fauna located downriver of reservoirs.
	Ensure turbined waters contain the minimum amounts of dissolved oxygen essential for aquatic life.	Avoid levels that are harmful to ichthyofauna.
	Performance of activities to prevent pollution, improve the environment and recover/restore the natural environment around the plants, including: restoring the ecological flow; environmental adjustment of canals; and environmental recovery around the town of la Rasa (dismantling of buildings and recovery of land).	Reduce impact on biodiversity and ecosystem services.
	Improvement and construction of discharge containment systems at the Trespaderne and Contreras hydroelectric plants.	Prevent potential impacts on fauna located downriver of reservoirs.
	Improvement of wastewater purification systems at the Barázar and Ullivarri hydroelectric plants.	
Thermal plants	Collaboration of the Escombreras Combined Cycle plant with the "El Valle" Wildlife Recovery Centre in recovering birds like the bittern and kestrel for treatment and return to their natural habitat after any physical or psychic problems are treated.	Reduce impact on fauna.
	Perform an evaluation study of the ecological status of the Majaceite river in the area of the Arcos de la Frontera combined cycle plant using biological, hydro-morphological and physicochemical quality indicators.	Knowledge of the surroundings for proper action regarding the habitat.

The projects of Fundación Iberdrola España include collaboration with SEO/BirdLife on the MIGRA project, which aims to study the migratory movements of bird species in Spain, funding the start-up of this programme from the 2011 season to the present.

United Kingdom:

Project/ Technology	Actions	Objectives
Thermal generation and gas storage	Implementation of Biodiversity Action Plans (BAPs) at each facility (more information is available at ScottishPower Wholesale Energy Markets / www.iberdrola.com).	Recover and promote regeneration of natural habitats and of the flora and fauna characteristic of facilities' environments.
Wind farms	50 activities in 20 areas included in the <i>Habitat Management Plan</i> , mainly consisting of the monitoring of birds and follow-up on reforested areas, and 41 management activities like restoration, removal of invasive species, management of vegetation by grazing, etc.	Recover and improve terrain affected by construction activities. Reduce impact on fauna.

United States:

Project/ Technology	Actions	Objectives
	Water treatments in collaboration with land owners in two river basins, treating runoff from impermeable areas in the basins prior to its entry into the river.	Improve water quality and improve the aquatic habitat of the riverbank.
Power lines	Conditioning of power lines.	Minimisation of the impact on the nesting and reproductive processes of the osprey.
	Acquiring wetlands in financial collaboration with the organisation Ducks Unlimited, via financial collaboration, deriving from the <i>Auburn Transmission Project</i> .	Improve quality of the aquatic habitat and stimulate species.
Wind farms	Recover natural habitats and foster their regeneration, avoid the displacement of indigenous species, monitor species, raise awareness and train local communities.	Reduce impact on flora. Raise social awareness of the area's rich biodiversity

Brazil:

Project/ Technology	Actions	Objectives
Hydroelectric plants	Reforestation of affected areas.	Ensure the success of programmes to recover and offset impact on Permanent

Continuation of environmental biodiversity conservation programmes based on the impacts of plant operation: monitoring of fauna (ichthyofauna, herpetofauna, avifauna, mammalian fauna, entomofauna, etc.); monitoring of flora in reforested areas; water quality control; monitoring of erosive processes, etc.

Conservation Areas (APPs) and degraded areas (quarries, tips).

Mexico:

Project/ Technology	Actions	Objectives
Thermal plants	Development of the <i>Garrapatas Estuary Rescue Project</i> .	Improve the habitat, fostering indigenous species, and raise social awareness of the area's rich biodiversity.
	Development of the <i>Feline Support Project in the Altamira region</i> .	
Wind farms	Follow-up of reforestation carried out during construction of the La Ventosa wind farm.	Ensure the success of reforestation work.
	Commencement of reforestation of an area covering approximately 25 ha in the area of the La Venta III power line.	Improve the habitat.
	Commencement of reforestation of an area covering approximately 19 ha in the area of the La Venta III wind farm.	Improve the habitat.

More information is available in Iberdrola's [Biodiversity Report 2014-2017](#).

304-4 Number of species broken down, based on danger of extinction, included in IUCN Red List species and national conservation list species with habitats in areas affected by operations.

The group undertakes activities in certain areas that are or may be inhabited by endangered species included in the IUCN Red List, the UK BAP, the USFW list⁵³ and other national lists such the Sao Paulo list of endangered species, without such activities entailing a negative impact or threat.

IUCN Red List Classification	No. of species
Critically endangered (CR)	41
Endangered (EN)	82
Vulnerable (VU)	162
Near threatened (NT)	49
Least concern (LC)	490

EU13 Biodiversity of offset habitats compared to the biodiversity of the affected areas.

Before a facility is built, the potential environmental impact is analysed through a forecast and assessment, with a view to avoiding placing new infrastructure in protected areas or areas with a high biodiversity value, even if they are not officially protected. If significant impacts are identified in the initial study, the project is modified to the extent possible, and the best available techniques and any measures identified as necessary are employed to correct and minimise these impacts. Where full mitigation is not possible,

⁵³ International Union for the Conservation of Nature (IUCN) (www.iucn.es), UK BAP "UK Biodiversity Action Plan" (www.ukbap.org.uk/newprioritylist.aspx), USFW "US Fish & Wildlife Services" (www.fws.gov).

remedial measures are implemented. The following table shows the principle activities in this regard during 2017:

Country	Technology	Actions	Results
United Kingdom	Beaully Denny (substation)	Continuation of Beaully Denny recovery work, exceeding 200 ha of peat bogs, in collaboration with various local Stakeholders.	Improvement of the state of wetlands, coastal grasslands and areas with forests and shrubbery. Acquisition of a carbon sink, retention of water and improvement of habitats.
	Damhead Creek (combined cycle)	Relocation of the crested newt (<i>Triturus cristatus</i>) and the Montane water vole (<i>Arvicola amphibius</i>) from an original area of 2.4 ha to another of 2.9 ha. The grasslands and ponds of this new site are evolving favourably, and establishment of the ponds has recently been inspected.	Improvement of the state of wetlands, coastal grasslands and areas with forests and shrubbery. Creation of a suitable habitat for the water vole.
	Galloway (hydroelectric)	Continued monitoring by means of the installation of antennae at the Loch Doon Vaki fishing port.	Elimination of potential obstacles to promote, among other phenomena, the migration of Atlantic salmon and other species, working together with the Ayrshire Rivers Trust on Loch Doon and Galloway Fisheries Trust.
		Study of interference with the passage of ichthyofauna using Black Water of Dee (GIS mapping, electrofishing, monitoring habitats, etc.).	
		Management of vegetation around the substation and control and elimination of the invasive <i>Fallopia japonica</i> species.	
	Cruachan (hydroelectric)	Continuation of study of habitat and of fauna via installation of photo-trap cameras. Special surveillance of the pine marten (<i>Martes martes</i>).	Discovery of the environment and spreading knowledge to the local population, collaboration with NGOs.
		Management of vegetation around the substation and control and elimination of the invasive azalea (<i>Rhododendron</i>) species.	Improvement of adjacent habitats.
	Wind farms	Continued implementation in areas around the Habitat Management Plans, managing more than 93 km ² to date, with the monitoring of species like the hen harrier (<i>Circus cyaneus</i>), blackcock (<i>tetrao tetrix</i>) and crested newt (<i>Triturus cristatus</i>).	Improvement of adjacent habitats.
United States	Power lines and substations	Continuation with the identification of habitats (under the lines) suitable for the New England cottontail (<i>Sylvilagus transitionalis</i>). Work carried out in collaboration with the US Fish and Wildlife Service.	Promotion of the recovery of species in decline.
		Development of a <i>Comprehensive vegetation management</i> programme; use of lighter vehicles in forest areas, etc.	Improvement of adjacent habitats and protection of associated fauna.

Brazil		Construction of platforms in the areas of Milford, Hamden, North Haven, Ansonia and Fairfield to encourage the nesting of the osprey, achieving the settlement and reproduction of the species.	Promotion of the recovery of species in decline.
		Continued monitoring and treatment to remove 14 species of invasive plants, under the <i>Maine Power Reliability Program</i> (MPRP) project.	Improvement of adjacent habitats and encouragement of the proliferation of indigenous species.
		Continued monitoring and treatment to remove species of invasive plants, under the Maguire Road Substation (Kennebunk) project.	Improvement of adjacent habitats and encouragement of the proliferation of indigenous species.
	Wind farms	Continued monitoring and maintenance of habitats (grasslands, meadows, wetlands, deserts, etc.) within and around the area thereof.	Improvement of adjacent habitats and protection of associated fauna.
	Baguari (hydroelectric)	Recovery of approximately 28 ha in the Legar del Faz reserve.	
	Corumbá (hydroelectric)	Reforestation with 426,496 plants of indigenous species.	Improvement of adjacent habitats, strengthening of soil absorption capacity and reduction of risk of losses due to erosion.
	Dardanelos (hydroelectric)	Strengthening of natural recovery in 5 ha and reforestation of the area around the plant.	
	Power lines	Reforestation of degraded areas with plants at various stages of growth.	

Iberdrola provides further information in the [Biodiversity](#) section of the website.

GRI 305 Emissions

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The main source of direct emissions, which contribute to the company's Greenhouse Gases (GHGs), is the emission of CO₂ arising from combustion at the thermal plants. Iberdrola is publicly committed to maintaining its position as one of the leading European companies with the lowest CO₂ emissions per kWh produced. The company focuses its efforts on gradually reducing the intensity of GHG emissions, promoting the use of renewable technology and improving the energy efficiency of its activities and facilities.

Iberdrola has set itself an environmental goal to reduce the intensity of its CO₂ emissions to 50% below those of 2007 by 2030, and to be carbon-neutral by 2050.

Iberdrola has joined the COP23, where it showed its leadership in the fight against climate change, goal 13 of the Sustainable Development Goals (SDGs).

Once again, the company played a very important role with the *Moving for Climate NOW* initiative and with its participation in the main events and meetings of the organisations meeting in Bonn (UN Framework Convention for Climate Change, World Business Council for Sustainable Development, Carbon Pricing Leadership Coalition, UN Global Compact, etc.), energetically supporting the goals previously agreed to in Paris, which agreement entered into force in November 2016.

Iberdrola is registered with the Carbon Footprint, Carbon Offset and Carbon Dioxide Absorption Projects Register of the Ministry of Agriculture and Fisheries, Food and Environment of Spain (Mapama).

Other atmospheric emissions deriving from the combustion of fossil fuels are oxides of nitrogen (NO_x), oxides of sulphur (SO_x) and particulate matter, which are trending downward thanks to improvements in combustion processes and the company's energy mix, which includes 67% of emissions-free installed capacity. More information is available in the [climate change and emissions](#) section of the website.

Inventory of Greenhouse Gas Emissions (GHGs)

Iberdrola's inventory of emissions is calculated using the emissions set forth in disclosures 305-1, 305-2 and 305-3. In April 2017, for the seventh consecutive year, Aenor certified Iberdrola's greenhouse gas emissions inventory, covering the direct and indirect emissions from all activities, pursuant to the UNE ISO 14064-1:2006 standard, with 2016 taken as the base year⁵⁴.

Set forth below is the inventory (as of the date of publication of this report) to be submitted for verification in 2018 pursuant to the *Greenhouse Gas Protocol* of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI).

Updated information is available in the [Greenhouse Gas \(GHG\) Protocol](#) of the corporate website.

CO ₂ equivalent emissions to be verified in 2018 (t)	Spain	United Kingdom	United States	Brazil	Mexico
Scope 1: Direct emissions	5.962,832	2.960,801	999,587	1.548,252	15,334,983
Scope 2: Indirect emissions	2,269,453	806,885	1,282,555	649,881	1,790
Scope 3: Other indirect emissions ⁵⁵	1,174,512	812,550	510,930	29,075	637,303

305-1 Direct greenhouse gas emissions. Scope 1 (per GHG Protocol)

Direct emissions are those from sources of GHGs that are owned or controlled by the company. They include:

- Emissions from electric power generation facilities (fuel consumption).
- Emissions from non-generation facilities (storage of gas and sludge drying).
- Fugitive emissions of methane (CH₄) (storage and transport of natural gas).
- Fugitive emissions of sulphur hexafluoride (SF₆) in distribution networks.

⁵⁴ Base year changed from 2012 to 2016 compared to prior reports.

⁵⁵ Below the numbers reported in disclosure 305-2, due to the fact that the verification of the carbon footprint of Iberdrola does not take into account those corresponding to "Other countries", as defined in disclosure 305-3.

- Emissions from facilities that provide services to buildings (fuel consumption).
- Emissions from mobile combustion sources, associated with road transport of employees with fleet vehicles for work purposes.

The emission factors used in calculating each of these emissions are obtained from official sources. The Scope 1 emissions for the base year are: 35,476,623 t CO_{2eq}. For more information, go to the [climate change and emissions](#) section of the corporate website.

The evolution of CO₂ emissions from production facilities is shown in the following table:

CO ₂ emissions (t)	2017	2016
Thermal generating plants ⁵⁶	23,024,356	22,812,513
Cogeneration	3,671,908	3,728,577
Total	26,696,264	26,541,089

67% of the group's installed capacity is emission-free. Direct emissions other than the above emissions from production facilities are less than 1% of the total:

Other Scope 1 emissions (t CO _{2eq}) in 2017	Source of emission factors
Non-generation emissions	41,634 Defra ⁵⁷ : United Kingdom.
Fugitive emissions (CH ₄) (Gas warehousing and transport)	8,717 IPCC ⁵⁸
Fugitive emissions (SF ₆) (Electric power distribution)	19,856 IPCC
Emissions at buildings (fuel consumption)	7,965 Mapama: Spain. Defra: United Kingdom, Mexico and Brazil. EPA ⁵⁹ : United States.
Emissions from mobile combustion (fleet vehicles)	32,019 Defra: Spain and United Kingdom. EPA: United States, Mexico and Brazil.

305-2 Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol).

Indirect emissions are those emissions deriving from the company's activity but generated by other entities, including emissions from the generation of electricity acquired for the company's consumption. These emissions are:

- Emissions associated with the consumption of electric energy by standby systems during shutdowns at the thermal, renewable and nuclear plants and during pumping at the hydroelectric plants.

⁵⁶ The emissions data for the thermal generating plants includes the consumption of an auxiliary group of nuclear plants, which is not included in the breakdown of Annex 3.

⁵⁷ Department for Environment, Food and Rural Affairs (United Kingdom).

⁵⁸ IPCC: Intergovernmental Panel on Climate Change.

⁵⁹ Environmental Protection Agency (United States).

- Emissions associated with the consumption of electricity in buildings.
- Emissions associated with network losses.

The emission factor of the generation mix of the respective country is used to calculate CO₂.

- Spain: Red Eléctrica de España
- United Kingdom: DEFRA
- United States: U.S. Energy Information Administration
- Mexico: SEMARNAT⁶⁰
- Brazil: Ministry of Science, Technology and Innovation for Brazil

The Scope 2 emissions for the base year are: 4,503,670 t CO_{2eq}. The Scope 2 emissions for 2017 are indicated in the following table:

Scope 2 (t CO _{2eq}) ⁶¹	2017	2016
Emissions associated with the consumption of power at offices	51,242	39,863
Emissions from consumption at standby and pumping	833,115	749,628
Emissions associated with network losses	4,126,206	3,714,179

More information is available in the [GHG Report](#), which is audited annually under the ISO 14064 standard.

305-3 Other indirect greenhouse gas emissions. Scope 3 (per GHG Protocol).

Indirect emissions are a result of the company's activities at sources that are not owned or controlled thereby:

- Emissions associated with the transport of employees for work purposes (hire vehicles and personal vehicles, planes, trains and ferries).
- Emissions associated with the transport of employees from their home to their work place.
- Emissions associated with the transport of fuel.
- Emissions from suppliers that receive and respond to GHG questionnaires.

More information is available in the [GHG Report](#), which is audited annually under the ISO 14064 standard.

The total Scope 3 emissions for the base year are 1,022,158 t CO_{2eq}.

Emissions associated with the transport of employees for work purposes

The following table shows emissions associated with the transport of employees on business trips using various means of transportation. The Defra emission factors (2017) are used to calculate the emissions.

Emissions of CO _{2eq} associated with the transport of employees for work purposes (t)	2017	2016
Air	13,983	10,395
Car	4,472	4,620

⁶⁰ Secretaría de Medio Ambiente y Recursos Naturales (Secretary of the Environment and Natural Resources) in Mexico.

⁶¹ Emissions associated with network losses are included in scope 2 to calculate 2017 emissions.

Train

278

296

There were more than 59,151 videoconferences in 2017 that avoided employee travel, entailing a reduction of approximately 22,592 t of CO_{2eq}.

Emissions associated with the transport of employees from their home to their work place

A survey is sent each year to the employees of the Iberdrola group in order to record their emissions through an emissions calculation tool.

The information obtained in the survey for 2017 performed is extrapolated to the entire Iberdrola group. The equivalent value of total emissions for this item was 76,686 t CO_{2eq}.

Emissions associated with the transport of fuel

These are from the analysis of the fuel supply chain, based on the various means of transport employed, using the Defra emission factors and calculating the emissions resulting from this activity. Fuel transport activities in 2017 only occurred in Spain⁶².

Emissions by mode of transport are shown below:

CO _{2eq} emissions (t) associated with the transport of fuel	2017	2016
Road	14,782	12,052
Train	4,474	19,905
Ship	72,903	56,786

Emissions associated with the supply chain

Iberdrola conducted the 8th *Supplier Awareness and Greenhouse Gas Measurement Campaign* during 2017, to which end surveys were sent to the group's suppliers in Spain, the United Kingdom, the United States, Mexico and Brazil.

Based on responses to the surveys sent to the suppliers, as indicated in disclosure 308-1, emissions are calculated proportionally to the volume of billing, which information is included in the emissions report as indirect emissions.

CO _{2eq} emissions associated with the supply chain (t)	2017
Spain	1,054,507
United Kingdom	795,891
United States	490,768
Brazil	211
Mexico	635,421

305-4 Greenhouse gas emissions intensity

The intensity of CO₂ emissions is calculated based on direct emissions from the production facilities (see disclosure 305-1) divided by the group's net production, including steam. The following table shows this intensity.

Intensity of CO ₂ emissions	2017	2016
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⁶² Coal, gas-oil and uranium transport activities are considered.

Specific emissions from global mix (kg/MWh)	187	177
Specific emissions from global mix (kg/€) ⁶³	0.854	0.908

In 2017, CO₂ emissions per MWh generated remained among the lowest among domestic and international energy companies. Also noteworthy is the fact that the intensity of emissions at the group's thermal plants has dropped over the past 5 years, to 388 kg CO₂/MWh in 2017.

305-5 Reduction of GHG emissions

Initiatives to reduce emissions are undertaken through a broad range of products and services promoting energy efficiency and savings. Some examples of actions taken in 2017 are given below:

Areas	Actions and initiatives	CO ₂ avoided (t)
Renewables	Primary energy savings through the production of renewable energy.	15,129,235
Cogeneration	Savings through the supply of heat energy (steam) within the group.	1,128,403
Network efficiency	Savings from distribution network efficiency in Spain, the United Kingdom and Brazil.	117,658
Commercial	Energy savings and efficiency from green products and services.	7,062,225
Group	Use of videoconferencing.	22,592

In total, the emission of 23,460,113 t CO₂ was avoided, equal to the amount of CO₂ absorbed by 1,300 million trees over the course of a year⁶⁴.

The operating regimen of the group's production facilities led to the level of CO₂ emissions described in disclosure 305-1. Disclosures 302-4⁶⁵ and 305-2 provide additional information on this subject.

Despite its excellent position in this regard, Iberdrola has committed to reducing the intensity of its emissions to 50% below its 2007 level by 2030. The strategy to achieve this target is based on gradually reducing the intensity of GHG emissions through a commitment to close all of its coal plants and continuing to pursue electricity generation based on renewable sources and progressively introducing more efficient and less carbon-intensive technologies at existing facilities.

Iberdrola's commitment includes the development of a Sustainable Mobility Plan with the ultimate goal of contributing to a rational use of the means of transportation and which is framed within the commitment made by the company in its *Sustainability Policy*.

The inclusive nature of the programme involves employees, the business activity, customers and suppliers, covering approximately 23 specific actions in which the company seeks to strengthen its wager on sustainability.

These initiatives include Iberdrola's launch of a new edition of the *Electric Vehicle for Employees* programme in Spain and the United Kingdom and the pilot project launch in the United States, which consists of special advances and financial assistance for the purchase of electric vehicles. Thanks to this

⁶³ Direct emissions from energy generation facilities (305-1) compared to net revenue in €.

⁶⁴ The estimated amount of CO₂ absorbed by one tree in a year is 20 kg.

⁶⁵ In addition to the reductions described in 302-4, the group's nuclear production prevented emissions of 8,644,375 t CO₂, taking into account the emission mix. Source: RRE.

initiative, the local emission of 244 t CO_{2e} in employee travel to the work place in Spain and the United Kingdom was avoided in 2017.

Iberdrola's commitment to [sustainable mobility](#) was recognised in 2017 with the award received at the V Best Mobility Practices Award delivered by Renault.

305-6 Emissions of ozone-depleting substances

Ozone-depleting substances have a very limited presence within the Iberdrola group, and are located primarily in fire-extinguishing equipment (Halon) and some cooling systems (chlorofluorocarbons, CFCs). These systems and equipment are maintained in accordance with the provisions of applicable laws and regulations.

The only atmospheric emissions originating from these products would be those arising from potential losses, which are identified by the volumes used to recharge the equipment. Although Iberdrola's goal is to eliminate the presence thereof in its facilities, these substances continue to be used where their use is authorised and a better market substitute has not been found. Thus, 44 kg of CFC-11 equivalent was replaced in 2017, consisting of: 38 kg of CFC-11 equivalent in Spain and 6 kg in Mexico.

305-7 NO_x, SO_x and other significant air emissions

Emissions⁶⁶ of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and particulate matter are also created by the burning of fossil fuels. These emissions are being reduced due to the company's energy generation mix, discussed in the emissions section, with the incorporation of renewable energy and the support of modern technologies for monitoring combined cycles. This management focus is supplemented with a plan to invest in improvements in the combustion process and in the dismantling of less environmentally-efficient units.

To comply with *Directive 2001/80/CE*, which limits the atmospheric emissions of SO₂, NO_x and particulates from large combustion facilities, investments have been made in combustion control systems at the thermal plants, both in Spain and the United Kingdom.

Emissions of oxides of nitrogen (NO_x)

NO _x emissions (t)	2017	2016
Generating plants	7,613	12,934
Cogeneration	8,539	8,037
Total	16,152	20,971
Intensity of NO _x emissions (kg/MWh)	2017	2016
Specific emissions from global mix	0.113	0.140

Emissions of sulphur dioxide (SO₂)

Sulphur dioxide (SO ₂) emissions (t)	2017	2016
Generating plants	4,143	6,510
Cogeneration	1,249	578

⁶⁶ These emissions are obtained either by direct measurement or through conversions of fuel consumption using emission factors from official sources.

Total	5,392	7,088
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Intensity of SO ₂ emissions (kg/MWh)	2017	2016
Specific emissions from global mix	0.038	0.047

Emissions of particulates

Particulate emissions (t)	2017	2016
Generating plants	1,114	1,067
Cogeneration	158	141
Total	1,272	1,208

Intensity of particulate emissions (kg/MWh)	2017	2016
Specific emissions from global mix	0.009	0.008

Emissions of mercury (Hg) and other compounds

The emission of mercury (Hg) during 2017 was 33.23 kg.

Furthermore, 434.57 t of volatile organic compounds (VOCs) were emitted in Spain, the United Kingdom, Mexico and the United States; and 18.60 kg of hazardous air pollutants (HAPs) were emitted in the United States.

GRI 306 Effluents and waste

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Effluents

Withdrawal, use and return to the environment is the water cycle needed for the generation of power at the thermal generation plants. The quality of this returned effluent is strictly controlled and is kept below the maximum acceptable values established by the government based on the characteristics of the withdrawal and discharge point (sea, reservoir or river).

Ensuring compliance with law and seeking methods to minimise the risk of spills is applicable to all of Iberdrola's facilities, including generating plants, renewable facilities and distribution substations.

Iberdrola has treatment plants and water quality measurement systems at its facilities that allow it to ensure a return to the environment (sea, reservoir or river) in the desired condition, reducing the risk of polluting discharges through the use of preventive control tools:

- Consolidated systems for reporting anomalies and incidents in order to establish plans to minimise spillage risks, by implementing predictive, preventive and corrective actions that ensure the proper condition of the water.
- Certificates in ISO 14001 and EMAS, as tools for continuous improvement.

The company also has emergency plans and protocols to ensure proper and rapid response in the event of discharges or spills with negative effects on the surrounding environment:

Waste

Iberdrola's goal is to reduce the generation of waste for any process or activity (construction, operation, maintenance of facilities and work centres), and to prioritise recycling and the reuse thereof. Iberdrola commits to the concept of "circular economy" for all players within its activities, having joined the Circular Economy Pact of the Ministry of Agriculture and Fishing, Food and Environment (MAPAMA) in Spain.

The management of waste conforms to the following principles:

- Minimise the generation of waste at source.
- Maximise the reuse, recycling and recovery of waste.
- Promotion of awareness-raising campaigns regarding the minimisation of waste.
- Specific treatment and management of hazardous waste.

Further to its commitment to transparency of information for Stakeholders, Iberdrola provides additional information on its nuclear plants (*General Radioactive Waste Plan*, Enresa⁶⁷). The processes of reduction, reuse, segregation, recycling and recovery is applied to radioactive waste in the safe management thereof.

Iberdrola's nuclear power plants are included within the *Environmental Radiological Monitoring Programme* of the Nuclear Safety Council of Spain, the purpose of which is to monitor the dispersion in the environment of controlled discharges from facilities and to determine and monitor radiological quality throughout the country.⁶⁸

306-1 Total water discharge by quality and destination

The thermal power-generation plants treat residual water before discharging it into the natural receptor environment.

- Water from the process undergoes physicochemical treatment, which includes the separation of hydrocarbons and temperature monitoring.
- Wastewater is treated in compact treatment systems with biological aerobic processes.
- Coal plants have a treatment system for slag from the plant, and a decantation/coagulation process that prevents the entry of particulate coal or coal in suspension into the receptor water.

⁶⁷ Enresa: Empresa nacional de residuos radioactivos, S.A.

⁶⁸ For more information, see the technical report issued by the Nuclear Safety Council "Environmental radiological monitoring programmes. 2014 Results" ("Programas de vigilancia radiológica ambiental. Resultados 2014"), available at www.csn.es.

After being treated, the process water and the sanitation wastewater are diluted with the water returned from the cooling system and are discharged into the receptor environment, with continuous monitoring of various parameters (temperature, turbidity, conductivity, etc.). An accredited organisation analyses these discharges and regularly reports to the government.

The data relating to the discharge of water into the environment are:

Total water discharged (hm ³)	2017	2016
Ocean	1,289	1,171
Rivers	249	274
Lakes and reservoirs	360	326
Municipal water	6	5
Total	1,904	1,776

In Mexico, the combined cycles have separate and independent networks for industrial and sanitary water. The latter receive final treatment in biodigestors whereas industrial water is discharged into the natural environment or sent to municipal treatment plants or to the customer for treatment. The La Laguna power plant captures sanitation wastewater for all processes, for which reason the water discharged by this facility is of better quality in some parameters than the water that is collected. For more information, see the [Water Usage](#) section of the corporate website.

306-2 Total weight of waste by type and disposal method

Two types of waste are differentiated within the Iberdrola group's activities:

- Waste arising during the energy production process.
- Waste generated at facilities and offices.

The various areas and businesses of the company perform activities to minimise waste and improve waste management, within the framework of the certified environmental management systems.

Waste from the production process

1. Fly ash and slag

In the generation process at coal plants, fly ash and slag are the most typical types of waste. The following table shows the production and reuse thereof:

Production and reuse of ash at Iberdrola's thermal power plants	2017	2016
Ash produced (t)	174,523	256,399
Ash reused (t)	76,034	87,260
Percentage of product reused (%)	44	34

Reused ash was used for the production of cement as filling in infrastructure work and to produce compost.

2. Nuclear waste

Low-low level and low-medium level radioactive waste generated during 2017 is shown in the following table:

Hazardous waste generated at nuclear facilities	Net output (MWh)	Low-low level waste		Low-medium level waste	
		Produced (m ³)	Produced (m ³ / MWh)	Produced (m ³)	Produced (m ³ / MWh)
Cofrentes nuclear plant	7,064	14.4	0.002	104	0.015
Partially-owned nuclear plants	16,185	32.47	0.016	162.01	0.078

As to high level waste, 303 spent fuel assemblies were generated during 2017.

Other waste

1. Hazardous waste

Hazardous waste that is generated is regularly delivered to authorised handlers for proper processing. Not all of the waste generated is deposited or recycled immediately, as there are temporary warehouses for hazardous waste at the facilities.

Hazardous waste generation (t)	2017	2016
Produced	9,193	10,579
Deposited and/or incinerated	3,023	2,148
Recovered, recycled, reused	7,288	7,353

2. Non-hazardous waste

Non-hazardous waste generation (t)	2017	2016
Produced ⁶⁹	1,053,671	978,845
Deposited and/or incinerated	543,254	443,752
Recovered, recycled, reused	449,920	470,832

Non-hazardous waste produced includes electronic equipment, wood, metals, plastics, paper, etc. The company has minimisation, reutilisation and recycling plans as well as awareness-raising campaigns to promote good environmental practices by its employees.

To promote the reuse of waste, Iberdrola has been working for several years on the optimisation of the management and revaluation thereof, selling it to companies that put it back on the market after transforming it. During 2017, this exercise produced income of €2,449,758 from the sale of non-hazardous waste.

306-3 Significant spills

Iberdrola has an Environmental Management System, and prevention is one of its key objectives. To this end, multiple preventive measures have been implemented in all of the group's businesses. These measures are set out in organisational and technical manuals. Plans to minimise risk have been established in the group's various businesses (emergency guides and procedures, regular drills, etc.), as have reporting and environmental incident management systems; these are used to prevent and to control accidental spills and to inform the relevant authorities whenever necessary.

⁶⁹ Total value of waste produced, also includes the total value of waste managed.

One example of safety and containment measures taken to mitigate damage are those implemented in Spain, where 505 preventive actions were performed in 2017 to prevent and mitigate the impact of potential spills. These included the construction of 34 oil collection reservoirs in case of a major discharge at the substations or transformer stations, as well as waterproofing of containers.

Of all the leaks and spills recorded within the Iberdrola group in 2017, 23 incidents were significant⁷⁰, with a total spill volume of 10 m³ of dielectric liquid. All cases were resolved in a satisfactory manner thanks to the emergency response team; the contaminated area was cleaned with appropriate management of any waste. In the case of minor accidents or incidents that did not have permanent environmental impacts on the surroundings, it was not necessary to adopt corrective or compensatory measures.

306-4 Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and percentage of waste shipped internationally.

Iberdrola does not directly transport, import or export hazardous waste covered by the Basel Convention in any of the countries in which it engages in its activities.

306-5 Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff.

Water collection and discharges by the facilities during 2017 were within the limits indicated by the relevant comprehensive environmental permit for each facility, and no anomalies were detected that could materially affect water resources or related habitats.

The company's activities can even be beneficial for the ecosystem, as seen in the following examples:

- In Spain, above and beyond the Integrated Environmental Authorisation requirements, at times additional quality control analyses are conducted on water upstream from hydroelectric generation facilities, with a view to improving, where necessary, the quality of this water once it has passed through the plant and is returned to the environment (see disclosure 304-3).
- The discharge from the Altamira III and IV plant in Mexico has been re-directed over the Garrapatas estuary, which is allowing it to recover its salinity and thus the specific characteristics of this habitat and the species of fauna and flora adapted thereto. This estuary was losing its brackish nature due to salt-water entry being blocked after the construction of a pipeline, with the resulting desalination of the ecosystem.

GRI 307 Environmental compliance

Contribution to SDGs of the performance described by the indicators of this section



(according to SDG Compass www.sdgcompass.org)

⁷⁰ The term "significant spill" means a spill that causes damage to the external surroundings of the facility or a significant risk thereof and that must be reported to the governmental authorities. Small spills may occur within the facilities during the operation and maintenance thereof, which are properly handled and reported as required.

Management approach

Iberdrola has a Global Environmental Management System that encompasses all of the partial certifications of each of the businesses that make up the group, reaching 80% of the group's production. Certified environmental management systems identify the legal requirements applicable to the activities carried out by the group and establish an assessment of compliance therewith for purposes of assurance. Below in disclosure 307-1 of this report, supplemental information is provided regarding ongoing environmental legal proceedings directed at companies managed directly by Iberdrola.

307-1 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations

Incidents relating to the environment during 2017 involved the following fines and monetary sanctions:

Fines imposed relating to the environment (€)	2017	2016
Total amount of fines imposed	3,881,246	2,375,559

Of the total amount of fines imposed during the financial year, 2,197,588 euros were in Spain, 1,582,142 euros in Brazil and 50,508 euros in the United States. In Spain, there were significant fines corresponding to sanction proceedings for the electrocution, injury and death of birds; and in Brazil they were due to non-compliance with environmental conditions, impacts on ichthyofauna and improper pruning.

Non-monetary sanctions, sanction proceedings and arbitrations (no.)	2017	2016
Non-monetary sanctions	14	2
Sanction proceedings	57	86
Cases being resolved through arbitration or similar mechanisms	0	9

GRI 308 Supplier environmental assessment

Management approach

308-1 Percentage of new suppliers that were screened using environmental criteria

308-2 Significant (actual and potential) negative environmental impacts in the supply chain and actions taken

The management approach regarding the Iberdrola group's supply practices is described in disclosure 102-9 "Description of supply chain" of this report and the environmental risks of this chain are managed through quality processes and periodic audits.

In the management of suppliers and during the procurement process, the measures adopted to promote proper environmental behaviour by suppliers are based on the *Procurement Policy*, the *Suppliers' Code of Ethics* and the specific environmental clauses in the procurement terms of the group. Subsequently, during the supply stage, the business units monitor the environmental performance of the supplier during the term of the contract.

Alignment in Procurement and Supplier Management with respect to the environment and sustainability

Internal Procurement Mechanisms		External Supplier Mechanisms	
Procurement Policy	Sets out principles on the environment that suppliers must follow and sustainable and responsible management in the Iberdrola group's supply chain	Suppliers' Code of Ethics	Includes environmental principles. Must be accepted by the Group's suppliers and is attached to orders and contracts
Supplier Registration and Classification	Having environmental certification will be weighed in the overall assessment of the supplier. Suppliers must accept Iberdrola's Environmental Policy	Specific T&Cs	Environmental clauses that suppliers must comply with during the term of the contract
Bid Process	The environmental assessment of the supplier is included during the ITEO (offer evaluation) phase and in the PA (proposed award) for purposes of the contract.	Stimulus Campaigns	As a business driver, we proactively promote the environmental certification of the suppliers, supporting them in the search for excellence and generating a multiplier effect
Annual Improvement Goals	Innovative process: annual improvement goals directly relating to the environmental improvement of suppliers established for the Procurement team and linked to variable remuneration	Carbon Footprint Measurement	Annual greenhouse gas measurement campaign for suppliers: in 2017 more than 1,000 suppliers of the group in Spain, the United Kingdom, Brazil, Mexico and the United States
Global Environmental System	The Procurement Division is part of Iberdrola's Global Environmental System Committee: monitoring of environmental guidelines, established goals and related indicators, Audits.	CSR Scoring	Includes environmental aspects. CSR evaluation of suppliers, quantifying their relative position based on their management of this area.
Reporting	Contribution to Sustainability infographic and Annual Procurement and Supplier Management Report published on the corporate website	Supplier of the Year Award	Environmental category: this promotes the environmental responsibility of suppliers and publicly recognises those who stand out in this area.

The procurement terms of the group establish certain environmental requirements to meet this commitment, and the company also performs various tracking and reporting activities on an on-going basis. At the end of 2017, procurement from suppliers with a certified environmental management system represented 79.5% of all procurement from suppliers of general supplies.

Fuel procurement is subject to the general principles of Iberdrola's social responsibility policies, which require the encouragement of suppliers to engage in activities that are socially responsible, respectful of the environment and prevent occupational risks. With respect to fuel suppliers, those with an environmental management system represented 92% of the suppliers evaluated.

100% of suppliers (both new and existing) of general supplies and significant suppliers of fuel are evaluated according to environmental and sustainability criteria.

The principal environmental risks are considered to be managed through the current management systems and the periodic audits that are performed.

No supplier with a significant negative environmental impact has been detected. Furthermore, Iberdrola does not have major suppliers located in areas with water stress.

C. SOCIAL DIMENSION

Contents of the chapter

The topics analysed and reported on in this chapter are the following:

- **Management approach to the *Social Dimension***
- **Topics of the GRI Standards**
 - GRI 401 Employment
 - Management approach and disclosures 401-1, 401-2 and 401-3
 - Additional information required by the GRI *Sector Supplement*:
 - Programmes and processes to ensure the availability of a skilled workforce
 - Policies and requirements regarding health and safety
 - Indicators EU15, EU17 and EU18
 - GRI 402 Labour/management relations
 - Management approach and disclosures 402-1
 - GRI 403 Occupational health and safety
 - Management approach and disclosures 403-1, 403-2, 403-3 and 403-4
 - Additional information required by the GRI *Sector Supplement*
 - GRI 404 Training and education
 - Management approach and disclosures 404-1, 404-2 and 404-3
 - GRI 405 Diversity and equal opportunity
 - Management approach and disclosures 405-1 and 405-2
 - GRI 406 Non-discrimination
 - Management approach and disclosures 406-1
 - GRI 407 Freedom of association and collective bargaining
 - Management approach and disclosures 407-1
 - Additional information required by the GRI *Sector Supplement*
 - GRI 408 Child labor
 - Management approach and disclosures 408-1
 - GRI 409 Forced or compulsory labor
 - Management approach and disclosures 409-1
 - GRI 410 Procurement practices
 - Management approach and disclosures 410-1
 - GRI 411 Rights of indigenous peoples
 - Management approach and disclosures 411-1
 - GRI 412 Assessment of impact on human rights
 - Management approach and disclosures 412-1, 412-2 and 412-3

- GRI 413 Local communities
 - o Management approach and disclosures 413-1 and 413-2
 - o Additional information required by the GRI *Sector Supplement*:
 - Stakeholder participation in the decision-making process
 - Management of population displacements, including disclosure EU22
- GRI 414 Supplier social assessment
 - o Management approach and disclosures 414-1 and 414-2
- GRI 415 Public policy
 - o Management approach and disclosures 415-1
- GRI 416 Customer health and safety
 - o Management approach and disclosures 416-1 and 416-2
 - o Additional information required by the GRI *Sector Supplement*:
 - Electric and magnetic fields
 - Disclosure EU25
- GRI 417 Marketing and labelling
 - o Management approach and disclosures 417-1, 417-2 and 417-3
- GRI 418 Customer privacy
 - o Management approach and disclosures 418-1
- GRI 419 Socioeconomic compliance
 - o Management approach and disclosures 419-1
- **Specific topics of the electric utilities sector supplement**
 - Disaster/emergency planning and response
 - o Management approach (no related disclosures)
 - Access to electricity
 - o Management approach and disclosures EU26, EU27, EU28, EU29 and EU30
 - Access to adequate information
 - o Management approach (no related disclosures)
- **Specific topics of the Iberdrola group**
 - Iberdrola and the Global Compact
 - o Management approach
 - Iberdrola's contribution to the community
 - o Management approach
 - Iberdrola, promoting women's sport
 - o Management approach

Scope of information

The information boundary used in this chapter is defined in disclosure 102-45 of this report.

Specific management approach to the *Social Dimension*

This management approach covers all “Topics” of the GRI Standards and the Electric Utility Sector Supplement referred to in the above contents of this chapter in the area of labour relations, the protection of human rights, the supply chain, and relations with customers and with society in general. In managing these issues, Iberdrola acts in accordance with the principles described in this section and in the “General Management Approach” section of this report.

Iberdrola establishes firm and permanent bonds with its Stakeholders, taking into consideration the needs and expectations of its workforce, shareholders and the financial community, regulatory bodies, customers, suppliers, the media, society in general and the environment. The development of plans for the company’s relationships and the maintenance of fluid channels of communication with Stakeholders are significant goals, to which Iberdrola dedicates numerous resources, as described in more detail in chapter 5 “Stakeholder Engagement” of this report.

Within the company’s explicit commitment to the creation of sustainable value and the maximisation of the social dividend, and always looking to the long-term future, Iberdrola has an impact on local development, generating employment and wealth in all of the communities in which it is present through the design and preparation of specific programmes focused on promoting education, art and culture, research, protection of the environment, protection of vulnerable groups, etc.

The policies defined for the management of human resources contain guidelines governing labour relations among the various companies of the group and serve as a reference to define the company’s employment-related goals: maintaining employment guarantees and a stable relationship with workers; strengthening of occupational health and safety and training aspects; protection of diversity and equal opportunity in access to employment; promotion of professional development; and promotion of behaviour and attitudes among its entire workforce in line with the principles described in the “Ethics and integrity” section of this report.

In relation to Iberdrola’s commitment to defend human rights, the main goal is to incorporate the management thereof into the group’s operations, thus forming an integral part of operating procedures. This focus is included in the [Policy on Respect for Human Rights](#) approved by the Board of Directors in February 2015 and revised in February 2017. To this end, the company has a set of tools that promote the protection of and respect for human rights, mitigating the risk of violation thereof. The company’s practices are in line with the *Guiding Principles on Business and Human Rights: Implementing the United Nations ‘Protect, Respect and Remedy’ Framework*, the principles of the *United Nations Global Compact*, the *OECD Guidelines for Multinational Enterprises*, the International Labour Organization’s *Social Policy* and the *Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy*.

It should be noted that Iberdrola has designed a *Human Rights Management Model* in order to promote a culture of respect for human rights and to raise awareness in this area for all professionals, especially those who perform their activities in countries with a potentially higher risk of violation of these rights due to lax laws. The model includes the planning of activities and measurable goals to be met by the entire organisation, and this has been approved by both the Operating Committee and the Reputation and Social Responsibility Committee.

The company also has other tools approved by the Board, such as the [Code of Ethics](#), which governs the behaviour of all professionals, establishing control measures as well as disciplinary measures in the event of noncompliance, and the *Suppliers’ Code of Ethics*, which fosters compliance with applicable legal

provisions in connection with ethical, labour, environmental and health and safety matters, which must be expressly adhered to by all suppliers and is included as an annex to the respective contracts.

As regards its customers, Iberdrola operates with an organisational structure in which the Networks Business manages the activities of regulated transmission, distribution and sale of energy and any other regulated activity that the group carries out in Spain, the United Kingdom, the United States and Brazil, and the Wholesale and Retail Business manages non-regulated activities in Spain, Portugal, the United Kingdom, Mexico and continental Europe. For its part, the Renewables Business manages long-term power purchase agreements (PPAs) with large companies in the United States and Mexico.

In the retail markets, Iberdrola mainly provides its customers with two products: electricity and natural gas, trying to ensure competitive supply, operational and service excellence, continuous improvement of efficiency in operations, together with safety and respect for the environment. Although the Iberdrola group engages in other activities, due to the nature and scope thereof, these activities are insignificant in connection with customers for purposes of the information presented in this report.

As a whole, the distribution companies of the group handle a total of 34.37 million energy supply points, of which 30.33 million correspond to electric power and 4.04 million to gas supply. This information is described by type of user in indicator EU3 of this report.

Grievance mechanisms for impacts on society

As provided by Iberdrola's By-Laws, the corporate website (www.iberdrola.com) is a permanent channel of communication to serve the *Stakeholder Relations Policy*. For this reason, the website contains the main channels for responding to potential claims, as set out below:

- From the home page, one can directly access pages dedicated to customers and to the distribution networks of the countries in which Iberdrola does business, as well as those of the foundations and of the main companies of the group. There is also a prominent link on the home page to the "[Contact](#)" section, in which the following appear in an organised and accessible form:
 - o The addresses of the Iberdrola group's offices in the various countries.
 - o The specific contact channels (Corporate Communication, Investor Relations Office, Office of the Shareholder, Environment, Supplier Service Centre, Employment Channel, Corporate Social Responsibility, etc.).
 - o Customer service centres in the various countries.
 - o Subject-specific query mailboxes.
- The [Corporate Governance](#) section of website contains the group's corporate structure, with the corresponding links to all the companies.

The company's Stakeholders have the channels described above, which are handled in the various countries, businesses and corporate areas, to make their complaints and suggestions regarding business activities with a specific impact on the environment, labour relations, human rights, local communities, competition or market power, and such complaints will be attended to following established internal procedures.

There are various specific mechanisms for dealing with unethical behaviour or behaviour that might lead to situations of fraud or corruption in any form: the ethics mailbox, the shareholders' ethics mailbox, the suppliers' ethics mailbox and the communication channel with the Audit and Risk Supervision Committee,

through which employees, shareholders and suppliers can report grievances, questions or complaints with the assurances of resolution and confidentiality that such channels require to be effective.

The court claims of which Iberdrola is aware are set forth in disclosures 307-1 and 419-1 of this report.

Disclosure 406-1 sets forth incidents relating to discrimination in the labour area in 2017.

Finally, Iberdrola has not received any complaint during the year regarding other aspects relating to human rights through the channels established for this purpose.

In the United States, there were two complaints to the Maine Human Rights Commission (MHRC) in 2016 alleging discrimination for the imposition of a rate for voluntary exclusion from the use of the new smart meters, where the rejection was due to health reasons. Both complaints were resolved in favour of the company in 2017.

The company has no evidence of any court claims brought in addition to the ones mentioned above that might have a specific social impact.

GRI 401 Employment GRI 402 Labor/management relations

Contribution to SDGs of the performance described by the indicators of this section



(according to SDG Compass www.sdgcompass.org)

Management approach

Policies and commitments

To supplement the general approaches described above, Iberdrola has a [Human Resources Framework Policy](#) to define, design and disseminate a group human resources management model, which is set forth in the following specific policies:

- [Recruitment and Selection Policy](#)
- [Knowledge Management Policy](#)
- [Equal Opportunity and Reconciliation Policy](#)
- [Occupational Safety and Health Policy](#)

supplemented by a [Senior Officer Remuneration Policy](#) and a [Code of Ethics](#) that together establish the principles for managing these areas.

Collective bargaining agreements

To properly frame labour relations, the companies of the Iberdrola group have collective bargaining agreements or specific equivalent agreements to govern aspects relating to the management of people.

Generally speaking, the collective bargaining agreements of the Iberdrola group apply to all employees working under an employment relationship and for the account of the companies of the group, regardless of the type of contract entered into, the professional group to which they are assigned, their occupation or the job performed.

However, issues relating to the corporate organisation, the law of each country or even usage and custom in each country lead to certain groups being expressly excluded from the scope of collective bargaining agreements (for example, executives in Spain are not covered by the agreement). This is why there is not 100% coverage, as indicated in the table below:

Employees covered by a collective bargaining agreement	2017	2016
Number of employees	26,643	27,010
Percentage of employees	77.78	79.25

In the companies of the group there are two collective bargaining agreements in Spain, four in the United Kingdom, eleven in the United States, eleven in Brazil and three in Mexico. A breakdown by geographic area is available in Annex 3 Supplementary Information.

These agreements have specific monitoring mechanisms, such as the committees and sub-committees of the Collective Bargaining Agreement in Spain, the *ScottishPower Company Consultative and Negotiating Machinery Constitution* in the United Kingdom, *The Open Items Forum*, Update Meetings, Business Committees, Strategic Safety Panels and the *Joint Union Management Partnership Committee* in the United States, and the Safety Committee in Brazil, which serve to regulate labour, safety and health, and pension issues and consult with employees and with representatives on social matters within the company, as well as to ensure compliance with commitments made.

Objectives

Iberdrola has identified especially significant issues with respect to its employees, including:

- Define terms and conditions of employment.
- Regulate work rules, shift categories, working hours, etc.
- Define salary structure, supplementary pay, other expenses and form of payment.
- Specify benefits offered and conditions for obtaining them.
- Establish general principles in connection with the Equality Plan.
- Recognise the right to reconciliation of personal, family and working life.

Specific actions during the financial year

The Iberdrola group's global mobility programmes form part of the set of human resources tools that contribute to the development of talent, transmitting and strengthening the culture of the group and offering opportunities for professional growth in an international environment that attracts, motivates and retains the professionals who will ensure the sustainability of the business. This includes the launch of the *Job Swap Opportunity Program* initiative in 2017, which is intended to facilitate development opportunities for the group's professionals, allowing them to face new professional challenges and responsibilities, thus increasing their global view and knowledge of the business, as well as generating more versatile profiles and strengthening mobility and networking. Through this programme, two employees have the opportunity to temporarily swap their positions for a period of 9-12 months, whether within the same organisation, within the same business, between business and corporate area or between different countries. 15 employees participated in this initiative at the global level during 2017.

During the year, 330 employees participated in the group's international mobility programmes in their various forms.

In addition, with a view to favouring opportunities for internal promotion and international mobility, the group has commenced operating a single employment channel, where more than 27,000 workers can access and apply for internal job vacancies that match their profile.

Under the new homogeneity objectives in the Human Resources model, the management team of Iberdrola and its subsidiaries totals 840 people at year-end 2017, with a voluntary turnover rate of 2.02%.

Labour practices grievance mechanisms

Using the standard that class actions on the same matter are deemed to be a single grievance, the companies of the group received 253 grievances about labour practices in 2017⁷¹; of these, 13 were resolved in that same year. In addition, 247 other grievances pending from previous years have been resolved.

Programmes and processes to ensure the availability of a skilled workforce

Iberdrola needs to have a qualified workforce in keeping with the specific needs of the electric industry, the industry in which it focuses its operations, with the technical competencies necessary to carry out the specialised work required by these types of activities in terms of both technical aspects and safety. Disclosures 404-2 and 404-3 of this chapter provide information in connection with the skills and training management programmes that foster the employability of workers at the company, as well as its performance evaluation processes.

401-1 New employee hires and employee turnover

At Iberdrola, talent management is a key factor to ensure the success of the organisation. It is for this reason that Iberdrola works in various critical phases to attract and hire professionals with the skills, knowledge and abilities aligned with the current and future needs of the company: attraction of talent, recruitment and selection, as well as the welcoming and integration of new professionals.

As a global company, it has specific policies approved by the Board of Directors that regulate the selection activity (like the *Recruitment and Selection Policy* and the *Equal Opportunity and Reconciliation Policy*), as well as a master recruitment and selection process that applies at the global level. It also relies on local practices with activities particular to each specific geography and legal system in order to ensure that the best talent is attracted and selected.

Iberdrola's activities to ensure that it has the best and most diverse pool of talent in its various geographical areas include the following:

- Activities to promote training in the STEM (Science, Technology, Engineering and Mathematics) areas among young people and adolescents, as well as among women to equalise the presence of both genders in the sector (for example, visiting high schools and institutes and holding events to explain the industry and the activities of the company).
- Agreements with prestigious universities at the global and local level like:

⁷¹ The grievances received correspond to Spain, the United Kingdom, the United States, Brazil and Mexico. No grievances of this nature have been received in the other countries in which the group operates. In Spain, the United Kingdom, Brazil and Mexico, this includes the grievances that reach the courts, while in the United States grievances include those filed with the various state and/or federal commissions on human rights and equality.

- Universidad Pontificia de Comillas
 - Universidad de Salamanca
 - Massachusetts Institute of Technology
 - University of Strathclyde
 - Tecnológico de Monterrey
- Visiting employment forums and holding meetings with students to bring them closer to our company and to support their innovative ability. A total of 107 activities were attended at various prestigious universities in all of the countries where Iberdrola has a presence.
- Training programmes at the company directed towards vocational students, as well as university students, in order to complete their education within the professional environment. In total, 526 vocational students and 955 university students throughout the world have had the opportunity to engage in training at Iberdrola Spain, ScottishPower, Avangrid, Neoenergia and Iberdrola Mexico.
- International scholarship programmes for master's studies, with which students obtain financial support to complete their studies. In 2017, Iberdrola's Foundations granted 91 scholarships for Master's studies, investing €3,747,000, with students from Brazil, Spain, Mexico, the United Kingdom and the United States having had the opportunity to study in Spain, the United Kingdom and the United States.
- Mentoring programmes for university students, with which they can not only develop skills and abilities relevant to the professional area but also work towards their career goals. Specifically, a total of 18 people have been awarded scholarships by the foundation in Spain and have gone through a mentoring programme. All are engaged in training at various offices of Iberdrola Spain.
- Mainstreaming programmes for junior professionals. A project was launched at the global level in 2017 which incorporated 45 recent graduates into various areas of the company in Mexico, Spain, the United Kingdom and the United States, with a specific development programme for each of them.
- Definition of the global reception and integration programme, which allows for the sharing of local practices while at the same time defining common lines of activity within different geographical areas, in order to provide common knowledge about the company and facilitate integration into companies and jobs.

New hires	2017		2016	
	Men	Women	Men	Women
By age, in numbers				
Up to 30 years old			962	281
Between 31 and 50	1,012	295	771	290
years old	1,353	318	108	22
Over 50 years old	189	43		
By age,⁷² in %				
Up to 30 years old			24.90	25.66
Between 31 and 50	26.39	27.09	5.68	5.83
years old	9.65	6.50	1.27	1.06
Over 50 years old	2.26	2.10		

⁷² Of the headcount of this group at year end.

Total number	2,554	656	1,841	593
Total⁷⁶ %	9.74	8.17	7.10	7.27

Personnel leaving the company	2017		2016	
	Men	Women	Men	Women
By age, in numbers				
Up to 30 years old				
Between 31 and 50 years old	242	113	254	106
Over 50 years old	638	288	614	242
	1,072	336	1,063	216
By age⁷⁶, in %				
Up to 30 years old				
Between 31 and 50 years old	6.31	10.38	6.58	9.68
Over 50 years old	4.55	5.88	4.53	4.86
	12.80	16.45	12.50	10.36
By seniority, in numbers				
Up to 10 years				
Between 11 and 20 years	810	308	766	293
Over 20 years	222	167	245	98
	920	262	920	173
By seniority⁷⁶, in %				
Up to 10 years				
Between 11 and 20 years	6.18	7.18	6.12	7.37
Over 20 years	3.93	4.16	3.92	4.11
	12.32	10.90	11.20	9.64
Total number	1,952	737	1,931	564
Total⁷⁶ %	7.44	9.18	7.45	6.91

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.

For employees of companies party to the *7th Collective Bargaining Agreement* in Spain, ScottishPower, Avangrid, Neoenergia and Iberdrola Mexico, which represent 99% of the workforce, there are no significant differences between benefits provided to part-time employees and benefits provided to full-time employees.

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

401-3 Return to work and retention rates after parental leave, by gender.

Leave and return to work due to paternity/maternity	2017		2016	
	Men	Women	Men	Women
Number of employees entitled to parental leave	26,229	8,026	25,925	8,157
Number of employees taking parental leave	345	440	434	463
Number of employees that returned to work after parental leave ended	363	349	N/Av.	N/Av.
Number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work ⁷³	328	411	N/Av.	N/Av.
Return to work rate	105.22	79.32	N/Av.	N/Av.

402-1 Minimum notice period(s) regarding operational changes, including whether these are specified in collective agreements.

The different organisational changes and significant events that occur are officially reported in compliance with the various legal provisions that apply at both the global and the local level within the labour relations of our companies. These notifications are made via the various channels and forums enabled for the purpose, such as monitoring committees formed by management and employee representatives, intranet, notices to interested parties, unions, etc.

- In Spain, organisational changes are governed by both the *Workers Statute* and by the collective bargaining agreements, and generally provide for a period of at least 15 days.
- In the United Kingdom, when a significant event occurs, interested parties are notified within a period of 4 to 12 weeks, as provided by law as well as the collective bargaining agreements.
- In the United States, notice requirements are governed both by collective bargaining agreement and labour laws. When organisational change or significant events occur that may impact union employees, union leaders are routinely provided with advance notice.
- In Brazil, organisational changes at Elektro are governed by the collective bargaining agreement, which provides guidelines on how these changes should occur, always with prior notice to the union institutions.
- In Mexico, significant operations are reflected in the collective bargaining agreements and notice is provided an average of two to three months in advance.

EU15 Employees eligible to retire in the next 5 and 10 years.

Employees eligible to retire	In the next 5 years (%)		In the next 10 years (%)	
	2017	2016	2017	2016

⁷³ Avangrid information not included.

Report boundary	16.21	12.04	27.60	25.30
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A breakdown by professional category and region can be found in Annex 3 Supplementary Information.

EU17 Days worked by contractor and subcontractor employees involved in construction, operation and maintenance activities.

To perform those activities that the company deems necessary to carry out at its facilities using subcontracted personnel, Iberdrola follows a procedure of executing services agreements defining the type of activities to be performed, and contractors are responsible for allocating and managing the resources required for the proper performance thereof.

To ensure that the subcontracted activities are performed in alignment with the values of the group, the subcontracted companies:

- Must be approved in accordance with the process described in disclosure 102-9 "Description of Supply Chain" of this report, which takes into account both their technical performance and their labour, environmental and social practices.
- Must meet the requirements set forth in the [contracting terms of the group](#), which take into account financial and quality aspects as well as environmental, labour, health and safety, and social responsibility performance.

Under these terms and conditions, subcontractors, with a total of 12,533,391.7 days worked, manage their technical and human resources and Iberdrola supervises the subcontracted activities performed, and does not deem it necessary to keep statistics regarding subcontracted personnel, except as regards health and safety given the importance of these issues in the social area and because they are considered material topics. Accordingly, this document does not include all the information on subcontracted personnel required by the GRI Standards in disclosures 102-8 and 102-41.

EU18 Contractor and subcontractor employees that have undergone relevant health and safety training.

Subcontractors of the group must meet all requirements established in the Iberdrola group's contracting terms, which can be found in the [contracting terms of the group](#). For that reason, the company believes that 100% of the employees of such companies, regardless of their category, have received appropriate safety and health training.

GRI 403 Occupational health and safety

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Policies and commitments

The [Occupational Safety and Health Policy](#) approved by the Board of Directors describes the principles that should guide the behaviour of the group's companies in this area.

With a view to achieving zero accidents and the best workplace safety conditions, apart from this policy, Iberdrola also has a Global Occupational Safety and Health System, which is aligned with corporate policy and the strictest of international standards and incorporates the group's best practices from all of the countries where it has a presence.

This Global Occupational Safety and Health System is the group's tool for continual improvement, whereby the lessons learned from all events that occur are used to create a global knowledge base to prevent them from being repeated in any part of the Iberdrola group. Furthermore, the System is based on the principle that the group's contractors are its collaborators, and Iberdrola involves them in its occupational safety culture.

In alignment with such Global System, group companies are equipped with specific procedures making up the respective local safety and health systems, which are implemented within each company and externally audited. These systems develop the principles that the company has adopted to ensure compliance with legal requirements and to comply with expectations for the ongoing improvement of activities in this area.

Certifications

In the area of occupational risk prevention, the group has the following evaluation and monitoring mechanisms, which go beyond the legal requirements in each of the countries in which the group has a presence.

- The occupational health and safety management systems of the group's companies in Spain, the United Kingdom, Brazil⁷⁴, Mexico, Portugal, Greece, Hungary and Romania have OHSAS 18001 certification.
- In the United States, the networks businesses in the states of Maine and New York have achieved OHSAS 18001 certification; operations in the states of Connecticut and Massachusetts are expected to be included in the certification in 2018. The Renewables Business successfully completed phase 1 of OHSAS 18001 certification in 2017 and is expected to complete the certification in 2018. Also, within the Renewables Business, the Klamath thermal plant has achieved the highest certification available in that country, the OSHA VPP Star by the OSHA of the State of Oregon.

Objectives

For financial year 2017, safety and health goals have been established at the group level based on the improvement of accident rates, for both its own and contracted personnel, a continuation of annual planning, and the evaluation and implementation of improvements in management systems.

Particular goals have also been established for the businesses, such as obtaining or maintaining OHSAS 18001 certification, the creation of safe behaviour improvement plans, as well as the quantification of risk detection and of monitoring measures implemented.

Responsibilities

⁷⁴ Neoenergia has a Safety and Health Management System that defines work procedures and instructions, which is available on its intranet. The Brazilian subsidiary Elektro obtained OHSAS 18001 certification for more than 50% of its employees. The certification for Termopernambuco and the Teles Pires hydroelectric plant is expected at the beginning of 2018. There is a plan for certification of the companies not yet certified for 2019.

The main responsibility for taking preventive action lies with the company, and therefore, with its organisational hierarchy, which is required to introduce prevention standards, guidelines and policies into all of its activities and decisions, and across all levels of the organisation with executive or decision-making abilities.

In order to assist the company in achieving this end, there is a health and safety organisational structure made up of an Iberdrola Prevention Area within the Human Resources Division in most countries.

In accordance with the principle of integration of occupational risk prevention, the hierarchical/functional organisation of each company is entrusted with giving effect thereto and is responsible for complying with and enforcing health and safety rules within its area of activity.

The companies of the group have occupational safety and health committees, under different names, to establish channels for consultation and participation with the employee representatives in this area, to monitor indicators, and to plan and take measures to correct deficiencies and to improve the Safety and Health System.

Policies and Requirements regarding Health and Safety of Employees and Employees of Contractors and Subcontractors

The health and safety requirements established for the workforce are set forth in the collective bargaining agreement of each company (when applicable), in the procedures making up the Occupational Risk Prevention Management System, and in the internal regulations of each of the group's companies.

As regards contractors and subcontractors, the group's contracting terms, which can be found in the [contracting terms of the group](#) section of the website, specify the requirements to be met by firms wishing to participate in an award process. In addition, the particular conditions regarding occupational risk prevention are set forth in documents of specific requirements in each country, which are also contractual documents.

By way of example, the following are some of the safety and health requirements specified in the contracting terms:

- Subcontracted employees who have specific duties to monitor and control occupational risk prevention must provide evidence of having received the training established for such purpose under the law applicable thereto.
- Subcontracted employees shall have the necessary training to deal with the risks of the facilities and of the work to be performed.
- In submitting an offer, contractors must provide a report on their accident rate for the last three years, specifying the accident rate of the contractor's group or section engaged in the work bid for or in similar work.
- During the performance of the work or service, the contractor must adopt such measures as are necessary to comply with its obligations and those of the companies to which the contractor has subcontracted such work or services.
- The contractor shall be responsible for safety conditions during the period of execution of the works or performance of the service, as well as for any supplementary measures that are required for the proper performance of the subject matter of the contract.

403-1 Employees represented on formal health and safety committees (management/employees).

Spain

In Spain, the companies that are signatories of the *7th Collective Bargaining Agreement* have a central committee that coordinates the activities of the thirty-seven local safety and health committees to which all work centres and administrative units are assigned. These committees regularly consult with the workers' representatives on all safety and health issues that affect them.

United Kingdom

At ScottishPower, a Health and Safety Governance Committee is responsible for the overall strategy and guidelines and governance in this area. It is made up of members of the management team and by the safety and health director. It is supported by the Safety and Health Boards, which meet every six months, and which are made up of representatives of the workers elected from all of the businesses, unions and directors of occupational safety and health.

United States

At Avangrid, in the Networks Business, the Executive Safety Committee and the Strategic Safety Board, along with expert panels and employee safety teams, review work that involves risk-related activities and safety activities that have been undertaken. Unions and executives are also involved through their participation in the committees and regular safety meetings. In the Renewables Business, there are regular meetings of the local executive health and safety committees and of the Central Committee to review health status and the achievement of safety objectives in all regions.

Brazil

At Neoenergia, there is a Safety Committee for each distribution company within the Networks Business. There are also safety and health committees at the Generation and Renewables Businesses of the group, made up of members of the management team and by the businesses' occupational safety and health directors and specialists. These committees report to a Central Committee made up of the group's management team to accompany strategic safety and health actions.

Mexico

Iberdrola Mexico has a mixed safety and health committee at each facility, governed by the Mexican NOM-029-STPS standard and by the collective bargaining agreement. There is also a Safety Committee (COSE) made up of the heads of safety and environment at each facility and coordinated by the Generation Division.

In-house staff represented on health and safety committees (%)	2017	2016
Report boundary	97.14	93.61

46% of the staff of contractors are represented on safety and health committees in Spain and the United States. This analysis will be expanded to the United Kingdom, Brazil, Mexico and Other Countries in the coming years.

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

403-2 Type of injury and rates of injury, occupational diseases, lost days, absenteeism and total number of work-related fatalities, by region and by gender.

Injury rate among group personnel ⁷⁵	2017	2016
Number of accidents	455	472
Men	376	407
Women	79	65
With fatality	0	0
Men	0	0
Women	0	0
With leave	104	108
Men	101	96
Women	3	12
Without leave	341	364
Men	265	311
Women	76	53
Number of fatalities	0	0
Men	0	0
Women	0	0
Number of lost days	4,374	2,877
Men	4,318	2,534
Women	56	343
Injury with leave rate (IR)	0.36	0.36
Men	0.45	0.42
Women	0.05	0.17
Occupational disease rate (ODR)	0.02	0.01
Men	0.03	0.00
Women	0.00	0.03
Lost day rate (LDR)	14.96	9.66
Men	19.01	12.70
Women	0.86	40.33

⁷⁵ Methodology for calculating the indicators (per GRI standard):

- Injury rate (IR) = (number of injuries with missed (absentee) days*200,000)/hours worked
- Occupational disease rate (ODR) = (number of occupational disease cases/hours worked)*200,000
- Lost day rate (LDR) = (calendar days lost per accident, as from first day of leave/hours worked)*200,000
- Absenteeism rate (AR) = (missed (absentee) working days, as from first day of leave/days worked)*200,000

Absenteeism among group personnel ⁷⁹	2017	2016
Number of missed days per year	11,447	15,734
Men	7,420	10,217
Women	4,027	5,517
Number of lost days	189,025	199,665
Men	125,955	130,461
Women	63,070	69,204
Number of person equivalents	517.88	547.03
Men	345.09	357.43
Women	172.79	189.60
Absenteeism rate (AR)	5,171.71	5,508.74

In addition to the indicators mentioned above, the following indicators are considered to be relevant in Spain: frequency rate, severity rate and incidence rate. Information is provided by geographic area and the information from these indexes in Spain is provided in Annex 3 Supplementary Information.

The table below shows the accident and absenteeism rates of subcontracted employees:

Injuries and absenteeism among subcontracted personnel	2017	2016
Number of accidents	631	438
Men	614	N/Av.
Women	17	N/Av.
With fatality	13	4
Men	13	N/Av.
Women	0	N/Av.
With leave	309	268
Men	307	N/Av.
Women	2	N/Av.
Without leave	309	166⁷⁶
Men	294	N/Av.
Women	15	N/Av.
Number of fatalities	13	4
Men	13	N/Av.
Women	0	N/Av.
Number of lost days	11,927	10,194
Injury with leave rate (IR)	0.643	0.543

Despite the gradual reduction in the number of injuries among contracted personnel achieved through 2016, there was an unusual increase in fatal injuries with contracted personnel in 2017 (mainly in Brazil, where there were 10 deaths among contracted personnel of Neoenrgia, a company recently integrated into the group). The company has established an action plan to reduce them with actions in the short, medium

⁷⁶ Does not contain information from Neoenrgia.

and long term. These measures include improvements in the classification and monitoring of contractor performance, training, operating processes, and in some cases, contracting of internal staff in order to improve control over the performance of key tasks. This plan is already rendering its first results in the form of a reduced injury rate.

Management of health and safety is organised in accordance with the guidelines set out in the OHSAS 18001 standard, as described in the management approach for this section, ensuring that the group has monitoring and evaluation mechanisms in all operations that go beyond legal requirements.

403-3 Workers with high incidence or high risk of diseases related to their occupation

The Iberdrola group's companies monitor the health of their employees for prevention purposes, using in-house or outsourced medical services that are responsible for monitoring the health of employees through regular medical check-ups.

In general terms, the group considers that employees are not exposed to specific occupational or work-related diseases in the course of their work that may be considered to have a high level of incidence or to carry a high risk.

403-4 Health and safety topics covered in formal agreements with trade unions

All work centres and administrative units of the companies that are signatories of the *7th Collective Bargaining Agreement* in Spain are assigned to local safety and health committees. Overall, there are thirty-seven committees, which coordinate their activities through a Central Committee. All were created in accordance with the Occupational Risk Prevention Act and are formed with equal representation between the company and the workers. In 2017, the committees met on a quarterly basis and were the most important consultation, participation and control bodies of the Occupational Risk Prevention Management System, as well as the forum where formal agreements on the matter were reached with the trade unions. The bodies responsible for coordinating and monitoring the implementation of preventive standards and procedures are the Prevention Coordinating Committees, working closely with the Joint Prevention Service.

At ScottishPower, an *Occupational Health and Safety Policy* sets forth the company's principles to ensure compliance with statutory requirements and to comply with the expected on-going improvement in this matter. At these ScottishPower companies, where unions are formally recognised, the health and safety issues or agreements are specified through the general constitution of the company's Consultative and Negotiating Council. This document is agreed between the company and the union representatives. This document has a specific section dedicated to forming the terms of reference for the Health & Safety Council, which meets every six months.

At Avangrid, the Networks Business and trade unions have signed various collective bargaining agreements that cover personal protective equipment, and worker participation in inspections, audits, incident investigations, training and grievance mechanisms. Within the Renewables Business, the process to develop both occupational safety and health regulations and training is carried out by a committee made up of executive officers, health and safety personnel and field personnel.

Neoenergia has a Safety and Health Management System that defines work procedures and instructions, which is available on its intranet. The companies within Iberdrola's domain that have not implemented such a system have developed a certification plan for 2019. The company also has a Safety Committee that ensures the effectiveness of activities and communication on risk prevention actions as a value that informs all of its activities and is part of the company's culture. The company also has 62 internal accident

prevention committees. The committees are made up 50% of company representatives and 50% of worker representatives.

At Iberdrola Mexico, organised workers have a collective bargaining agreement that deals with safety issues like EPIs, safety organisation, worker representation, handling of accidents and professional diseases, application of health and safety law, etc.

In other countries the Renewables Business has safety management systems duly certified under OHSAS 18.001:2007, there are committees with the participation of the company and employees that deal with occurrences in the area of health and safety at the end of each month and reporting on noteworthy activities and plans for future actions.

GRI 404 Training and education

Contribution to SDGs of the performance described by the indicators of this section



(according to SDG Compass www.sdgcompass.org)

Management approach

Policies and commitments

Iberdrola recognises the importance of intellectual capital to the company in its [Knowledge Management Policy](#). In implementing this policy, which is intended to disseminate and share the knowledge existing within the company by fostering ongoing learning and cultural exchange, Iberdrola reaffirms that the company's intellectual capital depends on its people, its operational and organisational structures, and its internal and external relationships with all Stakeholder groups. At Iberdrola, learning is thus permanent, ongoing and aligned with the strategy of the group.

At Iberdrola, training and development are considered to be a key factor to the success of the organisation. This understanding is embodied in the design of specific programmes to equip Iberdrola's professionals with the qualifications needed to perform their roles, and to foster a culture of development, value creation and ongoing improvement that allows them to assume new responsibilities in the future. These plans are validated by the heads of the businesses and by the Human Resources Division.

The commitments assumed with the start-up of these plans and programmes are summarised below:

- Alignment with the strategic goals of the company.
- Professional improvement for job performance.
- Better professional development, fostering personal advancement and employability.
- Adjustment of human resources to technological and organisational changes.
- Adaptation of new employees to the company.
- Ease of access to an international job framework.

Specific Goals and Activities

The following significant training and development activities were carried out during 2017:

- The Iberdrola Campus has become the company's leading training centre in Spain. These facilities house training and development activities across all knowledge areas and for all Iberdrola groups. In 2017, it hosted numerous courses, development programmes and corporate events, and construction has begun on the second phase of the project.
- There has been an expansion of the catalogue of development resources, available at the global level, within the framework of the Personal Development Plans (PDPs), making new online courses available to the employees in English and Spanish. A new cycle of the process of preparing PDPs in Spain, the United Kingdom, the United States, Brazil and Mexico has also begun.
- Strengthening of professional development resources aimed at persons with management potential.
- As a result of the overall work of reviewing the portfolio of training and development activities, work has continued on defining the *Development Roadmap*, with the design of a global programme for those professionals in their preliminary management stages in order to strengthen the abilities and skills needed for the management of teams. This programme will be implemented locally, adapting to the needs of each country. Spain saw the launch of a pilot edition under the name DINAMO, with a modular skills structure. The other countries (the United Kingdom, the United States, Brazil and Mexico) are working on review and design to adjust it to the global model, and will implement it during 2018.
- There is a continuation of the language programme (Pangea), which combines the various features of the three languages of the company (Spanish, English and Portuguese) based on a new website that can be accessed by all Iberdrola's employees in Spain.
- A new development programme has been launched for a group of junior professionals who recently joined the company in Spain, the United Kingdom, the United States and Mexico. This programme is intended not only to facilitate their welcome and inclusion into the company, but also to strengthen their professional development. It consists of global activities, including a Mentoring programme in which they are given the opportunity to be tutored by long-time managers of the company, as well as local activities, including training programmes made up of technical and skills-based modules, rotational programmes, visits to company facilities and headquarters, and assignment to a technical tutor.
- The evaluation of the leadership skills and identification of employee potential through a homogeneous global process has continued. After this first analysis, development meetings continue to be held with employees identified as having potential in Spain, the United States, the United Kingdom, Brazil and Mexico. This has provided significant information at the individual and global level and has served to design a Global Development Programme for professionals identified as having executive potential, which is made up of: global and local training programmes, participation in mentoring programmes as mentors or mentees, participation in coaching programmes, internal mobility programmes, participation in individual projects, and participation in events with Senior Management to increase their visibility. As a result of this programme, a large group of the identified persons have already engaged in some of these activities during 2017.
- In the area of talent management, there have been development meetings with professionals in the various countries in which Iberdrola has a presence in order to improve knowledge about their skills, interests, professional aspirations and development needs.
- There is a new edition of the mentoring programme designed for the participants in the *Early Career Global Program (ECGP)*, which is intended to help with the adjustment and integration of junior professionals from the United States, Mexico, Brazil and the United Kingdom to their new responsibilities in Spain, as well as to strengthen their professional development with the support of an internal mentor from the company.

- There is a new programme focused on increasing internal mobility through Job Swaps, as a lever for professional development, between the employees of Spain and the United Kingdom.
- The global initiatives related to virtual training include the launch of the following courses for all employees: “*Procurement Policy* awareness-raising”, “Introduction to Climate Change”, “*Code of Ethics*” and “Corporate Social Responsibility”; and the course “La energía que mueve el mundo” (The energy that moves the world) has been made available to Spanish-speaking employees. These courses fit within the line of strengthening the values of the company.

404-1 Hours of training

Employees and hours of training by professional category and gender	2017		2016	
	Men	Women	Men	Women
Hours of training	21,477	5,225	19,734	4,766
Management team				
Middle managers and skilled technicians	355,838	132,073	440,544	129,480
Skilled workers and support personnel				
	895,808	96,690	649,260	121,210
Average hours of training per employee	18.06	28.09	33.62	35.83
Management team				
Middle managers and skilled technicians	33.55	26.96	40.46	33.22
Skilled workers and support personnel				
	56.16	30.16	51.92	55.40

The differences between men and women are a result of the different specific training for the various professional categories of the workforce, and are not due to a policy of discrimination.

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

404-2 Programmes for skills management and lifelong learning

The Iberdrola group believes that professional development contributes to achievement of the company's results and improving the efficiency of the organisation, by equipping employees with the skills and competencies they need to perform their work efficiently today and preparing them to undertake greater responsibilities and challenges in the future.

In addition to the specific activities and goals described in the “Management approach”, various development and training programmes have been carried out in 2017.

Iberdrola has various programmes aimed towards those who have been identified as professionals with the potential for management development, including the two-and-a-half year *MBA in the Global Energy Industry* offered by Universidad Pontificia de Comillas in Madrid and the Strathclyde University Business School in Glasgow. This is a global programme with participating professionals from Spain, the United States, the United Kingdom, Brazil and Mexico. The second edition of this programme concluded successfully in 2017 and the third edition has commenced.

For technicians and middle managers, Iberdrola has a global skills-based development model implemented through a process that permits the formation of personal development plans for these professionals. Through various development resources such as on-site activities, workshops, online resources or jobsite actions, the programme allows employees to work in annual periods on the development of their

professional skills. In Spain, this process takes the form of the SAVIA programme, which, after a one-year extension, finalised its third cycle in 2016, and has thus commenced a new biannual cycle in 2017 (4th Edition).

In addition to the resources available in the skills-based development model, Iberdrola continued offering specific skills development programmes in 2017 to ensure that employees not only have the necessary training to perform their tasks efficiently but are prepared to assume new responsibilities in the future. These activities are provided locally and are adapted to the particular culture and characteristics of each country.

Iberdrola also continued offering its Welcome Plans (*Planes de acogida*) for new employees in 2017. These plans afford an overall vision of the company and familiarisation with its culture and values. In addition to these onsite plans, all Iberdrola employees can access the virtual global welcome module, available in English, Spanish and Portuguese.

In line with the 70/20/10 model, a model of learning and development supported by the theory that 70% of a professional's learning comes from experience and on-the-job practice (learning by doing), 20% is acquired through conversations and feedback with other people, and only 10% comes from structured courses and programmes, the company also has mentoring programmes that serve not only to develop the skills of our professionals but also as a knowledge management tool, including the one described in the Management Approach directed towards participants in the international mobility programme called *Early Career Global Program*.

2017 saw the continuation of various working sessions, mainly with ScottishPower, Avangrid, Neoenergia and Iberdrola Mexico, primarily in order to exchange knowledge, information and experience in the training and development areas. Along these lines, the Annual Development Meeting of the Executives and Talent area was held in Scotland in 2017.

Specific Training for Executives

The Executive Management and Talent Unit worked during 2017 on coordinating and supervising the global talent management process in the various countries; it also attends to all management training and development needs through the Management School, with the following noteworthy programmes conducted in 2017:

- *Energising Leadership Programme*, taught by ESADE Business School. Geared towards management trainees with high potential and/or executives who are beginning their careers.
- *Leading in a Volatile, Uncertain, Complex and Ambiguous world (VUCA world)*. This programme analyses the challenges that executives face in their daily activities as a result of this new environment.
- *Global Leadership Programme*, taught by IMD Business School. Programme directed towards executives with experience and a background within the organisation. The main goal is to help them develop their leadership abilities in a global environment, working on personal skills and provoking a process of individual transformation.
- *Driving Leadership Transformation Programme*, jointly taught by IESE and IMD Business School. This new programme is directed towards established executives who have a track record with the group and who have already taken the Global Leadership Programme. The main goal is to complete and strengthen previously-acquired knowledge.
- In Spain, the *Lead by Communicating* and the *Personal Productivity* improvement programmes (Getting Things Done methodology) are still being provided, and there has been a strengthening of

the programmes *Conversaciones poderosas* (Powerful conversations), *Cómo hacer CRECER a tu equipo* (How to make your team BELIEVE), *Taller de mindfulness ¡Transforma tus límites en posibilidades!* (Mindfulness workshop - Transform your limits into possibilities!) and *Coaching ejecutivo* (Executive coaching), as part of the training offering for the management team in Spain.

- Various executives from Neoenergia, Avangrid and ScottishPower participated in their respective local coaching programmes.
- ScottishPower continued with the *Leadership Excellence* programme based on the elements of Iberdrola's leadership model.
- Avangrid has continued to successfully offer its programme *Working Successfully Across Cultures*, focused on learning about and understanding cultural differences. Avangrid also began a process of redesigning its training and development offer for its management team in 2017.

Other activities with the management team in 2017 included the holding of conferences, workshops, meetings, etc., as well as continued access to e-Leaders, the Management School's virtual space, in both its web and mobile versions.

404-3 Employees receiving regular performance and career development reviews

At the Iberdrola group, employees are included in formal performance review processes, which vary based on the internal level of the employees and their corresponding responsibility, as well as the country in which they are located. These processes have an impact on variable remuneration and the annual salary review.

Employees can be reviewed through two types of processes, based on the level of responsibility relating to their position.

Executive officers:

- Goals review ("What"): measurable, quantifiable and specific goals to be achieved over the course of the review period, relating to the goals of the company. This process affects variable remuneration.
- Performance review ("How"): review of conduct during the achievement of the goals. This has an impact both on the employee's annual review and on their personal development plan for the future.

Other employees:

- Performance review ("How"): in this case, the performance review is used for the calculation of the annual salary increase and for the calculation of variable remuneration. Employees are reviewed on the basis of a number of personal competencies.

A tool has been developed for these processes with the support of SAP that allows management of the Human Resources processes relating to review, development and remuneration, amongst other things. In this way, all users involved in such processes (employee, evaluator and Human Resources team) can work in real time and globally. However, the main advantage of this tool is that it allows for the global handling of all participants, thereby unifying the focus and standards of application to help ensure that a single global policy applies to all employees.

As regards the multidimensional review process, a 360° review is applied at only one of the companies of the group, which includes approximately 14% of the group's employees. This type of review is performed every two years, alternating with a standard performance review.

Performance and development reviews	2017	2016
Number of employees	34,255	34,082
Men	26,229	25,925
Management team	736	693
Middle managers and skilled technicians	10,005	11,720
Skilled workers and support personnel	15,488	13,512
Women	8,026	8,157
Management team	192	161
Middle managers and skilled technicians	4,671	4,869
Skilled workers and support personnel	3,163	3,127
Employees with performance reviews (%)	84.15	85.38
Men (%)	83.58	85.13
Management team	94.57	97.11
Middle managers and skilled technicians	96.20	98.23
Skilled workers and support personnel	74.91	73.13
Women (%)	86.00	86.18
Management team	90.10	98.14
Middle managers and skilled technicians	95.23	94.31
Skilled workers and support personnel	72.15	72.95

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

GRI 405 Diversity and equal opportunity

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Policies and commitments

The development of labour relations based on equal opportunity, non-discrimination and respect for diversity are key goals in the company's *Human Resources Framework Policy*.

The policies applied by Iberdrola in the area of labour relations are identified in the introduction to this chapter, and include the [Equal Opportunity and Reconciliation Policy](#), which promotes the commitments of equal treatment between men and women and support for workers with diverse abilities, promoting their effective employment.

The group's companies, in the various countries in which they operate, promote equal opportunity and respect diversity, effective equality between men and women in access to employment, training, promotion and working conditions, and provide support to workers with diverse abilities, facilitating their integration into the workplace.

To put the principle of diversity and equal opportunities into effect, in Spain the *7th Collective Bargaining Agreement* includes an Equality Plan within the framework of labour relations (hiring, training, promotion, remuneration, etc.), which guarantees such principle. Within the Equality Plan, an Equal Opportunity Committee has been created with the main mission of engaging in an appropriate review of the measures implemented to ensure equal opportunities and non-discrimination, and to encourage the inclusion of new activities in this area. A number of appropriate measures are also established for workers with disabilities in order for them to adjust to and access the work position, based on the requirements and characteristics thereof and on the needs in each specific situation, which facilitates their integration. In turn, Iberdrola continues collaboration with the Diversity Charter, of which it has been a signatory since 2009, and has the category of patron member; as such, it respects prevailing legal provisions in terms of equal opportunity and non-discrimination, and puts diversity policies into practice.

In the United Kingdom, ScottishPower is committed to policies that promote diversity in order to create an innovative and integrative work environment, for which reason it has a Diversity and Inclusion Governance Committee. The British subsidiary guarantees equal opportunity in selection processes for persons with disabilities, and for this reason received the Disability Confident Standard award and also holds one of the highest positions in the Carers Scotland ranking.

In the United States, Avangrid has a four diversity policies: equal opportunity in access to employment, support for disabled persons or disabled veterans, promotion of a non-discriminatory work environment and combating sexual harassment in the workplace.

In Brazil, Neoenergia's most important goals include the hiring of disabled persons, and specifically, its subsidiary Elektro has designed a training course to facilitate access by these persons to work positions within the company. There has also been an analysis of the suitability of the work positions for each of the people with various disabilities in order to relocate them into more appropriate positions if required.

Two companies of Neoenergia have been recognised by the consultant Great Place to Work: Elektro as the best company to work for in Latin America, and Cosern as one of the most valued companies to work for.

Iberdrola Mexico complies with the group's policies to generate an inclusive labour environment.

Objectives

The main goals in this area during 2017 have focused on:

- The encouragement of reconciliation between employees' work and family life, which includes measures to ensure compatibility between a positive experience of parenthood and a successful professional career.
- The development of labour relations based on equal opportunity, non-discrimination and respect for diversity.

- The fostering of diversity and the social inclusion of vulnerable groups through the corporate volunteer programme, which affords our employees an opportunity to participate in various community support initiatives to raise awareness of this group and to improve the quality of their life.

Specific activities

- Iberdrola has been included in Bloomberg's 2018 GEI (Gender Equality Index) as one of the best companies recognised for its policies in favour of gender equality and its best practices in the area of work/life balance.
- In recognition of the company's work in the area of reconciliation, in 2017 Iberdrola was also awarded the Vocento Business Award for Work/Life Balance (*Premio Empresarial Vocento a la Conciliación*) for its commitment to the quality of life of its employees as well as for reconciling work with family. In Spain, Iberdrola was the first Ibex 35 company to apply the shortened uninterrupted workday (*jornada continuada*), a pioneering measure, among a set of more than 70 practices included in the company's *Reconciliation Policies Manual*.
- In Spain, there are various options for employees on non-school days, and educational courses for children. There has also been a continuation of the "Iberdrola Parents' School", which offers employees the opportunity to participate with their children in various programmes. And as is the case every year, there have been summer camps for the children of employees, especially taking into account those with different abilities.

In addition, in order to comply with the principle of non-discrimination for reasons of diverse abilities, arrangements were made to obtain disability certificates for those employees who applied for them. 80 families have also benefited from the Family Plan, which is intended to facilitate the social and workplace integration of family members with a disability who are the dependent of an employee. Finally, donations have been made to entities or foundations whose purpose is professional training, entry into the job market or the creation of employment for persons with disabilities; and contracts have been signed with special employment centres, in excess of the amount required by law for investment in alternative measures, thus promoting protected employment.

- As regards diversity, the group has held the *Hello/Hola* and *My Guest (Mi invitado)* cultural exchange programs for the children of employees in Spain, the United Kingdom and the United States.
- In the United States, Avangrid has continued its collaboration with various initiatives supporting diversity, like *Troops to Energy* jobs to foster the inclusion of veterans in the workforce; and it forms part of the consortium, along with other services companies, to discuss good practices to achieve this goal.
- In the United Kingdom, ScottishPower continued during 2017 with its commitment to well-known entities such as the Business Disability Forum, Employers Network for Equality & Inclusion, Equate, Working Families, ENABLE, POWERful Women and Stonewall, and has maintained the certification granted by Tommy's Healthy Pregnancy Charity. It is also a member of the Women's Engineering Society, the goal of which is to help women with engineering training and motivate girls to study careers in engineering as a professional option. During 2017 ScottishPower sponsored The Topgraph 50 and the Women in Engineering Campaign and supported the International Women In Engineering Day. The British subsidiary has also engaged in e-learning and training activities on diversity to increase the awareness of its workforce in this area, and was one of the main sponsors of the first national conference on diversity, which brought together employers, representatives of the education

sector and third sector (civil society) organisations in order to share information and positive experiences to promote diversity among their workforces.

405-1 Composition of governance bodies and employees

Employees in the workforce	2017		2016	
	no.	%	no.	%
By gender				
Men	26,229	77%	25,925	76%
Women	8,026	23%	8,157	24%
By age group				
Up to 30 years old	4,924	14%	4,955	14%
Between 31 and 50 years old	18,912	55%	18,541	55%
Over 50 years old	10,419	31%	10,587	31%
By professional category				
Management team	928	3%	854	2%
Middle managers and skilled technicians	14,676	43%	16,589	49%
Skilled workers and support personnel	18,651	54%	16,639	49%
Number of employees⁷⁷	34,255	100%	34,082	100%

A breakdown by geographic area can be found in Annex 3 Supplementary Information.

Board of Directors	2017		2016	
	no.	%	no.	%
By gender				
Men	9	64	9	64
Women	5	36	5	36
By age group				
Up to 30 years old	0	0	0	0
Between 31 and 50 years old	2	14	3	21
Over 50 years old	12	86	11	79
Number of members	14	100	14	100

For reasons of confidentiality, in order to comply with the requirement established by the personal data protection laws in effect in each country, the information systems of the companies making up the Iberdrola group do not record their membership by ethnic group, religious group or any other diversity indicator.

405-2 Ratio of basic salary and remuneration of women to men

In each country, the average salary received by men and the average salary received by women is compared in each of their categories. Base salary is understood as fixed salary, and does not include any fixed or variable supplement.

⁷⁷ The total number of workers and the definitions of the boundary can be found in disclosures 102-7, 102-8 and 102-45 of this report.

Ratio of base salary of men to women by professional category ⁷⁸ (%)										
	Spain		United Kingdom		United States		Brazil ⁷⁹		Mexico	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Management team	119.21	124.31	107.81	105.61	112.82	115.70	93.30	N/A	113.83	113.53
Middle managers and skilled technicians	108.44	108.46	108.69	109.59	122.76	123.01	123.50	N/A	130.00	130.03
Skilled workers and support personnel	102.26	103.82	110.34	109.14	128.70	128.30	99.76	N/A	87.93	85.49

It is presented at the country level given the occupational idiosyncrasies of each jurisdiction and its applicable laws.

GRI 406 Non-discrimination

Contribution to SDGs of the performance described by the indicators of this section



(according to SDG Compass www.sdgcompass.org)

Management approach

Iberdrola has appropriate procedures in place to prevent any discrimination for reasons of race, colour, gender, language, religion, political opinion, national origin, social status, status as a member of an indigenous community, disability, health, marital status, pregnancy, sexual orientation or other personal condition that is unrelated to job-performance requirements.

The principles of non-discrimination and equal opportunity applied at the Iberdrola group are contained in both the *Code of Ethics* and in the global policies and procedures that have been approved and implemented (*Recruitment and Selection Policy*, *Equal Opportunity and Reconciliation Policy*, etc.) and in local collective bargaining agreements and policies such as:

- Equality and Reconciliation Plan and Anti-Harassment Action Plan for companies of the *7th Collective Bargaining Agreement* in Spain.
- Policies on equal opportunity and reconciliation, anti-age discrimination, people with disabilities, equal pay, harassment and flexible working policies, as applied in the United Kingdom.
- Equal remuneration policy at Elektro, subsidiary of Neoenergia, in Brazil.

⁷⁸ Index under 100 indicates a negative salary breach, i.e. average salary received by women above the average salary received by men for the category.

⁷⁹ Data from Brazil for prior year not provided due to change in boundary.

The application of all these instruments ensure that selection processes are based on the candidate's merits, enabling non-discriminatory participation in these processes.

Iberdrola believes that non-discrimination in the work place is a concept that is managed in a coordinated fashion with the concepts of diversity and equal opportunity. Therefore, the management of non-discrimination is described in detail in the preceding section, GRI 405 "Diversity and equal opportunity".

406-1 Incidents of discrimination

Reported incidents of discrimination (no.)	2017	2016
Report boundary	12	7

During 2017, the group received a total of 12 reports regarding aspects of labour discrimination and equal opportunity through the various channels provided to its professionals. 8 of the 12 cases recorded are still open. Of the cases that have already been closed (4), one of them was resolved with a written notice, another with a verbal notice, and the rest were closed without specifying action to be taken by the relevant company.

GRI 407 Freedom of association and collective bargaining GRI 408 Child labour GRI 409 Forced or compulsory labour

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The group has a firm commitment to the human and labour rights recognised in domestic and international law and to the principles on which the United Nations Global Compact is based, the Guiding Principles on Business and Human Rights. Along these lines, Iberdrola adopts the measures it believes are necessary to ensure that workers can exercise their rights to freedom of association and collective bargaining in all the countries in which it operates. It also has the necessary measures in place to prevent child labour, forced or compulsory labour or the assignment of hazardous work to young people.

407-1 Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk

408-1 Operations and suppliers identified as having significant risk for incidents of child labour

409-1 Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour

Information regarding locations of operations analysed for human rights issues can be found in disclosure 412-1, and information regarding suppliers can be found in section GRI 414 "Supplier social assessment", both in this chapter.

GRI 410 Security practices

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

The Corporate [Corporate Security Policy](#) approved by Iberdrola's Board of Directors and the procedures adopted by the Corporate Security Division are compatible with international human rights provisions and with the laws of the countries in which the company is present.

With the certification granted by Aenor and IQNet since 1999 and recently renewed based on the new ISO 9001:2015 standard, the action protocols are defined and implemented in all activities and services provided.

The hiring of suppliers in the security area is carried out through the Procurement Division pursuant to contracting procedures in force at the corporate level. The Corporate Security Division is responsible for setting the requirements and standards to be met by such suppliers in order to be hired, both in terms of physical security as well as cybersecurity, and for the evaluation thereof during the performance of their contract. Evaluations of suppliers are carried out periodically and are intended to identify points for improvement, which are dealt with by the suppliers themselves.

Both employees as well as subcontracted personnel are qualified in their duties and reinforce their knowledge with a rigorous Training Plan that involves an evaluation and ongoing monitoring thereof. Internal and external audits conducted for such purpose provide information on the status of security and personnel involvement at each work centre, detecting strong points and strengthening weaker ones. In addition, in order to have an objective viewpoint, a satisfaction survey is carried out each year to help determine perception of the security status.

Security-related actions at Iberdrola relate to the provision of both preventive and reactive services, which seek to ensure the protection of its assets and the normal conduct of the company's activities, without interfering with the mission of government authorities. Security personnel working at Iberdrola, whether Iberdrola's own employees or subcontracted personnel, avoid the use of force, employing it only and exclusively where strictly necessary and always in proportion to the threat received, in order to protect life.

By implementing specific security procedures for each situation, Iberdrola's *Security Policy* facilitates adjustment to the realities and characteristics of the countries in which it operates, exercising direct responsibility in those cases where it is a majority equity holder, as well as in those where management has been entrusted to it.

Iberdrola's Security Management System is continuously reviewed and updated in order to comply with international human rights provisions in each new activity that it plans to undertake.

410-1 Percentage of security personnel trained in human rights policies or procedures that are relevant to operations

Persons carrying out security activities (no.)	2017	2016
Company personnel	140	130
Subcontracted personnel	1,483	1,242

At the end of financial year 2017, Iberdrola had 140 persons in its workforce to carry out security activities, of which practically 100% have received human rights training, a total of 139 people. It also draws on the services of specialised firms, which are responsible for providing the specific training required by their professionals to carry out the work entrusted to them. In financial year 2017, 1,483 subcontracted persons did this type of work, of which 1,240 (84%) have received human rights training.

This includes Iberdrola's effort to improve the training of its personnel in this area, as can be seen in the considerable increase in trained personnel over financial year 2016, with respect to both in-house staff (+15%) and subcontracted personnel (+17%).

GRI 411 Rights of indigenous peoples

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

In applying the *Code of Ethics* and its corporate policies (especially the *Policy on Respect for Human Rights*), Iberdrola and its employees undertake to respect both ethnic minorities and the internationally recognised rights of indigenous peoples, in accordance with applicable law and the obligations set out in Convention 169 of the International Labour Organization (ILO).

The company wants business activities to be carried out with respect for different cultural identities, traditions and environmental wealth, as many times these communities depend on natural resources for their subsistence. Therefore, it establishes pathways of dialogue with the participation of the State and of various organisations representing these communities, in order to report with due transparency and integrity. Ultimately, it is the promotion of ethical practices with the goal of preventing conflicts, being competitive and generating mutual benefit, which in the long term is the base social value.

411-1 Total number of incidents of violations involving rights of indigenous people

Iberdrola has a presence in 3 countries in which there are indigenous communities: Brazil, Mexico and the United States. There may be direct or indirect incidents involving these types of communities at some of the company's facilities, for which appropriate solutions are always sought. Specifically, there were 4 incidents with indigenous communities in Brazil in 2017.

In August 2017, after the integration of Elektro (100% owned by IBE) into Neoenergia (39% owned by IBE) in Brazil, Iberdrola became the majority shareholder, with 52.45% of Neoenergia, S.A., a company which in turn holds 10% of Norte Energía, S.A.

Norte Energía, S.A. is the company responsible for the construction and operation of the Belo Monte hydroelectric plant, where there have been impacts on the indigenous communities occupying the region of Medio Río Xingu, in the state of Pará. Specifically, a total of 9 ethnicities (around 3,857 indigenous persons) were affected. In order to mitigate, compensate or prevent such impacts, Norte Energía prepared an ethnological study, and based on that study prepared a Basic Environmental Plan for the Indigenous Component (*Plan Básico Ambiental para el Componente Indígena*) (PBA-CI).

This basic plan is made up of nine programmes: i) Environmental Supervision Programme; Indigenous Territory Management Programme; ii) Works and Infrastructure Programme; iii) Productive Activities Programme; iv) Integrated Indigenous Health Programme; v) Indigenous School Education Programme; vi) Institutional Strengthening Programme; vii) Tangible and Intangible Cultural Heritage Protection Programme; viii) Relocation and Resettlement Programme; and ix) Indigenous and Non-Indigenous Communication Programme. The company also prepared the Medio Xingu Territorial Protection Programme (*Programa de Protección Territorial del Medio Xingu*) (PPTMX) based on the relocation of populations called “riparians” (*riberieños*). Approximately 300 families have been relocated to date, seeking the re-establishment of the traditional life style with the preparation of sites on the edges of the dam (a total of 121), always taking into account applicable environmental law as well as environmental sustainability.

The PBA-CI will be developed during the period of the concession, i.e. 35 years. The plan is to be reviewed every 5 years in order to update it and thus ensure that indigenous rights are respected.

Neoenergia, S.A. also holds 50.1% of Companhia Hidrelétrica Teles Pires, responsible for the construction and operation of the Teles Pires hydroelectric plant, located on the border of the states of Pará and Mato Grosso, on the Teles Pires river, an affluent of the Tapajós river, next to the municipalities of Jacareacanga and Paranaíta.

In its relations with the indigenous communities, Companhia Hidrelétrica Teles Pires has established a joint dialogue with the National Indigenous Foundation (*Fundación Nacional del Indio* - FUNAI), the Federal Public Ministry and indigenous leaders of each ethnicity affected by the project in order to respond to the demands and wishes of each community. The Basic Environmental Plan for the Indigenous Component (PBA-CI) was jointly prepared and approved along with 19 socio-environmental programmes to mitigate and sustainably encourage the cultural, social and economic activities of the ethnicities of the area.

This plan is currently being implemented by Companhia Hidrelétrica Teles Pires and the works approved for the Kayabi have already been completed, the works for the Munduruku are in the final process, and the works for the Apiaká have started. The approved timetable is being met and the plan is revised based on any difficulties in implementation or delay in activities, which are timely adjusted when necessary.

Grid construction activities in the country are carried out under the principle of the *Clean Production* technique, which seeks to lower the local environmental impact of the operations, with reduced suppression of native vegetation, prioritising the plotting of lines through areas that are already transformed by human activity or on existing motorways, as well as the use of protected cables for better co-existence with existing forestation.

The indigenous and quilombola communities without access to the supply grid benefit from the installation of photovoltaic systems made up of solar panels, charge controllers, voltage inverters and batteries. In

order to implement any service in the indigenous communities, the company first contacts FUNAI, and this process was adopted for the Tapi-i and Takuary-Ty communities located in the municipality of Cananéia (Sao Paulo) and in five other indigenous villages, as well as the indigenous community of Aldea Boa Vista, in Ubatuba (Sao Paulo), which were instructed on the operation of the technology and also on the related risks. The quilombola community located in Eldorado (Sao Paulo) also participated in the social project *Meninos Ecológicos*, by means of which young people from 16 to 18 years old carry out activities such as gathering seeds and producing cuttings in tree nurseries for reforestation.

In Mexico, none of the activities have produced any type of negative impact on indigenous communities.

In the United States, in the State of California, during the construction of the Tule Wind Project, a community near Boulevard, California and the Tribes of the Kumeyaay Nation were affected by the project, as various new cultural resources were found, but no incident arose with these communities because each of the impacts was timely handled by the company, which formally consulted with tribal representatives and the Bureau of Land Management (BLM). The representatives of each group met various times during 2017 to better understand the tribal concerns, analyse alternatives and agree on mitigation measures. Some of the protection measures included halting construction until appropriate mitigation was agreed upon, moving the locations of the turbines when line of sight concerns arose due to religious beliefs and practices, and moving some project infrastructure like roads, posts for collector lines and others to avoid impacting the cultural resources. Other mitigation measures include fencing off sensitive areas and offering to install interpretative signage to describe the history of the area and the Kumeyaay Nation. From the beginning of this project it was agreed to donate almost 180,000 euros to the Imperial Valley Desert Museum to catalogue and store any cultural artefact found during the construction, and the donation was made in June 2017.

GRI 412 Human rights assessment

Management approach

In its [Policy on Respect for Human Rights](#), Iberdrola has acquired the following commitments, among others:

- Respect the human and labour rights recognised by domestic and international law, as well as adhere to international standards in those countries in which human rights law has been sufficiently developed.
- Reject child labour and forced or compulsory labour, and to respect freedom of association and collective bargaining as well as non-discrimination, the right to freedom of movement within each country, and the rights of ethnic minorities and of indigenous peoples in the places in which it carries out its activities.
- Promote a culture of respect for human rights and awareness among its professionals in this field at all of the group companies and, in particular, at those in which there may be a higher risk of violation of such rights.

To progress with the implementation of these commitments, it has designed a *Human Rights Management Model*, in which cross-cutting activities and goals have been planned for the entire organisation. In parallel, it is working to review human rights due diligence, which focuses on people, specifically on the relations of the company with affected parties, and it is therefore imperative to obtain a first-hand understanding of the needs of the Stakeholders. Iberdrola has developed a new *Stakeholder Relations Model*, which ensures the existence of appropriate channels of communication for each of them, which helps to better identify

significant issues and will allow for the prevention and mitigation of and response to the main risks and impacts with appropriate agility.

412-1 Total number and percentage of operations that have been subject to human rights reviews or impact assessments

In developing the human rights due diligence process, Iberdrola has updated its risk map by country and business in order to identify the actual and potential impacts of its activities on these rights. To do this, it has used an internal methodology which makes assessments based on the countries ratifying or joining the following international conventions and treaties:

- Forced Labour (C029, C105), Right to Organise and Collective Bargaining (C087, C098), Child Labour (C138, C182) and Non-discrimination (C100, C111).
- Convention C169 on Indigenous and Tribal Peoples.
- The 2017 report of the International Labour Organisation (ILO) entitled *Report of the Committee of Experts on the Application of Conventions and Recommendations*.
- International Covenant on Civil and Political Rights.
- International Covenant on Economic, Social and Cultural Rights.
- American Convention on Human Rights signed at the Inter-American Specialized Conference on Human Rights (Treaty B-32).
- European Social Charter (Turin, 18 October 1961).

The position of countries on the following indexes and studies has also been taken into account:

- UNDP Human Development Index (2015 data, the latest available during the study).
- Transparency International (Corruption Risk, 2016 data, the latest available during the study).
- Countries involved in armed conflict (*Report on Conflicts, Human Rights and Peace Processes. 2016 Alert*. School for a Culture of Peace).

Once the risk map was updated, the data were cross-checked against the analysis identifying the significant locations of operation, in order to know what percentage thereof might have a risk of violating these rights.

Of the 114 significant locations of operation (detailed information in disclosure GRI 102-7) covered by analysis or impact evaluations in the area of human rights (100% of the significant locations), 29 of them (25% of the group total) are in Brazil and Mexico, countries considered to be at risk for violation of these rights.

As a result of this analysis, the United States and Canada could also be considered countries at risk, as they have not yet ratified or joined several of such labour conventions. However, given the socio-political characteristics of these two countries and taking into account the internal procedures defined for the U.S. subsidiary Avangrid, Iberdrola does not believe there is a risk of violation of these rights for the group's workers.

Once possible actual or potential risks of the company's activities are detected, there is an internal review at the corporate level of the framework of policies, processes, persons responsible and current resources to detect any breach in the due diligence process. This analysis will be completed during 2018 with the help

of independent experts and will be completed at the country level during 2019, in which period a new Action Plan will be prepared to review policies, management procedures and grievance and complaint mechanisms, and actions to be implemented in the short, medium and long term will be proposed, all in order to prevent, mitigate and/or repair impacts considered to be priority after the analysis at both the corporate and country level.

412-2 Employee training on human rights

Due to the importance that the company attaches to respect for human rights, various training initiatives have been undertaken in this field over the years for the prevention of violations of both labour and social rights, thus complying with the company's commitment to continuous improvement. Various courses have been provided, such as respect for human rights, security personnel, code of ethics, anti-harassment, equality and non-discrimination, diversity and inclusion, health and safety, legal hiring and performance, climate change, keys for the protection of information, practical advice on cyber-security, etc.

The goal of these courses is to inform the entire organisation of the social and labour rights affecting the activities of the company and to train all employees on the prevention of risks in the operations of the company and on the mitigation and remediation of possible impacts that might occur in the event of any violation of human rights.

During 2017 Iberdrola drove awareness of the human rights of employees throughout the group with more than 200,000 hours of training in this area, as it believes that all employees must become involved in compliance activities and in the dissemination and reporting of any violation in connection with this aspect, and that the entire team is responsible for ensuring that respect for human rights is a reality.

Iberdrola is also aware that merely internal awareness-raising is not sufficient and has therefore set the goal of translating its business culture to the supply chain, acting as a lever to raise awareness on these issues.

412-3 Investment agreements and contracts that include human rights clauses

The policies, codes and procedures governing the operation of the company are applied in all of Iberdrola's activities, including investments. Specifically, the *Procurement Policy*, which contains the general contracting terms of the Iberdrola group, includes a specific section on respect for human rights. For that reason, Iberdrola is confident that investments are made in accordance with strict standards of respect for human rights, and has received no evidence through the channels established for such purpose of any kind of activity, whether internal or external, that is contrary to the protection of these rights.

Currently, by application of the Modern Slavery Act approved in 2015, significant human rights clauses relating to said law are included in all contracts only in the case of the United Kingdom.

There were 10 projects with significant investments in financial year 2017⁸⁰:

- Spain, 2 projects: work has continued on the Madrid Plan, for reducing the size of substations and dismantling high-voltage overhead lines, with an investment by Iberdrola of 178.3 million euros by year-end 2017; and on the STAR project for installing smart grids. This project consolidates compliance with the legal obligation to develop remote management with a significant additional investment to improve the service provided and incorporating numerous innovations into the

⁸⁰ Significant investment means one that requires more than 100 million euros or one that is considered to be significant for the company even though it requires a smaller investment due to the size or strategic importance thereof.

electric grid. Approximately 1.4 million meters were installed in 2017, with an investment of 195 million euros, meaning that there are already more than 10.2 million meters installed, most of which are transmitting data.

- United Kingdom, 2 projects: during the first quarter of the year, the East Anglia One offshore wind project (signed in 2016) was completed with 2 additional contracts: a new supply contract with the company Navantia and an installation and logistics contract with Van Oord, both with a value of 302 million euros.
- United States, 4 projects: the acquisition of turbines for the Karankawa windfarm in Texas and Montague windfarm in Oregon, the acquisition of the Gala solar project in Oregon, and an engineering, procurement and construction management project for the Wy'East solar project, which contracts have exceeded 350 million euros.
- Mexico, 2 projects: El Carmen, the combined cycle plant located in the state of Nuevo León, which represents an investment of approximately 400 million euros, and Topolobampo III, a combined cycle plant located in the municipality of Ahome, in the state of Sinaloa, with an investment of approximately 350 million euros.

GRI 413 Local communities

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Iberdrola maintains a policy of strong involvement in the communities in which it operates, making a contribution to society linked to its own business activities: the supply of an essential product like energy, significant investments in basic infrastructure, promotion of local supplier networks, creation of qualified job positions, etc., with the intention of being a long-term investor in the regions in which it has a presence, in order to generate sustainable economic and social value.

Iberdrola's commitment to the local communities of the countries in which it operates takes shape through social activities in cooperation with governments, institutions and civil society organisations, as well as through sponsorships and patronage. The programmes of activity focused on social and economic development of the surroundings are especially significant.

These programmes and activities are implemented in various complementary ways:

- Directly by Iberdrola, through the Institutional Relations Division.
- Directly by subsidiaries or affiliates (i.e. investee companies, i.e. those in which the company has an equity interest), in their respective areas of activity.
- Sponsorship and patronage activities, primarily through Fundación Iberdrola in Spain, ScottishPower Foundation in the United Kingdom, Avangrid Foundation in the United States, Instituto Neoenergia in Brazil and Fundación Iberdrola in Mexico.

- There are also two other organisations in the United Kingdom with a philanthropic purpose: The ScottishPower Energy People Trust and The ScottishPower Green Energy Trust, which carry out activities in their specific areas of competence.

413-1 Local community engagement, impact assessments and development programmes.

413-2 Significant negative impacts on local communities

In each of the countries in which the group operates, environmental impact assessment studies are performed at Iberdrola's centres of operation in accordance with applicable law prior to the construction of facilities. Activities addressing its Stakeholders are also performed, including social development programmes and participation in local communities. Almost 100% of the company's locations of operation are subject to these types of activities, focused on meeting the needs of its Stakeholders, especially in local communities, and engaging in the most appropriate activities in all those areas that most directly affect them. The principal activities are described in greater detail below:

a) Impact assessments

Iberdrola believes that the impacts of the start-up of electric power generation plants are especially significant. In the countries in which the company develops these types of facilities, applicable laws require the performance of studies assessing the impact on the environment and the community, and such studies must be approved by the competent public authorities. Iberdrola believes that these studies and assessments are appropriate to safeguard the rights of communities, as they include the most significant issues for the affected areas.

These studies include an evaluation of the environment providing a review of environmental impacts such as emissions, effluent, waste, changes in land use, changes in landscape aesthetics and quality, etc. They also include an evaluation of the socio-economic environment, which reviews demographic aspects such as changes in population in neighbouring municipalities, economic sectors that are present in the region, basic infrastructure such as railway and road networks, and historic and cultural heritage, along with the growth in job demand in certain sectors, which is seen as a positive impact.

The impacts of the various types of facilities developed by Iberdrola are similar at the various sites at which they are implemented, and none of them are noteworthy for significant negative impacts. Consultation with and participation of both the affected government administrations and interested parties are usually guaranteed during the performance of these studies, and part of the documentation of the project is subject to public review for a period of time that varies according to the law applicable in each country. The viewpoints of the Stakeholders consulted are thus taken into account in defining the future project.

These studies also contemplate the preventive and corrective measures required to mitigate the impacts identified, and if necessary, the appropriate budgetary allocations to comply with the commitments assumed are included.

To conclude the process, programmes are implemented to monitor the various aspects identified. The effectiveness of the programmes is reviewed by means of internal and external audits, as well as by the management team. For example, in the case of nuclear plants, an Environmental Radiological Monitoring Plan is prepared to control and monitor the impacts of the facility during the operation thereof.

Most facilities have an integrated quality and environmental management system, the principal goal of which is to foster continual improvement in the results of the organisation's activities with respect to the environment, in addition to compliance with environmental laws.

Iberdrola prepares information and plans for the closure and decommissioning of facilities in accordance with applicable law and informs the workers' representatives thereof.

b) Development programmes for local communities

Iberdrola takes various types of actions to minimise, mitigate and offset unfavourable socioeconomic impacts that might be caused by its facilities. Local communities benefit from these measures, which are usually established and agreed on with local authorities. They include: improvements in communication infrastructure, water supply or roadways; public lighting; creation of direct and indirect employment; professional training courses; activities to support entrepreneurs; opening of communication processes with various Stakeholders; protection of biodiversity; and the restoration of areas, among other measures.

One noteworthy example is the creation of Energy Classrooms to foster an understanding of renewable production technologies, which involve not only visits to facilities but the development of an educational programme to acquire knowledge about energy, especially about renewable energy sources, and to promote an active attitude for the efficient use of energy and thus to contribute to energy saving.

Actions to support municipalities are also planned during the construction of the group's hydroelectric plants in Brazil, such as rural relocations at Baixo Iguaçu and its hydroelectric plant, where the population has been served by various programmes and there has been socio-economic monitoring of the population with a commitment to entrepreneurship.

A more detailed description of these activities can be found in section GRI 203 "Indirect Economic Impacts" of the "Economic Dimension" chapter of this report, as well as in the last section of this "Iberdrola's Contribution to the Community" chapter.

c) Advisory committees and processes and participation of local communities

The participation of local communities during the project planning and construction phases is described below in the section "Stakeholder participation in the decision-making process" of this chapter.

During the operation phase for facilities, Iberdrola engages in different processes of participation with the various Stakeholders that it relates to and that are described in detail in section "5.-Stakeholder engagement" (disclosures 102-40 to 102-44) of this report.

Additional information required by the GRI Sector Supplement for the "Local Communities" Topic

Management approach

Stakeholder participation in the decision-making process

Within Iberdrola's field of activity, energy planning (energy sources, technology and long-term needs) is carried out by governmental authorities; this is the institutional area in which the various Stakeholders can participate in accordance with the mechanisms established in each country. Iberdrola plays an active role in these processes, expressing its points of view and making its knowledge and experience available to governments.

Once the most appropriate infrastructure is selected, the viewpoints of the affected communities are taken into account through consultation processes, which vary depending on the country and the type of facility. All these processes, which are included in the facilities' impact assessment studies, are regulated, and they are determining factors in order to secure the construction and operating permits for the power plants; in

addition, they are frequently completed with processes voluntarily performed by the company. Along these lines, it should be noted that methods have been incorporated into the Environmental Management System so that Stakeholders can send their concerns, complaints, requests for information or any other kind of request to minimise impacts in the area.

During the planning and development of assets, prior consultations are also held and an active dialogue is maintained with the affected communities and interested parties in order to identify and address any concerns or areas of interest. In every project, relations are established with local authorities, communities and any other groups that may be relevant to the project. Information concerning the planned development is presented through newsletters, exhibitions, presentations, meetings, the group's websites, etc. There are also e-mail addresses to allow local communities to communicate with the company during the process and, in some cases, public information days are held for such purpose.

Set out below are some of the activities conducted by Iberdrola in this field for projects currently under development:

- In the Wholesale and Retail Business, since the commencement of the Tâmega River hydroelectric project in Portugal, there has been an impact assessment process with the participation of Stakeholders through public consultations in the affected municipalities. In December 2017, a seventh meeting was held with the Environmental Monitoring Commission (*Comissão de Acompanhamento Ambiental*) (CAA), made up of Iberdrola and various local and national entities, the objective of which is to supervise environmental aspects and socioeconomic impact, which is completed with visits to the works. The agreements with the municipal chambers of the influence zone were also renewed in 2017. In the United Kingdom, communication strategies have been designed for the development of the new Damhead Creek gas combined cycle plant, which include various information channels like bulletins, presentations, on-site meetings and additional information at www.scottishpower.com, as well as the consulting processes applied for the modernisation of the lines in Scotland. In Mexico, there have been studies of the social impact of the projects currently under construction for the Topolobampo (in Ahome, Sinaloa) and Noreste and Escobedo II (in El Carmen, Nuevo León) combined cycle plants. And in Brazil, there has been a *Social Dialogue Programme* with the Salto de Divisa and Itapebi communities, which includes an Environmental Education Programme and social communication in four municipalities within the area of influence.
- In the Networks Business in the United Kingdom, there has been a change towards an organisational model in which the key project decisions are made by local teams of the company to ensure consideration of local community interests: there was a strengthening of the local grid between Oswestry and Wem in North Shropshire in 2017, where multiple responses have been received, taking into account the comments received in the process. There have also been a large number of queries at Dumfries and Galloway; as regards the definition of the new transmission line, and a new Community Liaison Group has been established making changes to the destination route in order to address the considerations of the Stakeholders, and it has also participated in the reinforcement of the Kendoon to Tongland line.
- In the Renewables Business, during the development of both onshore and offshore windfarms in the United Kingdom, there have been regular informational meetings and even individual visits to groups that may be particularly affected. Additionally, a project summary document has been prepared and circulated among the Stakeholders, and a procedure has been devised for receiving complaints and suggestions, with all communications registered, investigated and answered. In the United States, there are social evaluations regarding community development during the planning and construction phases. There were various consultations with communities around potential

project areas in Illinois, New York, South Dakota and Texas in 2017. In Mexico, in the construction expanding the La Ventosa plant, the affected area is being restored. Finally, in Brazil, work is taking place at the Serra de Santana windfarm complex (under construction) on a preliminary proposal for economic activation of family farming in accordance with the nature of the region, through the sustainable cycle of the manioc (cassava). Neoenergia's new facilities go through a process of analysis through *quimbolas* and indigenous groups. These Stakeholders, along with NGOs and participating entities, are invited to participate in the consulting and impact analysis processes.

Management of population displacements

As a prevention measure, during the planning phase for new projects, Iberdrola evaluates the land that will potentially be occupied, choosing that which involves lesser displacement of people who either reside in the immediate area or whose economic activities are affected. In this ultimately occurs, Iberdrola and the relevant government authorities review the economic, environmental and social consequences of such projects, and jointly adopt suitable corrective measures. The company believes that such processes ensure the protection of general interests in the countries where these impacts occur. The measures adopted in projects of this nature currently being developed by Iberdrola are described in indicator EU22 below.

EU22 People physically or economically displaced and compensation

Iberdrola is currently developing various plants in Portugal and Brazil that involve displacements of population:

- In the construction of the Tâmega hydroelectric complex, in Portugal, it is expected that there will be displacement of some families as well as the occupation of pathways and farmland, pursuant to the process of Declaration of Public Interest by the Portuguese government. In the socio-economic and cultural action plan for the project, which actions are currently being developed and coordinated with the government administration and municipal legislatures, the affected or potentially affected families and small population centres are taken into account. During 2017, after agreement with the affected families, there was a displacement of 3 homes affected by the construction.
- In Brazil, some of the new projects, both for hydroelectric development and for windfarms, may cause population displacements or interfere with their economic activities. Prior to the approval of the projects, this social and environmental impact is evaluated in environmental impact assessments, which propose compensatory measures that are then presented to the interested parties and negotiated with them.

At the Belo Monte power station, there is continued monitoring of the social impacts pursuant to the *Project for social monitoring of the surroundings of the work and host communities*. There were 6 displacements in Brazil in 2017. The processes of relocation to new neighbourhoods, with health, education, entertainment and social assistance teams, respect family and neighbourhood ties, and the option of a related move is made available. Furthermore, vulnerable families are offered social, psychological and training services to facilitate the generation of employment. As regards commercial activities, 1,000 businesses were compensated; they were monitored at the new locations and training and guidance actions were provided. In these processes, the owners received support through training and guidance activities, and their redress process was monitored quarterly for a period of one year, consistent with the redress parameters established by applicable law.

Likewise, at the Baixo Iguaçu plant, there were relocations of 123 families after agreement on compensation, self-resettlement or rural group resettlement. These families are being helped by the

Consortio Emprendedor Baixo Iguaçu (CEBI) in the different programmes, with economic monitoring of the population and the promotion of entrepreneurship.

GRI 414 Supplier social assessment

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

414-1 New suppliers that were screened using social criteria

414-2 Negative social impacts in the supply chain and actions taken

The management approach regarding the Iberdrola group's supply practices is described in disclosure 102-9 "Description of supply chain" of this report.

100% of the suppliers of general supplies (both new and existing) and major suppliers of fuel (the majority under long-term contracts that are still in effect) are evaluated following such management approach, and their significant risks for labour practices and human rights in relation to their impacts on society are managed through the quality processes that have been implemented and through regular audits.

The [contracting terms of the group](#) for procuring equipment, material, works and services, as well as the coal contracts, include specific supplier corporate social responsibility clauses based on the UN *Universal Declaration of Human Rights*, the conventions of the International Labour Organisation, the principles of the Global Compact and compliance with the *Suppliers' Code of Ethics*. In the case of other fuels, the company's goal is to include such clauses as new contracts are signed.

Suppliers thus commit to the principles of social responsibility and respect for human rights. During the term of the contract, the supplier must allow Iberdrola to review the level of compliance with the principles established in the contracts, and if noncompliance is detected and corrective plans are not adopted, the company reserves the right to cancel the contracts.

Alignment in Procurement and in Supplier Management using Human Rights standards

In supplier management and during the procurement process, the measures adopted by the company to protect against/manage these rights are based on:

Internal Mechanisms		External Supplier Mechanisms	
Procurement Policy	Promote strict compliance by suppliers with contractual terms and conditions..., with special attention on the principles established in the Policy on Respect for Human Rights	Suppliers' Code of Ethics	LABOUR PRACTICES: to ensure the protection of internationally recognised basic human and workers' rights within their sphere of influence (forced labour, child labour, etc.)
Supplier Registration and Classification	Acceptance of Suppliers' Code of Ethics Weighting of status regarding CSR, labour practices and respect for human rights	Specific T&Cs	Specific contract clauses relating to supplier social responsibility based on the UN Universal Declaration of Human Rights, the ILO Conventions and the principles of the Global Compact
Sanction List Screening	Blocking and remediation plan if a supplier has been sanctioned or there are indications of human rights violations in their activities	Stimulus Campaigns	As a business driver, suppliers are stimulated in areas of common interest as a vehicle to ensure reliable and responsible conduct throughout the supply chain
Annual Improvement Goals	Innovative aspect: annual improvement goals directly relating to supplier CSR improvement established for the Procurement team and linked to variable remuneration	Modern Slavery Act (United Kingdom)	Classification protocols and audit of suppliers in accordance with law "Ethical Procurement: a workshop for buyers" training sessions for the entire procurement team in the UK Contractual clauses in major contracts
CSR Committee and Plan	The Procurement Division is part of the group's CSR Committee: guidelines, established goals and related indicators	CSR Scoring	Leadership, Dialogue, Management, Communication 4 blocks to evaluate the supplier's CSR performance and Human Rights standards
Transparency & Reporting	Procurement indicator in at-risk countries Contribution to sustainability infographic Annual Procurement and Supplier Management Report published on the corporate website	Supplier of the Year Award	CSR, diversity and equality categories: this promotes supplier commitment and improvement in this area and publicly recognises those who stand out

Approximately 25% of general procurement has been made in countries in which there might be a risk of human rights violations, according to the sources consulted. The 8% increase over 2016 is due to the inclusion of Neoenergia in Brazil. The percentage with respect to fuel procurement has decreased from 56% in 2016 to 52% during the period covered by the report. In addition, as described in disclosure 205-1, the company believes that the calculation should exclude purchase of fuel in Mexico and Brazil because they are made in strongly regulated environments that require contracting with state-owned companies. Excluding both countries from the calculation, the percentage of fuel procurement in at-risk countries would decrease to 14%. The standards used to identify countries at risk are the same as those described in disclosure 412-1 of this report.

There was no identification in 2017 of any contracting with suppliers that has generated incidents relating to freedom of association, collective bargaining, use of child or forced or compulsory labour, nor is there evidence of receiving complaints on these grounds. Nor have suppliers been detected with a material negative social impact, or incidents reported through the channels established for such purpose, resulting in the cancellation of orders or of contracts with group suppliers due to negative social impacts.

Transparency in the general procurement process

In applying the company's policies, the Procurement Division, within its area of responsibility, encourages equality of opportunity, applying standards of objectivity and impartiality in supplier relations, promoting publicity of and participation in selection processes, within management efficiency criteria.

The procurement process is periodically audited both internally and by external entities, with no "non-conformities" having been identified during the financial year. Recommendations and opportunities for improvement that arise during these reviews are analysed and put into place in order to maintain continuous improvement in the processes.

Dialogue with suppliers

As an indication of its efforts to encourage dialogue with its Stakeholders, and to know the satisfaction and expectations of its interested parties, the Procurement Division periodically surveys the suppliers of the group in all countries in which these processes are carried out.

The results of the surveys are as follows:

Supplier satisfaction survey	5th Survey (2016)	4th Survey (2014)	3rd Survey (2012)	2nd Survey (2009)	1st Survey (2007)
Rating (out of 10)	8.06	8.00	7.74	7.57	7.56

Suppliers value very positively the professional respect of their contacts within Procurement during the bidding phase, as well as transparency and honesty.

The overall perception of the Iberdrola group rates the company's reputation highly, with a score of 8.8, as well as the brand and the confidence it inspires, with a score of 8.6.

The results of the survey also showed some aspects that could be improved, such as the financing possibilities offered.

Main initiatives with suppliers of materials, equipment, works and services during 2017

• Supplier of the Year Award: Promoting and rewarding supplier excellence

Iberdrola uses prizes and [supplier awards](#) to encourage, promote and recognise excellence, quality, internationalisation, innovation, corporate social responsibility, entrepreneurship, occupational risk prevention, the creation of employment and wealth, diversity and equality. Moreover, the award is conceived as a tool and mechanism to thank suppliers for their contribution to the achievement of the group's goals.

Iberdrola works, and wishes to continue to work, with outstanding and sustainable suppliers, and to that end it establishes clear awareness-raising and measuring mechanisms, devoting specific resources within the Procurement Division to such task and establishing personal goals for the management team linked to the ongoing improvement of suppliers' sustainability ratios.

• Iberdrola extends its commitment to reconciliation of work and personal life to its suppliers.

Iberdrola has decided to extend to its suppliers its good practices on reconciliation between the work and personal life of its employees. For this reason, the company has revised and amended the text of the *Suppliers' Code of Ethics* to include a title on reconciliation in the *Labour Practices* section.

Iberdrola states therein that the supplier should “*assess the implementation of measures that promote respect for the personal and family life of its professionals and facilitate the achievement of an optimal balance between the latter and the work responsibilities of women and men*”.

• Supplier sustainability evaluation model: CSR Scoring

Iberdrola has a *CSR Scoring* model to evaluate its suppliers with respect to social responsibility, quantifying their relative position based on the suppliers' management in terms of social responsibility, so that there is a standard to differentiate them in tenders or contracting. The evaluation provides added value to suppliers,

allowing them to know the areas for improvement in order to focus their efforts in the area of social responsibility.

The CSR scoring data regarding the volume of purchases analysed (85% of the group's total procurement) are shown below:

Supplier CSR Scoring Model	
Classification levels	% amount awarded
A+	78.2
A	20.7
B	1.1
Total	100

Establishing improvement goals throughout the Procurement Division team relating to the increase in procurement with analysed suppliers and the increase in the percentage of procurement from A+ suppliers.

For those suppliers scoring B and A, a notice is sent and specific traction applied to their situation so that they try to improve to A+.

During the financial year, there were 76 social audits of suppliers with an order during the year. Suppliers with "non-conformities" in the process have a specific period within which to rectify the deficiencies found.

• **Supplier diversity**

Avangrid has a *Supplier Diversity Program*, which establishes a commitment to include the following within the supplier network and increase procurement therefrom:

- Minority-Owned Business Enterprises (MBE)
- Women-Owned Business Enterprises (WBE)
- Lesbian, Gay, Bisexual and/or Transgender-Owned Business Enterprises (LGBTBE)
- Veteran-Owned Business Enterprises (VBE)
- Service-Disabled Veteran-Owned Business Enterprises (SDVET)
- Small Disadvantaged Businesses (SDB)
- Historically Underutilized Business Zone Enterprises (HUBZone)

There was approximately 33 million euros of contracting volume with these groups in 2017.

During 2017, the contracting volume with Special Employment Centres in Spain (in order to assist and work with persons with disabilities) totalled 3.2 million euros.

• **Transparency and reporting**

Further information on Iberdrola's relations with and management of its suppliers can be found in the [Periodic Report on Procurement and Supplier Management](#) and in the [Contribution to Sustainability](#) section of the corporate website.

GRI 415 Public policy

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Iberdrola has two kinds of relationships with regulatory entities:

- Relationships geared towards contributing to the enactment of efficient regulatory provisions allowing for the development of a competitive market in activities that are not subject to a natural monopoly, and sufficient remuneration for regulated businesses. To that end, there is a continuous and constructive dialogue where information, knowledge and positions are exchanged. Iberdrola is thus acquainted with the concerns and proposals of regulatory entities and provides them with its own positions in the legitimate defence of its interests and those of its shareholders and customers. The company also actively participates in “public hearings” held by regulatory entities in order to ascertain the opinions of the players involved in the processes prior to the revision of regulations or the determination of domestic and European energy policies. It also participates in the official processes of enactment of the laws and regulations and the monitoring of the application thereof.

As a general rule, Iberdrola defends the principles of good regulation: proportionality, effectiveness and efficiency, responsibility and independence, consistency and credibility, and finally, transparency and clarity. As regards specific matters of energy regulation, it champions, among other things:

- o A Sustainable Energy Model, giving priority to lower-emission energy in a manner consistent with market principles.
- o Achievement of competitive supply, which requires an appropriate environmental cost allocation among all energies, following the “polluter pays” principle. Climate actions need to be financed by all polluters.
- o Decarbonisation is now the new challenge. In 2050, the system will be completely different, with significant penetration of renewables and very low use of thermal plants, a trend that is already starting to be seen. The key to this low-emission future is investment, but the design of the current market cannot provide the long-term signals for such investment to occur. Therefore, the current energy market is migrating towards two different markets: the Investment Market on the one hand, related to installed capacity and thus guaranteed supply; and the Operations Market on the other. The Investment Market consists of auctions of long-term capacity and renewables. The Operations Market consists of the delivery of energy and complementary services.
- o Smart grids offer consumers a wide array of possibilities, and must therefore be appropriately promoted and remunerated.
- o All customers, whether self-consumers or not, must receive transparent bills and contribute equitably both to network costs and to the costs of environmental policies.
- o Reasonable profits and sufficient rates for regulated activities.

- Clean electricity rates of costs not related to supply (additional non-mainland costs, annual rate shortfall payments, subsidies for domestic coal, premiums for renewable energy, etc.).
 - Full liberalisation of activities relating to generation and end supply, including the elimination of regulated end rates.
 - Introduction of measures to protect vulnerable customers and elimination of all kinds of cross subsidies among energy customers.
 - Creation of the European single market.
 - A CO₂ price that provides a signal encouraging investments in both low-emission generation and in energy efficiency measures, which will allow for progress in the decarbonisation of the European economy.
- Provision of all information required by regulatory entities, whether in connection with the normal conduct of its business or as a result of any transitory issue.

In addition to its direct relationships with regulatory entities, Iberdrola and the companies in its group participate in the regulatory process through the domestic and international trade associations of which they are members.

As regards lobbying activities, Iberdrola is registered with the Transparency Register created by European institutions to provide adequate transparency to the relations of such institutions with companies, NGOs, citizens' associations, think tanks, etc. The register was created by the European Parliament and the European Commission, and the Council of the European Union supports the initiative. [Iberdrola's record](#) in such register can be found on the EU's website. In its activities to influence public policies, Avangrid has made the financial contributions shown in the [US register](#). And finally, a project for the dissemination of regulatory positions has been developed as part of Iberdrola's transparency policy. Therefore, the company has made publicly available a compilation of [Global Regulatory Positions](#), valid for all countries and businesses. The goal is for the regulatory positions advanced by Iberdrola to be transparent and well-known.

415-1 Contributions to political parties or to related institutions

Iberdrola has a neutral position from a political standpoint. In financial year 2017, none of the group's companies, except in the United Kingdom and the United States, contributed to the financing of political parties or to organisations controlled by them.

Contributions to political parties (€)	2017	2016
United Kingdom	26,266	26,889
United States	14,997	129,543
National level	0	0
State level	14,997	129,543
Other countries	0	0
Total	41,263	156,432

In the United Kingdom, ScottishPower contributed a total of 26,266 euros, distributed among various parties across the political spectrum, to sponsor lectures and events, pursuant to the *Political Parties, Elections and Referendums Act (2000)*. These occasions are an important opportunity for the group to present its viewpoints to representatives of all political options on a non-partisan basis. The contribution does not involve supporting any particular party.

In the United States, the Networks Business of Avangrid contributed a total of 14,997 euros to candidates and political parties, and reported such contributions in accordance with applicable law. The contributions are those made by the company and do not include additional voluntary contributions made by employees.

GRI 416 Customer health and safety

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Customer health and safety

For Iberdrola, the safety of the users of the network is of the utmost importance. For this reason, it makes information and training available to the various emergency services in order to explain possible conflicts and how to act in situations involving electricity risks.

All stages of the life cycles of electricity and gas are highly regulated because they are basic products for the development of a country's economy and entail an improvement in the quality of life of citizens.

Therefore, in the *planning* stage for the facilities, the community participates through its social and political representatives in broad discussions concerning the energy model to be adopted in the country. During the *approval* stage, citizens can participate during public information periods, taking into consideration economic, environmental and health and safety aspects, as well as the reliability of supply, generating public policies that lay the groundwork for the companies within the Iberdrola group to adopt investment strategies that are consistent therewith.

In the countries in which Iberdrola engages in electric power production activities, there are extensive environmental and labour regulations aimed at ensuring that existing risks to human health and safety remain within the limits established thereby. The companies thus provide the information required to verify that the operating conditions established in the regulations and in the technical specifications for generation plants are observed in their construction, operation and maintenance.

Likewise, the electricity and gas transmission and distribution stages are subject to extensive regulations governing the construction, operation and maintenance of these facilities, and therefore the companies provide the human, physical and financial resources needed to minimise electricity risks and those associated with the handling of natural gas.

During the *retail* stage, the company also believes that the most effective way of protecting public health and safety in the use of power and gas is the provision of training and information to customers. There are also gas maintenance operating procedures to ensure safety in Spain. In the United Kingdom, devices have been developed to improve the safety of customers, such as carbon dioxide alarms, fire alarms and devices preventing hypothermia. In the United States, the evaluation and control of electrical risks for customers is thoroughly regulated at the state level.

As a complement to the foregoing, the Iberdrola group voluntarily adopts various measures to improve aspects relating to product safety. Specific internal regulations have been developed at distribution networks in this regard and there are also training seminars for third parties so that they understand electricity-related risks (fire brigade, Guardia Civil, Civil Protection, Military Emergency Unit, students, etc.).

Finally, Iberdrola has various means to inform and train the public through actions and programs that are explained in more detail under the "Access to adequate information" section in this chapter. There are also direct channels of communication with customers, as shown in disclosure 102-43 of this report.

Electric and magnetic fields

The possible influence of electric and magnetic fields on the health of human beings has historically been a topic of certain public debate. However, the different studies performed in this regard show that there has been no identification of detrimental effects on human health with respect to the maximum emission figures established by applicable law. Iberdrola, inspired by the precautionary principle, applies the rules in this regard and is willing to work with the public authorities in adopting such preventive or mitigating measures as may be deemed appropriate to avoid risks or harm to health.

There are differences in the practices relating to this issue in the various countries in which the company does business:

In Spain, two reports are prepared regarding electric and magnetic fields at facilities, which are audited by Aenor: *Emissions of electric and magnetic fields at Distribution facilities 2017* and *Radioelectrical emissions of relay stations 2017*. Both reports show that the emissions of electric and magnetic fields meet legal requirements and that all facilities are below the levels set by law.

In the United Kingdom and the United States, the facilities comply with applicable regulations and measurements are not taken at the facilities unless requested by the customer. During 2017, the company received 45 such requests in the United Kingdom, with 29 field surveys verifying emissions and the provision of the information to the customer, and no pending action for breach of maximum levels was detected. In the United Kingdom, there is also monitoring of applicable legislation, changes therein and research through working groups within the Energy Networks Association.

In Brazil, there are measurements of electromagnetic fields to check compliance with the benchmark figures under current law, and no nonconformity was detected in 2017.

416-1 Products and services for which health and safety impacts are assessed

All processes required for the supply of electricity and gas at all stages, described in the above management approach, ensure that such products arrive at the consumer with an appropriate level of assurance for their health and safety. The impacts on health and safety of 100% of the categories of major products and services are evaluated in order to make improvements.

416-2 Incidents of non-compliance concerning the health and safety impacts of products and services.

The table below sets forth incidents regarding the impacts of products and services on the health and safety of customers during 2017, 6 of which resulted in a fine in the United States and 2 relating to voluntary codes in Brazil.

These incidents are mainly due to violations relating to the cutoffs of gas services. They may also be due to failures in the qualification of a contractor, where the company has participated in the Operator Qualification Programme; and to not complying with construction rules relating to the instalment of piping, with the company reviewing the locations at which the contractor has worked.

Incidents stemming from non-compliance with regulations or voluntary codes (no.)	2017	2016
Resulting in a fine	6	1
Resulting in a warning	0	0
Relating to voluntary codes	2	0
Total incidents	8	1

EU25 Injuries and fatalities to the public involving company assets.

In order to facilitate citizens' access to an essential service such as electricity, the construction, operation and maintenance of various infrastructure is required, which entails certain risks, which may at times give rise to incidents affecting people outside of the company. In most of the cases detected the incidents relate to improper construction activities and, to a lesser extent, to unauthorised entry into the company's facilities.

The following table shows the accidents of this kind that occurred during 2017. 6 of the persons who suffered accidents were in Spain, 55 in the United Kingdom, 23 in the United States and 249 in Brazil. Of the accidents that have occurred, 3 involved a fatality in Spain, 1 in the United Kingdom, 1 in the United States and 45 in Brazil.

Accidents of persons not belonging to the company (no.)	2017	2016
Accident victims	333	261
Fatalities	50	45

The claims listed in the table below have been filed against companies of the group on these and other similar grounds not resulting in injuries and are following the relevant legal procedures applicable in each jurisdiction. Legal proceedings finished and pending by year-end 2017 amounted to 110 in Spain, 70 in the United States and 228 in Brazil.

Legal proceedings (no.)	2017	2016
Settled and pending, stemming from those accidents	408	258

GRI 417 Marketing and labelling

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Marketing communications

Iberdrola observes the laws and abides by the regulations governing its advertising and marketing communications, and adopts mechanisms and voluntary codes that cause such communications to be transparent and truthful, and the *Code of Ethics* also applies in this area for all employees regardless of their area of responsibility.

In Spain, Iberdrola is a member of the Association for Commercial Self-Regulation (*Asociación para la Autorregulación Comercial*) (Autocontrol), the Spanish Electronic Commerce and Relational Marketing Association (*Asociación Española de Comercio Electrónico y Marketing Relacional*) (AECCEM), the Spanish Advertisers' Association (*Asociación Española de Anunciantes*) (AEA) and the Marketing Association of Spain (*Asociación de Marketing de España*) (MKT), and has subscribed to their respective codes of ethical conduct, which entails the assumption of a commitment to offer responsible advertising to society that complies with the codes of conduct, and accepts the decisions of an Advertising Jury (*Jurado de la Publicidad*) regarding complaints that may be filed by consumers or competitors with such body.

ScottishPower in the United Kingdom complies with all the laws applicable to it on these terms, follows a structured internal procedure for all of its actions, and complies with conditions SLC 25 and SLC 7B of the supply licence, which require clarity, simplicity and justice for customers. It also complies with the codes of advertising practice of the Advertising Standards Authority, ensuring that each advertisement published is approved by teams that verify compliance with good practices.

Elektro, one of the subsidiaries of the Neoenergia group in Brazil, has a formal communication procedure called P-CT-001, which covers all internal and external communication activities, consistent with the ethical values and principles governing Iberdrola. The other companies of the group, in addition to having internal rules for the preparation of marketing communications and advertising activities, follow the principles of responsible advertising of the National Council on Advertising Self-Regulation (*Consejo Nacional de Autorregulación Publicitaria*) (Conar Statute).

Information on and labelling of electricity sold

As regards labelling, in Spain Iberdrola informs its customers about the source of the energy sold by the retail supplier and the associated environmental impact thereof by means of a label included in the electricity bills and in advertising to customers. This information is presented using model images and labels established by the National Markets and Competition Commission (*Comisión Nacional de los Mercados y la Competencia*) (CNMC). The CNMC has launched a System for Guarantees of Origin of

energy produced in order to create the labels and images. This information is also available in the [electricity labelling](#) section of the retail website.

In the United Kingdom, ScottishPower reports the origin of its energy each year and the environmental impact thereof. New customers receive this information as part of their Welcome Cycle communications, and existing customers receive this information in the *Important Information* section of each invoice or notice, in accordance with the guarantees of origin rules established by Ofgem. All information about the label is also available in the [Where you get your energy](#) section of the website.

There is no obligation to label electricity in the United States or Brazil. Gas is not currently labelled in the countries in which the company sells this product.

Finally, such additional information as may be of help for consumers to make a more rational, efficient and safe use of these products is set forth at the end of this chapter in the "Access to adequate information" section.

Customer satisfaction

Iberdrola has various mechanisms to measure customer satisfaction levels and to gather the opinions of its customers, as well as to verify compliance with its quality standards within the customer service and sales channels. The most significant studies by country are:

- In Spain, most of the studies use the Net Promoter Score (NPS) Index, involving telephone interviews by various research institutes, increasing from 26% in 2016 to 27% in 2017. These studies include the *Customer Voice Study (Estudio de la Voz del Cliente)* in order to know consumer ratings. This survey offers detailed information regarding attributes like agility, treatment within the service channels, clarity of the invoice, management and claims regarding complaints, and others, like quality of supply, price competitiveness and electronic billing, whether for large customers, companies, small businesses or residential customers. Overall satisfaction in 2017 exceeded 7 out of 10 for the third consecutive time. There is also a *Gas Maintenance Service Satisfaction Survey*, conducted on a yearly basis, maintaining a high level of satisfaction with respect to both the service and the professionalism of the technicians, as well as a study of satisfaction with the *Electrical Emergencies* service. There are two types of surveys at the Networks Business, showing the satisfaction of those requesting new supplies and expansions of capacity, with a grade of 3.4 out of 5 in 2017.
- In the United Kingdom, customer satisfaction is measured by a series of internal and external studies within the *Customer Insight* department, including satisfaction surveys that vary in frequency, from monthly to annually, by a customer research panel (*Your Energy People*).

There is also a series of external comparative studies measuring the satisfaction of ScottishPower's customers as compared to its competitors, such as those conducted by USwitch, Which?, Nunwood, NCSI in the United Kingdom and UK-CSI, which is published twice per year. The latest results are based on the UK-CSI study and show that ScottishPower has improved 1.6 points over the prior year, from 68.5% to 70.1% in 2017.
- In the United States, the Avangrid subsidiaries CMP, NYSEG and RGE take two kinds of measurements:
 - o customer satisfaction in recent contracts, the results of which are compared to the regulator's objectives and with the results of other companies in the industry. NYSEG and RGE reached general satisfaction results of 87% and 85%, respectively.

- consumers' perception of the performance of the companies CMP, NYSEG and RGE, which is conducted on an annual basis, through 600 telephone interviews for each company. The results show that in 2017 they are among the 5 leading companies in the Northeast in the 3 leading indexes: customer satisfaction, energy delivery and customer interaction.
- In Brazil, Abradee (*Associação Brasileira de Distribuidores de Energia Elétrica*, or Brazilian Association of Electric Power Distributors), in association with Fundación Instituto de Investigaciones Económicas (FIPE), is responsible for classifying and giving awards to companies based on an evaluation of performance in the following areas: operational excellence, economic/financial management, customer assessment, social responsibility and management quality. The ISQP (*Índice de Satisfacción de la Calidad Percibido*, or Perceived Quality Satisfaction Index) of the services is obtained through evaluations by the customer via surveys performed by Instituto Innovare, which is responsible for customer surveys. The established methodology analyses up to 46 attributes distributed among areas such as customer services, image and price, among others. In 2017 the quality perception grade of low-voltage customers for companies of the Neoenergia group obtained an average rating of 78 points, while the quality of service for high-voltage customers of Elektro was rated at 77.8%. Aneel (*Agencia Nacional de Energia Elétrica*, or National Electric Energy Agency) also performs satisfaction surveys of the customers of the distributors based on 40 attributes. The companies of the Neoenergia group obtained an average rating of 62.05 in this survey.

417-1 Product and service information and labelling required by procedures in force and by regulations.

The data on information and labelling of products and services required by this GRI disclosure is reflected in the above Management Approach to the management of marketing and labelling of this report.

417-2 Incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling.

The following table sets forth the incidents related to information and labelling that occurred during financial year 2017, which have resulted in 2 fines in Spain.

Incidents relating to information and labelling (no.)	2017	2016
Resulting in a fine	2	8
Resulting in a warning	0	0
Relating to voluntary codes	0	0
Total incidents	2	8

417-3 Incidents of non-compliance with regulations and voluntary codes concerning marketing communications.

The following table sets forth the incidents that occurred due to non-compliance regarding marketing, advertising, promotion and sponsorship during financial year 2017, when none occurred.

Incidents of non-compliance concerning marketing, advertising, promotion and sponsorship (no.)	2017	2016
Resulting in a fine	0	2
Resulting in a warning	0	0
Relating to voluntary codes	0	0
Total incidents	0	2

GRI 418 Customer privacy

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Iberdrola ensures the privacy of the personal information of the group's customers as set out in the Management Approach "Privacy of the personal information of Stakeholders" included at the end of the "Economic Dimension" chapter of this report.

418-1 Substantiated complaints regarding breaches of customer privacy and losses of customer data.

Incidents relating to privacy (no.)	2017	2016
From regulatory entities	163	175
From other sources, substantiated ⁸¹	29	14
Total substantiated complaints	192	189

Of the incidents arising from regulatory entities, 8 occurred in Spain and 155 in the United Kingdom and of those from other sources, 28 occurred in the United Kingdom and 1 in Brazil.

During 2017 there were also 151 cases of loss of or damage to customer data, all in the United Kingdom.

GRI 419 Socioeconomic compliance

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)

⁸¹ The 2016 data has been revised because claims were being included in Brazil due to errors in the data unrelated to violations of privacy or the loss of information.



Management approach

As laid down in its By-Laws, Iberdrola aspires for its conduct and that of the persons connected therewith to conform and adhere not only to applicable law and its Corporate Governance System, but also to ethical principles and generally accepted principles of social responsibility. In this connection, the *Code of Ethics* of the Iberdrola group provides that:

- Group professionals shall comply strictly with the laws in force in the jurisdiction of their workplace, heeding both the spirit and the purpose of such legal provisions, and shall observe the provisions of the *Code of Ethics*, the rules of the Corporate Governance System, and the basic procedures governing the activities of the group and of the company in which they provide their services. They shall also fully observe all obligations and commitments assumed by the group in its contractual relations with third parties, as well as the usage and good practice of the countries in which they carry out their activities.
- The officers of the group shall have particular knowledge of the laws and regulations, including internal ones, affecting their respective areas of activity, and must ensure that the professionals reporting to them receive the required information and training to enable such professionals to understand and fulfil the legal and regulatory obligations, including internal ones, applicable to their position.
- The group shall respect and abide by all court and/or governmental decisions or resolutions that may be issued, but reserves the right to file such appeals as may be appropriate against any such decisions or resolutions when it believes that they do not conform to the law.

419-1 Non-compliance with laws and regulations in the social and economic area

The following table shows violations of laws and regulations in the social and economic area, i.e. all violations of any kind (whether labour, tax, competition, related to distribution or retail sale of energy and gas, etc.) of the Iberdrola group, other than violations of environmental regulations, which are set out in disclosure 307-1.

Significant fines and non-monetary sanctions in the social and economic area ⁸²	2017	2016
Fines imposed (€)	58,891,707	208,758,953
Non-monetary sanctions (no.)	1	3
Cases being resolved through arbitration or similar mechanisms (no.)	465	575

Of the total amount, fines in the amount of 58,005,333 euros have been imposed in Brazil, mainly corresponding to three fines on the Networks Business of the Neoenergia group: 15,011,504 euros for a violation relating to the tax on own equity interests, payment of premium and deduction of regulatory fine

⁸² Arbitration mechanisms are not included in the labour area.

and collection of contribution relating to occupational environmental risks; 14,266,488 euros for commencement of Violation Order issued by the Brazilian tax authority collecting the tax on payment of the premium in the acquisition of Elektro in 2011; and 12,330,153 euros for violation in the deduction of regulatory fines from the calculation base for income tax. Of the remainder, 14,102,922 euros correspond to other fines against the Networks Business, 2,198,913 euros to the Wholesale Business and 2,294,265 euros correspond to the Renewables Business for various penalties imposed for different reasons.

In Spain, fines totalling 609,165 euros were imposed, of which 417,606 euros were for digging trenches without a works permit and for the construction of unauthorised facilities, all of which have been appealed. The remaining 217,908 euros corresponds to penalties for violations of personal data protection and customer information regulations, as well as other penalties in the consumer and labour areas.

In the United States, fines have been imposed in the amount of 220,295 euros, of which 155,512 euros correspond to fines mainly due to failures in the inspection systems and proceedings regarding abandonment and deactivation of gas services and violations of pipe installation requirements. The remaining 64,783 euros mainly corresponds to violations of safety regulations during the "Dig Safe" excavations.

In the United Kingdom, ScottishPower has received a fine in the amount of 3,988 euros for delay in the payment of the tax relating to the management of easements in the East Anglia One project.

No fines were imposed during 2017 in the other countries in which the company operates.

Finally, in Brazil, Neoenergia received a non-monetary penalty for labour reasons.

Electric Utilities Sector Specific Aspects

Disaster/emergency planning and response

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

As in any industrial activity, situations of risk to the facilities or the public at large may occur at power generation plants and in electricity grids, either because of an accident or due to loss of electricity supply.

Where this occurs, the subsidiaries of the Iberdrola group and the companies in which the company has an interest have put plans, procedures and other mechanisms in place in order to try to minimise the consequences. Such measures include preventive measures that have been jointly established with local authorities, as well as training both for its own and subcontracted staff and ongoing education, and regular safety drills with on-site audits.

The Wholesale and Retail Business has various documented emergency management procedures in place at its facilities: for example, in Spain and Mexico there is an *Emergency Response Organisation* (*Organización de respuesta ante emergencias*) (*ORE*) procedure, which involves personnel of all levels and is put into operation in the event of emergencies that jeopardise the assets of the company or its employees. In the United Kingdom, there is a Business Continuity Management System for the management and minimisation of emergency situations, which is externally audited and ISO 22301 certified. In the United States and Canada, each facility has a Prevention, Control and Countermeasures Plan, which includes preventive and reactive actions, and also has an Emergency Response Plan. There are also emergency plans at the generation plants in Brazil.

In addition, there may be specific plans based on each technology; for example, hydroelectric generation facilities also have an internal process to monitor a Reservoir Emergency Plan implemented at all of the Cuenca Units.

Thermal generation plants have established general procedures to identify and respond to potential accidents and emergency situations, as well as to prevent and reduce environmental impacts, serious accidents and possible injuries to employees.

Nuclear power plants have specific emergency plans in order to ensure that emergency systems are operational and to guarantee the safety of employees and the public, which include both an External Emergency Plan (*Plan de emergencia exterior*) (PEN), for which the governmental authorities are responsible (called the Nuclear Emergency Plan of the Province in which each plant is located), and an Internal Emergency Plan (*Plan de emergencia interior*) (PEI), compliance with which is the responsibility of the companies that own the power plant. The PEI is known by the public authorities and municipalities of the region, which participate in its adoption and verify its effectiveness through annual emergency drills supervised by the Nuclear Safety Council (*Consejo de Seguridad Nuclear*) (CSN), as well as tests and internal exercises performed at the facility itself.

Another example of emergency management is the cooperation of the company with the authorities responsible for the operation of the national electricity grids and of connections with other countries in order to deal with the possibility of a global supply failure. System operators are responsible for guaranteeing the reliable and safe operation thereof and for restoring service following severe incidents in a controlled manner and within the shortest possible time. To that end, they draw up detailed plans and procedures that determine the responsibilities and guidelines for action by geographic areas. Concurrently therewith, Iberdrola conducts tests at its facilities to ensure that the main generation centres can resume production in the event of a power grid failure.

The Networks Business also has various management plans and procedures to deal with these situations, such as the electric emergency plans of the distribution subsidiaries of Avangrid in the United States, where CMP also has a Service Restoration Plan, and for which drills are performed every year. Also noteworthy are the operations centres of the distributors in Brazil, which standardise safety in operations and the procedures to restore supply and for the maintenance of the electricity system. ScottishPower actively communicates with vulnerable groups during power outages to ensure that they are provided the assistance that may be required. The company has its own fleet of generators, as well as a portfolio of suppliers to support consumers during long-lasting emergencies if necessary.

Access to electricity

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Access to electricity for vulnerable customers

In February 2016 the Board of Directors approved a change to the *General Corporate Social Responsibility Policy*, which makes it a principle of conduct to pay attention to customers who are financially disadvantaged or in any other situation of vulnerability, establishing specific protection and collaboration procedures to facilitate continued access to electricity and gas supply in accordance with the policies established by the competent government administrations.

Among the programmes to facilitate access to energy by people who are at risk of exclusion or in a situation of vulnerability, the company and its subsidiaries and affiliates have procedures to protect customers in vulnerable situations to facilitate access for the most disadvantaged groups, including the following:

- In Spain, this commitment takes form through the application of a *Vulnerable Customer Protection Procedure*, which is focused on increasing collection periods, making payment terms more flexible, and providing personalised advice. Iberdrola has also prompted the signing of agreements with various public entities and other organisations, establishing mechanisms to prevent the suspension of electric and/or gas supply due to non-payment of the invoice by economically disadvantaged citizens, and to ensure the immediate restoration of service if already suspended. The company also has a free exclusive telephone service line for customers in vulnerable situations: 900 100 752.

The [agreements signed](#) by the company until the end of 2017 protect 100% of Iberdrola's residential customers in Spain that might be in situations of vulnerability.

There are also subsidised electricity rates (known as *Bono social*) which allow lower electricity prices to be applied to electricity consumers considered to be vulnerable on the basis of certain determined social, consumption and purchasing power characteristics. In 2017, the Government regulated and defined the figure of vulnerable customer, subsidised rates (*bono social*) and other measures of protection for energy consumers through Royal Decree 897/2017, and also expanded the coverage to special groups (family units with disabled members, victims of gender violence or terrorism), among other measures. At the end of 2017, Iberdrola had 855,000 customers with subsidised rates.

- In the United Kingdom, ScottishPower has signed the *Energy UK Safety Net for Vulnerable Customers* agreement, which includes a commitment to never disconnect those customers who have been declared vulnerable due to reasons of age, health, disability or other serious reasons, and to reconnect them, if applicable, on a priority basis. A *Warm Home Discount* scheme for households at risk of poverty is also still in operation.
- In the United States, agreements have been signed with the government to help customers at risk of exclusion and vulnerable customers, and there are energy assistance programmes for these groups at the federal level, such as the *Home Energy Assistance Program (HEAP)*, *CMP's Electricity Lifeline Program (ELP)* (with credits to pay bills based on income and consumption) and the *Energy Assistance Program (EAP)*, to cancel debts for delayed payment. CMP has

implemented an *Arrears Management Program (AMP)*, which offers assistance to low-income customers and also guarantees a connection for people with limited resources who depend on an oxygen tank.

- In Brazil, the group's subsidiaries have a special different rate for low-income customers (TSEE) and advantageous prices and special terms for persons in difficulty. During 2017, Aneel (*Agencia Nacional de Energía Eléctrica*, or National Electric Energy Agency) continued with an update of the registry, selecting beneficiaries therefrom who meet the low-rent criteria of the consumer units determined by the Brazilian regulator.

Access to electricity for off-grid customers

For populations in Brazil with difficulties accessing the network, such as indigenous populations or *quilombolas*, Elektro provides various assistance programmes and the installation of off-grid photovoltaic systems. Other subsidiaries of Neoenergia also have programmes to ensure universal access to the distribution network.

Iberdrola has an *Electricity for all* programme to extend universal access to modern forms of energy that are more environmentally, socially and economically sustainable, as described in the "Iberdrola's contribution to the community" section of this chapter.

EU26 Population unserved in distribution areas

For the companies of the Iberdrola group in Spain, the United Kingdom and the United States, the electrification level covers practically the entire population. In Brazil, in the Neoenergia distribution area (around 835,000 km², with a resident population of slightly more than 34.3 million people), approximately 204,779 persons do not have electricity, representing around 0.6% of the total population within the area of the Neoenergia group companies.

EU27 Residential disconnections for non-payment

A detailed description of the set of procedures implemented in various countries to minimise the effect of supply outages and to provide access to the supply of electric power and gas is contained in the management approach to this "Topic" in the section called "Access to electricity for vulnerable customers".

Information regarding disconnection for non-payment and subsequent reconnections in accordance with the *Electric Utilities Sector Supplement* of the Global Reporting Initiative (GRI) is shown in the following table:

Residential disconnections for non-payment (no.)	2017	2016
Paid up to 48 h after disconnection	1,304,986	1,182,466
Paid between 48 h and one week after disconnection	236,436	237,576
Paid between one week and one month after disconnection	226,654	214,745
Paid between one month and one year	181,141	188,504
Paid after more than one year	7	0
Outstanding and unclassified	0	48,606
Iberdrola total	1,949,224	1,871,897

Residential reconnections following payment of unpaid bills (no.)	2017	2016
Less than 24 h after payment	1,612,578	1,561,202
Between 24 h and one week after payment	184,780	191,332
More than one week after payment	116,395	102,068
Unclassified	0	14,634
Iberdrola total	1,913,753	1,869,236

Information on disconnections and reconnections in the various countries is described in Annex 3 Supplementary Information of this report.

EU28 Power outage frequency

Iberdrola supplies electricity and monitors service quality in various countries. However, the measures in each company are taken according to different rules, following the respective legal requirements or customs, for which reason the company does not currently have a homogeneous measure of service quality in the various countries in which it operates. The figures are as follows:

- Installed Capacity Equivalent Interrupt Number (Spanish acronym "NIEPI") is used in Spain.

NIEPI	2017	2016
Spain	1.14	1.04

- Customer interruptions per 100 connected customers ("CI") is used in the United Kingdom.

CI	2017	2016
United Kingdom	36.0	42.7

- System average interruptions frequency index ("SAIFI") is used in the United States.

SAIFI	2017	2016
United States	1.15	1.15

- Equivalent duration of interruption by consumer unit (Portuguese acronym "FEC") is used in Brazil.

FEC	2017	2016
Brazil	7.15	7.44

The "Research and Development" section of the "Economic Dimension" chapter of this report provides additional information regarding the development of smart grids to improve the quality of electric supply, among other things.

EU29 Average power outage duration

Similarly to the preceding section, the figures are as follows:

- Installed Capacity Equivalent Interrupt Time (Spanish acronym "TIEPI") is used in Spain.

TIEPI	2017	2016
Spain	52.7 min	54.0 min

- Customer minutes lost per connected customers ("CML") is used in the United Kingdom.

CML	2017	2016
United Kingdom	31.0 min	33.8 min

- Customer average interruption duration index ("CAIDI") is used in the United States.

CAIDI	2017	2016
United States	1.91 h	1.84 h

- Equivalent duration of interruption by consumer unit (Portuguese acronym "DEC") is used in Brazil.

DEC	2017	2016
Brazil	15.96 h	17.14 h

EU30 Average plant availability

The following table shows the average availability of the company's various production technologies during financial year 2017:

Average availability factor (%)	2017	2016
Combined cycle	90.94	89.94
Conventional thermal	93.94	85.54
Cogeneration	82.75	91.00
Nuclear	89.29	85.98
Hydroelectric	86.02	86.96
Wind	94.36	96.84
Total	90.53	91.03

Information on the availability factors in the various countries is described in Annex 3 Supplementary Information.

Access to adequate information

Contribution to SDGs of the performance described by the indicators of this section

(according to SDG Compass www.sdgcompass.org)



Management approach

Apart from commercial information, the safety of users of the electricity grid or the promotion of the efficient use of energy is an on-going concern at the companies of the group. To progress in all these areas, information and training plans, programmes and activities are developed in each geographic area.

Accessibility of information

The Iberdrola group's distribution and supply companies develop various initiatives to make communication with customers having specific difficulties, whether idiomatic or sensory, simpler and more agile. With these

services, Iberdrola puts into practice its policy to guarantee equality of opportunity, non-discrimination and universal accessibility, within the framework of its focus on social responsibility, especially with respect to disadvantaged groups. This initiative is also due to the company's commitment to offer individualised services covering the needs of all customers.

For the last 5 years, Iberdrola has been the only company in the energy industry in Spain that has offered sign language video-interpreting in its customer service area. And Iberdrola continues to offer this service to its customers thanks to the collaboration initiative with Fundación CNSE that began in 2012, and that was renewed in 2017. In this way, persons who are deaf or hard of hearing can contact the company through sign language interpreters, the application of which is available on the customer website and is also included in a tool for the exchange of written messages. Furthermore, the website and the Virtual Office of the customer are available in Spanish, Basque (Euskera) and English. Invoices are currently issued in ten languages: Spanish, English, Italian, German, French and Portuguese and the regional languages Valencian, Basque (Euskera), Gallego and Catalan.

The Accessibility Certificate issued by Ilunion Tecnología y Accessibilidad was renewed for the corporate website in 2017, proof of its commitment and of the work of auditing, consulting and certification of both the corporate and customer websites, and is available at [Accessibility Certificate](#). It thus complies with the Web Content Accessibility Guidelines 2.0 of the W3C (World Wide Web Consortium), as well as the requirements to satisfy the UNE 139803:2012 Standard governing the degree of accessibility applicable to the websites of public utilities. Audits are performed on a half-yearly basis to ensure that the website meets the relevant requirements. Ilunion has also given Iberdrola an additional award for its efforts in the area of universal accessibility and service to disabled persons ([see Accessibility diploma](#)).

Finally, Iberdrola promotes information and training campaigns regarding safety and energy saving measures amongst disabled groups and underprivileged groups or those at risk of social exclusion, in order to contribute to the equality of these persons, removing barriers to communication.

In the United Kingdom, ScottishPower provides the necessary mechanisms to communicate effectively with customers who choose Welsh as the language in which they wish to receive service. There is a translation service to facilitate communications in cases where customers find it difficult to make themselves understood in English. In addition, the *Carefree Scheme* offers a variety of additional services to customers who are visually or hearing impaired, suffer from chronic illness or are over sixty years old. This service includes the provision of bills in Braille, large print, compact disc and audio cassette format. ScottishPower offers multiple alternatives so that customers with hearing or speech difficulties can communicate without needing to call: changing account details through the website, chat function on the website itself, Facebook Messenger for private communications, e-mail, etc. With the new *Next Generation Text Services (NGTS)* initiative, the company also offers a range of tools and services that can help customers with difficulties to call using a smart phone, tablet or computer.

In the United States, the companies CMP and NYSEG have a special communication service for hearing-impaired people called *Telecommunication Device for the Deaf (TDD/TYY)*, to facilitate communication through written messages and *Telecommunication Relay Service for Hearing Impaired-711* through which users can make 711 calls from any telephone in each state of the United States, without needing to remember area codes. NYSEG also provides special printed invoices for visually-impaired customers, as well as the ability to designate a third person at NYSEG to receive important notices, called *Third Party Notification*. There is also a service to help people with special needs and advise them on choosing services that might be useful. CMP and RG&E also make interpreters available for persons who request information in a language other than English.

In Brazil, Neoenergia develops improvements in physical accessibility at customer service locations and preferential treatment for persons with different abilities. They also implement programmes to provide service, information and access to billing to persons with visual and hearing impairments, which include: accessible websites, bills in Braille, a dedicated phone line for service to those with hearing or speech problems, special documentation and signage, and the availability of employees trained in sign language.

Education in the safe use of electricity

Through the group's websites, Iberdrola makes available to consumers recommendations and information available to consumers regarding the [safe use of electricity and gas](#), as well as guidelines to follow in case of an electrical accident. They also publish informational booklets regarding the potential risks of electricity affecting the proper use thereof.

In Spain, Iberdrola promotes informational and educational campaigns on safety measures and energy saving directed towards the general public. It also offers its customers products and services that provide additional safety in the home or business. It also collaborates with consumer associations and special groups in order to contribute to communication on matters relating to safety, training and education. Iberdrola also spreads information messages regarding safety and energy savings via its customer profile on Twitter (@Tulberdrola).

Two new services were launched in Spain during 2017: *Air-Conditioning Protection* and *Home Electrical Protection Plus*. Also noteworthy is the entry into the Italian residential market, with the launch of two services for the home: *Electricity Maintenance Service* and *Gas Maintenance Service*, focused on emergency breakdown assistance within three hours and the performance of small electricity or gas jobs, respectively.

In the United Kingdom, ScottishPower has maintained its [PowerWise](#) program regarding electrical safety for parents, teachers and students, with 25,708 visits in 2017. It has also continued with extensive campaigns to promote electrical safety, with programmes such as children's visits to *DangerPoint* in Northern Wales and *The Risk Factory* in Edinburgh, with a total of 16,435 visits. Further, 9,768 children also attended the *Crucial Crew* event, 190,028 attended the *Royal Highland Show*, 80,000 attended the *Cheshire Show* and 55,000 the *Anglesey Show*, especially dedicated to farm workers and their families. ScottishPower also has the *Stayenergysafe* service in order to inform the public about energy-related crime and the risks it involves.

In the United States, information and recommendations are provided regarding how to act in an emergency, such as adverse weather conditions, poisoning or health risks, as well as [safety advice](#) in case of storms or outages causing lines or equipment to fall. In addition, CMP has launched an *Outreach Campaign* targeting at-risk groups such as school children, safety personnel, contractors and emergency personnel.

In Brazil, the companies of the Neoenergia group provide this information on the bill, in customer service areas, through conferences on the proper use of electricity and building safety, messages on the website, on social media, and while on hold with the call centre, so as to reach all consumers, in addition to awareness-raising campaigns. In 2017 the *Ecoteca* project was rolled out in inland cities, with safety-related games.

Specific topics of the Iberdrola group

Iberdrola and the Global Compact

Management approach

Iberdrola has been a member of the Global Compact since 2002, undertaking to support, promote and disseminate its ten principles regarding human rights, labour practices, the environment and the fight against corruption, both internally and within its area of influence. During these years, the company has continued to further develop the policies and practices proposed by the Compact, which it has made public through its annual *Sustainability Report* and its corporate website.

Since 2004, as a founding member, the company has belonged to the Asociación Española del Pacto Mundial (Spanish Global Compact Association) (Asepam), now re-named the Red Española del Pacto Mundial (Spanish Global Compact Network) and has prepared progress reports on compliance with the principles of the Compact, which are publicly available both on the website of the Red Española del Pacto Mundial and on the Global Compact website

During 2017, Iberdrola took in the following actions in connection with the Global Compact:

- Submission of the Progress Report 2016 on compliance with the principles of the Compact, rated at the highest level for this type of report ("GC Advanced").
- Attendance at the 2017 General Assembly of the Red Española.
- Iberdrola and the Red Española del Pacto Mundial have developed the *Moving for Climate NOW* initiative, within the framework of the COP23 Climate Summit held in Bonn in November 2017. The goal of the initiative is to transmit to society the urgency of fighting climate change, the need to join forces from all areas, and the requirement for ambitious and immediate action. The event, which was included in the official programme of the COP23 Summit, consisted of an almost 800 kilometre bicycle route between Paris and Bonn.
- Iberdrola participated with the Global Compact on numerous initiatives to promote and develop the Sustainable Development Goals, including topic support for the preparation of the book *SDGs Year 2: Analysis, trends and business leadership*.

As mentioned above, Iberdrola has linked the SDGs to its business strategy, and actively works with the Global Compact for the achievement thereof within its scope of activities.

In 2018, Iberdrola plans to actively participate in the activities of the Red Española del Pacto Mundial in a manner similar to the past year.

Iberdrola's contribution to the community

Social actions, in cooperation with governmental and civil society organisations, constitute a significant part of Iberdrola's commitment to the community. Detailed information on such actions can be obtained both from the published reports and from the corporate websites of Iberdrola's subsidiaries in Spain, the United Kingdom, the United States, Mexico and Brazil.

Rural electrification programmes in Brazil are also particularly worthy of note. The Brazilian companies of the group have continued to develop such programmes, undertaken jointly with government entities, with the goal of extending the electricity infrastructures in order to facilitate economic and social development and minimise inequalities among the various regions and between rural and urban areas. These programmes represent a fundamental component for development of the most disadvantaged sectors of Brazil's population.

1.- Dedicated resources



Iberdrola has selected the *London Benchmarking Group* (LBG) model to measure and assess business contributions to the community due to its wide international recognition. It is regarded as the most highly-valued standard for measuring the results and impacts of social programmes, both for the company and for the community.

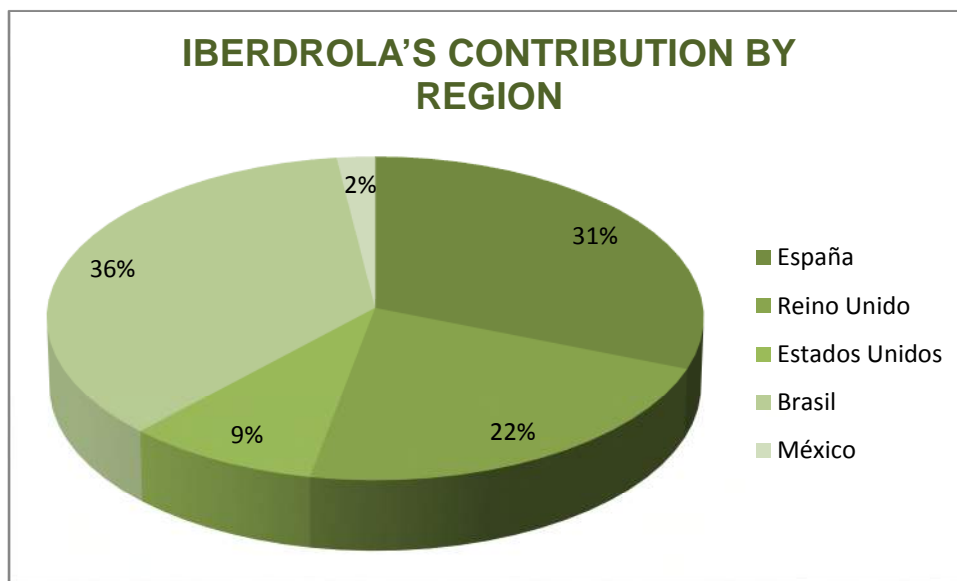
A detailed description of the LBG model can be found at the www.lbg.es.

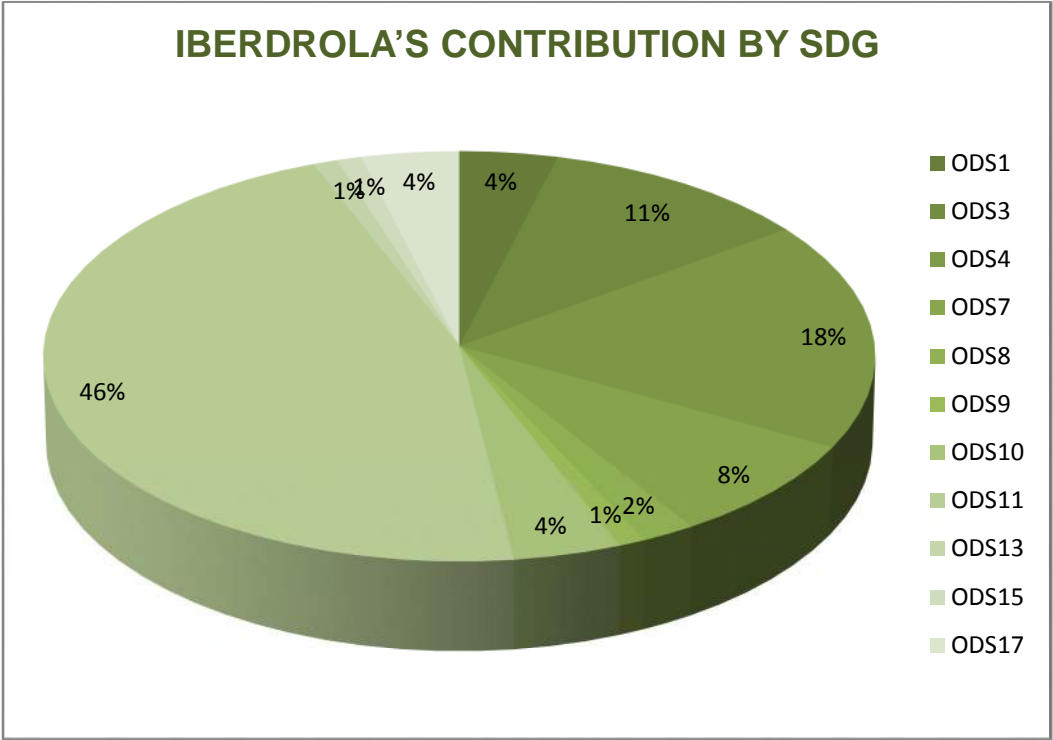
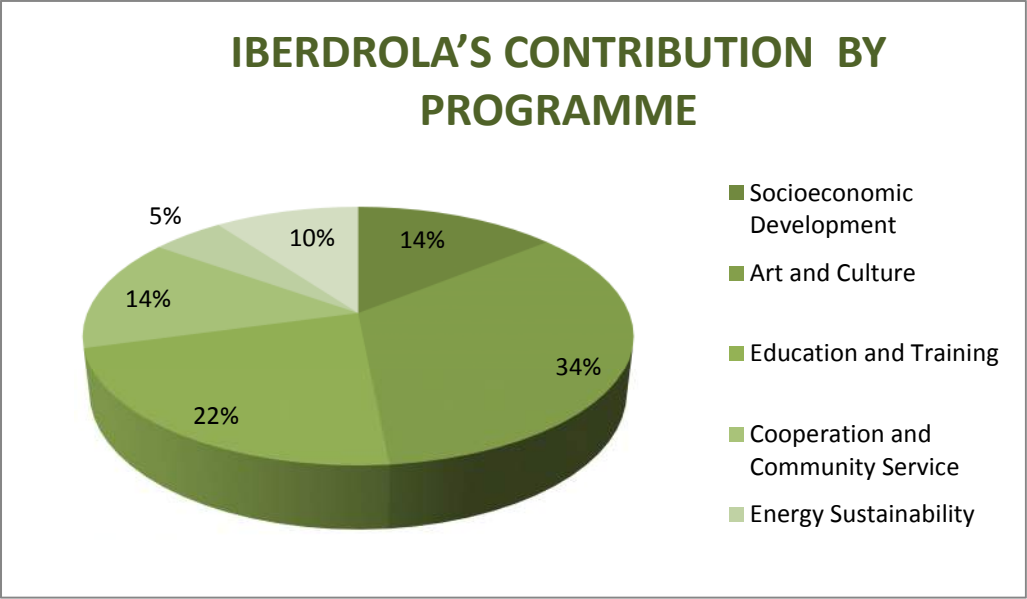
Iberdrola has used the LBG model to report its contributions to society in this *Sustainability Report* for financial year 2017.

Contribution to the community in 2017		(€ thousands)
By category		
- Specific contributions		9,346
- Community investment		43,460
➤ Socioeconomic development of the community		
➤ Energy sustainability		
➤ Art and culture		
➤ Education and training		
➤ Cooperation and community service		
- Commercial initiatives in the community		7,329
- Management costs		2,835
By type of contribution		
- Cash contributions		58,954
- Staff time		214
- In-kind contributions		967
- Management costs		2,835
By Sustainable Development Goals (SDGs)⁸³		

⁸³ The breakdown of contributions to the community by SDG covers 95% of the figure reported, as it is not in all cases possible to establish a link between the initiatives and their contribution to an SDG.

- 1. End poverty	2,323
- 2. Zero hunger	16
- 3. Good health and well-being	6,379
- 4. Quality education	10,700
- 5. Gender equality	18
- 6. Clean water and sanitation	11
- 7. Affordable and clean energy	4,795
- 8. Decent work and economic growth	1,374
- 9. Industry, innovation and infrastructure	665
- 10. Reduced inequalities	2,573
- 11. Sustainable cities and communities	27,253
- 12. Responsible consumption and production	79
- 13. Climate action	710
- 14. Life below water	84
- 15. Life on land	634
- 16. Peace, justice and strong institutions	27
- 17. Partnerships for the goals	2,228
Report boundary	62,970





In addition, the aggregate funds allocated to rural electrification programmes in Brazil represented a total of 278.2 million euros on a consolidated basis for the group.

Electrification programmes 2017	(€ thousands)
Neoenergia	278,148

2.- Outputs and impacts

Benefits for society

Iberdrola has been measuring the results achieved by its community support programmes using various parameters. Iberdrola's foundations are applying a methodology adapted from LBG to measure outputs and impacts for its most important programmes and projects.

In 2017, Iberdrola's foundations extended the application of this methodology to a total of 510 projects in Spain, the United Kingdom, the United States, Brazil and Mexico, resulting in a total investment of 13.5 million euros, with more than 220,000 direct beneficiaries as well as more than 5 million indirect beneficiaries. Other notable achievements have been funding the award of 176 scholarships and research grants.

The programmes are divided into the principal areas of activity of Iberdrola's Foundations:

- **Training and Research:** the main goals include contributing to the training of a new generation of professionals able to drive transformation toward a sustainable energy model, with more than 6.4 million euros of investment.
- **Biodiversity:** supporting conservation programmes for endangered species and the restoration of protected habitats, with more than 600,000 euros of investment.
- **Art and Culture:** promoting culture, with particular attention to the care and maintenance of diversity, uniqueness and cultural and artistic wealth, with 1.3 million euros of investment.
- **Cooperation and Community Service:** actively contributing to the improvement of the quality of life of the most vulnerable people and groups, and to social and labour inclusion, with 3.8 million euros of investment.

The charts below show the results and achievements globally and by country during 2017:

Foundations of the companies of the Iberdrola group – Results in areas of activity in 2017 (€)



The results and achievements by country is available in Annex 3 Supplementary Information.

Benefits for the company

Iberdrola believes that the main benefits that it obtains from its commitment to society are:

- Building and reinforcing relationships of trust with communities, through the support of social organisations and national, regional and local governments, which has a favourable impact on relations with all of the Stakeholders.
- Achieving higher brand recognition and improving its corporate reputation.
- Improving employee satisfaction, by their belonging to a socially valued and recognised company, which favours the attraction and retention of talent.

3.- Corporate volunteering programme

The Iberdrola group offers its workforce various volunteering opportunities within the framework of its Corporate Volunteering Programme. This Programme, which was launched in 2006, is a global and international project aligned with the values of the group and its *Sustainability Policy*, which is intended to channel the community service spirit of employees and motivate them to participate in social projects aimed at the integration of vulnerable groups, improving the environment and sustainable development.

The Programme is aligned with the Sustainable Development Goals, defined by the United Nations for the 2015-2030 horizon, and especially focused on goals 3 (good health and well-being), 4 (quality education), 7 (affordable and clean energy), 10 (reduced inequalities) and 13 (climate action). It should be noted that

Iberdrola has joined IMPACT 2030, an initiative launched by the private sector in collaboration with the United Nations, civil society, the academic world and other Stakeholders to strategically mobilise corporate volunteerism towards the SDGs.

Some of the more noteworthy [corporate volunteering](#) initiatives carried out in 2017 were the following:

- The sixth edition of the global INVOLVE (International Volunteering for Education) project, which offers training in new technologies to youths at risk of social exclusion, with a two-week stay of a team of volunteers from Spain, the United Kingdom, the United States, Brazil and Mexico. This year INVOLVE has been recognised by CEMEFI (*Centro Mexicano para la Filantropía*, or Mexican Philanthropy Centre) as one of the best Business Social Responsibility practices, being a finalist in the Corporate Volunteerism category.
- National and international volunteerism days were organised, among which particularly worth noting is the “International Volunteerism Day” held simultaneously in Spain, the United Kingdom, the United States, Mexico, Brazil and Mexico, and this year has had more than 1,300 simultaneous participants in the more than 60 simultaneous activities. “Volunteerism Days” were also held in Spain, with games and sports days to encourage the normalisation and integration of persons with functional diversity.
- Cooperation initiatives for development in African countries, within the framework of the *Electricity for All* programme, and its public-private cooperation project to improve electric power supply at several refugee camps in Ethiopia. Added to this was the *Know your Laws* programme for the integration of immigrants by means of courses offered by employees of the company who are experts in law, and “Lights... and Action!” together with Fundación Tomillo to provide energy efficiency training and develop the employability of youths from disadvantaged environments, which this year is international in nature with the inclusion of volunteers from ScottishPower.
- Launch in Spain and Mexico of the volunteer project *Fight against Climate Change*, to raise awareness regarding this problem among 9,830 children at 101 centres. This activity was supplemented with the donation of the bicycles accompanying the expeditions to the latest climate conferences held in Paris and Marrakesh, which were delivered to the Ciudad Escuela Muchachos (CEMU) and to the entity Entraide Nationale. Not to mention the continuation of environmental activities like the 10th Tree Day for the creation of the “Iberdrola Forest”, reforestation workshops in several countries and several popular races or competitions for different social and environmental purposes.
- The Iberdrola “Operation Kilo” campaign allowed for the collection of 4,700 kg of basic foodstuffs and children’s products at work centres in Spain, with the cooperation of social organisations. The activity has been supplemented with volunteer activities at charity canteens and the delivery of food to homeless persons, for the goal of Zero Hunger. At the same time, Iberdrola cooperated with several entities such as Unicef, Aldeas Infantiles and Federación Española de Bancos de Alimentos. The *Smile for Christmas* campaign was also held to deliver Epiphany presents to children in situations of vulnerability.
- Launch of the *Solidarity Recycling* project at various corporate offices combining solidarity and environmental ends, by giving new life to unused household objects.
- Volunteer support for the Spanish Cancer Association in organising its marches against cancer.
- The volunteer activity of the “Iberdrola with Refugees” programme has continued, contributing to the opening of four Integration Schools in which approximately 140 refugees have been able to benefit from digital tools workshops, as well as training in the Spanish language and adaptation to their surroundings, among other aspects.
- In the context of International Women’s Day, volunteer activities have been carried out with inmates in the women’s wing of the Alcalá-Meco prison and with women with intellectual disabilities.

- For the first time, Iberdrola's Volunteering Programme joined the Give & Gain initiative, International Corporate Volunteering Week, with various activities to raise visibility and encourage the role of corporate volunteerism as an agent for social change. The company also participates in the main volunteerism working groups and international associations such as Even, Voluntare, IAVE, IMPACT 2030, etc.
- To provide support regarding the natural disasters that occurred during 2017, the company's has helped with financial and material resources for various social entities to alleviate the damage caused by the hurricanes Harvey, Irma and Maria, which strongly hit the states of Texas and Florida and the island of Puerto Rico, as well as the damage suffered from the September earthquakes in Mexico. Volunteers from Mexico City organised healthcare supplies to provide first aid to those affected by the earthquakes through the Mexican Red Cross, and the company's volunteers in Oaxaca participated in that region by delivering water bottles and dispensers.
- The company also sent to Puerto Rico a group of a volunteer employees from Avangrid who are grid experts in order to re-establish electricity supply, which was seriously affected by Hurricane Maria, as part of an initiative sponsored by the New York Power Authority.
- The *Volunteer Portal* continues to be the meeting point for all professionals of the group interested in social and community service actions, using a global and trilingual website. The *Volunteerism Newsletter* has provided weekly information on activities.

4.- Iberdrola Foundations

[ScottishPower Foundation](#), [Avangrid Foundation](#), [Fundación Iberdrola México](#), Instituto Neoenergia and [Fundación Iberdrola España](#) represent Iberdrola's commitment to the economic and social development of the countries in which it does business. The Foundations of Iberdrola, working with well-known social organisations and institutions, support social, cultural and environmental initiatives intended to contribute to social progress and improve the quality of life of the most vulnerable.

a) Training and research area

Fundación Iberdrola's *Scholarship and Research Aid Programme in Energy and Environmental Research* grants Master's scholarships each year in energy and environmental research in Spain, the United Kingdom, the United States, Mexico and Brazil, as well as research grants in Spain. This programme seeks to achieve excellence in applied higher training, in order to train high-level professionals capable of contributing to meeting the energy demands of the population and the protection of the environment, with a complete and global concept of sustainability. A total of 146 scholarships for master's degrees in energy and environment, preservation and restoration, research grants, and Fulbright and Fundación Carolina scholarships were awarded in 2017. In December 2017 the *Presentation of Diplomas* took place at the company's offices in Madrid, and the students and the chairman & CEO of Iberdrola, Ignacio S. Galán, were then received at the La Zarzuela Palace by H. M. the King of Spain.

Another initiative of the Foundation in Spain is the *English Language Training Programme* through immersion courses for students with limited financial resources and professors using the available facilities of the company to the extent possible during holiday periods. In 2017 there were courses in four Autonomous Communities with the participation of 140 students and 32 professors.

At the foundations in the United Kingdom and the United States, there were programmes of collaboration with local universities for the professional training of technicians and youth, as well as support for innovation projects and educational programmes of research and training centres for vulnerable groups.

Fundación Iberdrola México has a programme of collaboration with the Tecnológico de Monterrey university at its Altamira campus for the education of low-income youth in bachelor's and engineering degrees.

b) Biodiversity area

Fundación Iberdrola España collaborated on the *Bird Migration Scheme (Programa de migración de las aves)* (MIGRA), with the tagging of 83 new specimens with GPS transmitters. All information regarding 809 birds of 28 species can be found at www.migraciondeaves.org. The first case study on the migrations of the booted eagle was published in 2017; this is a scientific document prepared based on data provided by the Scheme. The Foundation in Spain also collaborates on a project for the preservation and improvement of habitats in the Tagus International Nature Reserve to encourage the conservation of steppeland birds. In the area of awareness-raising and the fight against climate change, there have been a number of conferences in collaboration with the AISEC Association entitled *What's happening with the climate?* (*¿Que sucede con el clima?*) and informational workshops of the G2020 Association.

In the United Kingdom, collaboration has continued through ScottishPower Foundation with the Young Scots Climate 2050 programme to train future environmental leaders. 129 youth have developed leadership skills in areas like climate change and sustainability.

In the United States, various collaborations have been carried out through the Avangrid Foundation with environmental institutions, scientific museums and centres, including projects dedicated to the efficient use of energy, promotion of electrical vehicles and smart communities, efficient and sustainable construction and projects to improve marine and river habitats and for the conservation of birds. These include special collaborations with the leading research institute the Peabody Museum and the Museum of Natural History at Yale.

Instituto Neoenergia of Brazil has continued to work with the Flyways projects, involving census work relating to wading birds at risk of extinction. Together with IPEMA (*Instituto de Permacultura y Ecoaldeas de la Mata Atlántica*, or Atlantic Forest Permaculture and Ecovillage Institute), there has also been work on the project *Eco Citizen: building a sustainable future*, with free courses for the training of professionals in sustainable construction through the use of new technologies. 2017 also marked the end of the *Cuida Colmena* (Beehive Care) project, dedicated to the conservation of bees and to encouraging productive projects for a hundred children at risk of social exclusion.

In Mexico, support activities have continued for the *Let's clean the world (Limpiemos el mundo)* campaign in the municipality of La Laguna, and there has been promotion of a new project called *Felino* to protect animals in danger of extinction.

c) Art and culture area

Iberdrola's commitment to the promotion of art focuses on the area of preservation and restoration of cultural heritage, including specific activities in order for these projects to drive local development and sustainable tourism.

The Iberdrola Restoration Programme in Spain supports the workshops of the Prado and Bilbao Fine Arts Museums. In the case of the Prado Museum, in 2017 there was a study and restoration of 276 works, including the painting *Philip II offering the Infante don Ferdinand to Victory* by Tiziano and the *Demetrio Poliorcetes monumental Hellenistic bronze*. The Workshop of the Bilbao Fine Arts Museum took on the restoration of a total of 13 works, with the most complex project being Chillida's *Meeting Place IV* sculpture. Restoration activities are rounded out with the preservation project of the Library of the Monastery of San

Millán de la Cogolla and the conclusion of participation in the last two Flemish tapestries from the collection of the Chapel of the College of the Patriarch (Valencia).

The *Atlantic Romanesque Plan* (www.romanicoatlantico.org) continued activities to improve Romanesque churches in the provinces of Salamanca and Zamora, as well as locations in Portugal. The most noteworthy interventions in Spain during 2017 were: Muga de Alba Church in Zamora and Church of San Martín and the Hermitage of Yecla de Yeltes, both in Salamanca. The Portuguese area has seen intervention in the Boticas and Guimaraes churches.

In 2017, within the framework of the *Exhibitions Programme*, the Foundation in Spain has worked with other museums like the Reina Sofía Museum in the exhibition of the *80th Anniversary of Picasso's Guernica* and the Sorolla Museum with *Sorolla in Paris*. Iberdrola joined in the celebration of the XX Anniversary of the Guggenheim Museum in Bilbao with the exhibition *Bill Viola: retrospective*, dedicated to the New York artist, a pioneer in the development of video art.

The goal of the Illumination Programme in Spain is to emphasise the value of historical and artistic heritage and promote local development, including new LED technology in lighting. 6 projects were completed in 2017, including: the renovation of the illumination of the Chapel of the Holy Chalice of the Cathedral of Valencia, a new exterior illumination of the Municipality of Irún, the 2nd Phase of the renovation of the rooms of the Museum of the Royal Academy of Fine Arts of San Fernando and the major "Lighting the Prado" project in the rooms of the Prado Museum. Work continues on another 5 projects that will be inaugurated in 2018.

In the United Kingdom, financed by the ScottishPower Foundation, 2017 saw a special collaboration to celebrate the 70th anniversary of the Llangollen International Musical Eisteddfod, with a project in which four choral and dance groups made up of vulnerable persons participated. The groups reflected the diversity of society in order to promote tolerance and plural coexistence through art and culture. The foundation also supports the National Museum of Scotland and the ScottishPower Pipe band.

In 2017, the ScottishPower Foundation received the Wales Arts & Business Award of the year for its continued support and promotion of art and culture.

The focus on art and culture as a driver of sustainable communities is a priority of the Avangrid Foundation in the United States, which continues to support restoration projects like the Eastman School of Music theatre in Rochester and other historic community theatres like the Augusta's Colonial Theater in Maine and the Convoy Theatre in Ohio. The goal is to help revitalise urban centres in a sustainable manner, while also contributing art and culture to communities in difficulty. Avangrid worked with multiple cultural institutions in 2017, including: Abyssinian Meeting House, Binghamton Philharmonic, Eastman Theatre, Maine Irish Heritage Center, Maine State Ballet, Memorial Art Gallery, Portland Museum of Art, Rochester International Jazz festival, Tompkins Country Library, Tri-cities Opera, etc. Other collaborative work includes support for the International Festival of Arts and Ideas and the Rochester Jazz Festival, among others.

In Brazil, the cultural activities of the foundations focused on continuing the project for the exterior illumination of the Fort of Five Points in Pernambuco, the inauguration of which is expected in 2018. Work is also proceeding on a project for the exterior illumination of the Barra Grande Fort, in Guarujá, on the Sao Paulo coast. The fort is the only Spanish building on the Brazilian coast, and hopes to be designated as a cultural heritage site by UNESCO.

Work in Mexico includes the Illumination Project of the National Art Museum (Munal) of Mexico City, which is intended to promote energy efficiency and contribute to the preservation of the works of this museum.

d) Cooperation and community service area

The Foundation in Spain has a *Social Programme* and a line of work in international cooperation. The *Social Programme* is intended to contribute to the improvement of the quality of life of the most vulnerable groups, with special attention on infants, youth and women. The programme works with non-profit entities that contribute to eradicating child poverty, promoting education as a useful tool for youth, encouraging the social inclusion of disabled persons and improving the quality of life of persons with serious illnesses and their families. 32 projects in various regions of Spain were supported in 2017, with an investment of more than one million euros, a positive impact on 45,000 beneficiaries, and the creation of one hundred direct jobs. The line of international cooperation supports projects that allow access to electricity and potable water in areas of extreme poverty or humanitarian emergency. In 2017 the Foundation joined the SHIRE Alliance, promoted by Universidad Politécnica de Madrid and made up of ACNUR and the EU, among others. This initiative is intended to provide electricity to common areas and schools in refugee camps during 2018.

The ScottishPower Foundation has promoted a dozen collaborations with social projects in the United Kingdom, prioritising programmes for persons with illnesses and their families. The music in the *Singing Together* programme was intended to reduce the isolation and loneliness experienced by hospitalised persons. Other noteworthy social projects would include the implementation of palliative care at leading hospitals, a rural transport service to help isolated communities access health services, and a mental health project for pregnant women and support for autism, among others.

The annual ScottishPower Foundation Awards were given in Glasgow on 7 November, awarding six well-known social and cultural institutions.

In the United States, the Avangrid Foundation worked with more than 60 social organisations during 2017, including: assistance funds for electricity supply and efficiency (*American Red Cross SHARE Heating Fund*, *Broome Country Habitat for Humanity*, *Working cities*, *Lifespan*, etc.), assistance in the fight against diseases such as heart cancer, heart disease, fibrosis and leukaemia, and social collaborations like *United Ways*, *Bike Coalition*, *Habitat for Humanity*, *Food processing*, *Kids First Center*, *Maine General Hospital*, etc.

In Mexico, there is an educational infrastructure project, which during 2017 engaged in social support activities at 9 school and old-age centres, improving the facilities. In addition, the company collaborated with other social entities like: Civil Protection, the Fire Brigade, the Red Cross and the Down Syndrome Foundation, among others. After the earthquake suffered in various areas of the country, the Foundation in Mexico mobilised the donation of funds for this humanitarian emergency. The funds were used to obtain medicine for the affected victims, removal of rubble, paving, reconstruction and expansion of the sewerage network, expansion and reconstruction of the potable water network, and construction of roofs for social infrastructure, etc.

During 2017, Fundación Iberdrola México and España collaborated together in the project for electrification and potable water in the rural community of Catecas Altas in the State of Oaxaca (Mexico). This initiative, included in Iberdrola's *Electricity for all* programme, was developed by Energía sin Fronteras and Save the Children. The first phase consisted of identifying needs, a feasibility study and a participative process with the affected communities. Work has since been performed on the project and the various activities thereof in the area of electrification, improvement of electrical infrastructure, and provision of water in basic community centres.

Instituto Neoenergia in Brazil supported social projects in the areas around the facilities. In addition to promoting the social development of the communities, there were also activities to protect the environment. Another significant social initiative is the collaboration on the “*Brilliant Minds*” project, which consists of supporting the most vulnerable students of the public teaching network of three cities. These students are highly qualified, and the activities are focused on guidance and counselling.

e) Institutional cooperation and new *Master Plan*

Finally, the Foundations collaborate with other cultural institutions in all countries on specific social, scientific and cooperation projects.

In December 2017 the Foundations Committee approved a new *Master Plan* for the 2018-2021 period. This is a guideline for all the foundations that commits to helping reach the specific SDGs and strengthen the transformative focus of social action by foundations, which is representative for Iberdrola’s Stakeholders and relevant for society in general.

5.- *Electricity for All* programme

The Sustainable Development Goals (SDGs) 2015-2030, to which Iberdrola has linked its business strategy, define universal access to energy as essential and frame sustainable energy as an opportunity that transforms life, the economy and the planet. To meet the challenges and opportunities currently faced by the world, energy has a central role, whether to foment employment, safety, climate change, food production or to increase income.

A lack of access to the supply of energy is an obstacle to human and economic development. The [*Electricity for All*](#) programme is Iberdrola’s response to the call of the international community to ensure universal access to energy services that are accessible, reliable and modern, focused on sustainable electrification activities, linking the purpose thereof to SDG 7.1.

The company has set itself the goal of reaching four million beneficiaries of the *Electricity for All* programme by 2020. Iberdrola announced this goal at the UN SE4ALL Forum held in New York in May 2015. There are 3.9 million beneficiaries of the *Electricity for All* 2014-2017 programme with 3 areas of activity:

- Financing of projects through capital investment, using the PERSEO investment fund. This includes the investment in September 2017 in the Mexican company Ilum México, which promotes solar projects in disadvantaged areas. Ilum México, created in 2009, carries out programmes of illumination and electrification of homes, schools and clinics, and training in rural areas of the country. To date, 9,700 solar systems have already been installed, with more than 40,000 users, avoiding the emission of 5,000 tonnes of CO₂.
- Activities with a social impact: investments promoted by businesses in the countries in which Iberdrola has a presence. This is the case with the *Light for All* Programme of the distribution companies in north-eastern Brazil.
- It develops projects with a high social component, through NGOs and corporate volunteers.

Iberdrola, promoting women's sports in Spain

During 2017 Iberdrola continued to support the [Women, health and sport](#) initiative, the principal goals of which consist of driving the success and practice of women's sport, promoting gender equality and fostering healthy habits from a young age. The company has thus become the main driver behind the "Universal Woman" programme of the Higher Council for Sport (*Consejo Superior de Deportes*) (CSD), placing it in the vanguard of backing for women's sport. Iberdrola was the first company in Spain to make a global commitment to promoting the participation of women in all areas of sport.



Within this context, Iberdrola has recently renewed its commitment to support the various national federations, including:

- By promoting and increasing female participation in all areas of sport.
- By the existence of programmes to promote sport at the grassroots level and other social projects.
- By its extraordinary level of success achieved and high participation rate.

During 2017 Iberdrola continued to support rhythmic gymnastics, triathlon, swimming, rugby, canoeing, badminton, football, handball, volleyball, athletics, boxing, ice sports, hockey, karate, table tennis and water polo. Together with each of the federations, Iberdrola also supports activities to promote women's sport like educational campaigns at high schools and national competitions.

Moreover, in 2017 there were seven more stages of the *Women, energy and sport tour* consisting of a tour around various Spanish cities, which will continue during 2018 with the aim of promoting women's sport and transmitting the concepts of effort and improvement via the practice and exhibition of various disciplines.

In short, through the *Women, health and sport* initiative, Iberdrola reinforces its commitment to the promotion of talent, effective equality and social development, which form part of the company's key pillars. Its support for values such as teamwork and overcoming challenges materialises through various projects with the aim of reinforcing the social and cultural dimension of sport and activating support for women's sport.

Annexes

Annex 1: Content Index in Relation to the Principles of the Global Compact



























Annex 2: Report on *green* financing returns

Annex 3: Information Supplementary to the Sustainability Report

Annex 1:

Content index in relation to the Principles of the Global Compact

The table below shows the GRI indicators of this report that offer more relevant information on compliance with the 10 Principles of the Global Compact, as well as the content of the management approaches to each GRI aspect. Using the table's index, each Stakeholder can assess the level of Iberdrola's advancement with respect to each of such principles:

Issue	Global Compact Principles	Most relevant GRI Standards Indicators	Related SDGs
Human Rights	Principle 1. Businesses should support and respect the protection of internationally proclaimed human rights.	410-1 to 412-1, 412-2, 413-1, 413-2	 
			 
			 
	Principle 2. Businesses should make sure they are not complicit in human rights abuses.	412-3, 414-1, 414-2	 
			 
			 
Labour Rules	Principle 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	102-41, 407-1, 402-1	 
	Principle 4. Businesses should uphold the elimination of all forms of forced and compulsory labour.	409-1	 
	Principle 5. Businesses should uphold the effective abolition of child labour.	408-1	 
	Principle 6. Businesses should uphold the elimination of discrimination in respect of employment and occupation.	102-8, 202-1, 202-2, 401-1, 401-3, 404-1, 404-3, 405-2, 406-1	 
Environment	Principle 7. Businesses should support a precautionary approach to environmental challenges.	201-2, 301-1, 302-1, 303-1, 305-1 to 305-3, 305-6, 305-7	 
	Principle 8. Businesses should undertake initiatives to promote greater environmental responsibility.	301-1 to 308-2	 
	Principle 9. Businesses should encourage the development and diffusion of environmentally friendly technologies.	302-4, 302-5, 305-5	 

Anti-corruption

Principle 10. Businesses should work against corruption in all its forms, including extortion and bribery.

102-16, 102-17
205-1 to 205-3, 415-1



Annex 2:

Report on *green* financing returns

Iberdrola has issued a total of 8 *green* bonds. The issue dates, as well as the principal characteristics thereof, are as follows:

Green bonds							
ISIN	Issue date	Issuer	Public / Private	Senior / Subordinate	Face value (€ millions)	Maturity	Coupon
XS1057055060	24-Apr-14	Iberdrola International	Public	Senior	750	Oct-22	2.50%
XS1398476793	21 Apr-16	Iberdrola International	Public	Senior	1,000	Apr-26	1.13%
XS1490726590	15-Sep-16	Iberdrola International	Public	Senior	700	Sep-25	0.38%
XS1527758145	07-Dec-16	Iberdrola Finanzas	Public	Senior	750	Mar-24	1%
XS1564443759	20-Feb-2017 (extended on 22-Jun-2017)	Iberdrola Finanzas	Private	Senior	250	Feb-24	Euribor 3 M + 0.67%
XS1575444622	07-Mar-17	Iberdrola Finanzas	Public	Senior	1,000	Mar-15	1%
XS1682538183	06-Sep-17	Iberdrola Finanzas	Public	Senior	750	Sep-27	1.25%
XS1721244371	22-Nov-17	Iberdrola International	Public	Subordinate	1,000	Perpetual	1.875%

In November 2017 Iberdrola also issued a *green bond* in the U.S. market through its subsidiary Avangrid in the amount of 600 million U.S. dollars, with a coupon of 3.15%. Information on the projects receiving the proceeds of this bond, as well as the environmental benefits achieved therefrom, are described in Avangrid's [Sustainability Report 2017](#).

The proceeds of all of these transactions have been used to fund the refinancing of investments in projects that met certain environmental and social responsibility criteria validated both by Iberdrola and subsequently by VigeoEiris (an independent entity). These projects are mainly within the area of renewable energy

Iberdrola used VigeoEiris as an independent expert in validating the “green” nature of its bonds. VigeoEiris issues its rating of the issuer not only with respect to the management of the selected projects, but also regarding its general environmental commitments and the social responsibility that it implements in the ordinary course of its business.

The methodology followed for the assignment of the various projects to different transactions is described in the document [Iberdrola Framework for green financing](#) (the “**Framework**”), which has been verified by PriceWaterhouseCoopers Auditores, who also verify this *Sustainability Report*. The principal sections contemplated in the *Framework* are described below.

1. Use of funds

The proceeds from the various *green* financing instruments are used to finance or refinance *Eligible Green Projects*.

Consistent with the *Green Bond Principles*, Iberdrola considers *Eligible Green Projects* to be those that meet the Eligibility Standards described in the Framework.

2. Evaluation and selection of the project

The Green Financing Committee selects and evaluates projects that are susceptible to (re)financing by *green* instruments. This selection and evaluation process is performed in 5 phases described in the Framework.

3. Management of funds

The proceeds from the *green* financing instruments will be managed based on the phase of development and expense incurred in the selected assets or projects. Therefore, Iberdrola distinguishes between two types: refinancing of projects in operation and (re)financing of projects under development.

4. Reporting

Iberdrola commits to report annually until the maturity date of each of the *green* bonds or *green* financing instruments.

5. External assurance

The *green* financing issued by Iberdrola is supported by three external reviews, depending on the type of instrument.

In the first bond, issued in 2014, the eligible projects were reviewed by VigeoEiris using an analysis of a sample that covered approximately 50% of the nominal value of the financing obtained. In subsequent bonds, the complete inventory of assigned assets was provided for review. On all occasions, VigeoEiris also performed an analysis classifying Iberdrola's sustainability policies and practices, finding that the required standards were met with a level of security that was more than satisfactory.

The conclusions of VigeoEiris, including the controversies identified in the issue of *green* bonds, together with the eligibility standards, are described in the *Second Party Opinion* corresponding to each *green* bond. This information is available in the [Green Bonds](#) section of the corporate website.

Report on returns

The structure of this report on returns is grouped by benefits and indicators for each issue, so that investors can know the impact of the projects financed by each of them.

➤ **April 2014 Bond (ISIN code XS1057055060)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW) ⁸⁴
Distribution	Networks	Renewable generation connection in Scotland	United Kingdom	2011-2016	N/A	N/A
Distribution	Networks	Strengthen international connection in Scotland	United Kingdom	2011-2016	N/A	N/A
Distribution	Networks	Castile-La Mancha photovoltaic connection plan	Spain	2011-2014	N/A	N/A
Distribution/Smart grids	Networks	STAR project	Spain	2011-2018	N/A	N/A
Renewables	Onshore wind	Pico Collalbas	Spain	2006	30	30
Renewables	Onshore wind	Carrascosa	Spain	2006	38	25
Renewables	Onshore wind	Sierra Menera	Spain	2006	40	40
Renewables	Onshore wind	Clares	Spain	2006	32	32
Renewables	Onshore wind	Escalón	Spain	2006	30	17
Renewables	Onshore wind	Tarayuela	Spain	2006	30	20
Renewables	Onshore wind	Morón de Almazán	Spain	2006	50	15
Renewables	Onshore wind	Los Campillos	Spain	2006	34	26
Renewables	Onshore wind	Dólar I	Spain	2006	49	22
Renewables	Onshore wind	Dólar III	Spain	2006	49	8
Renewables	Onshore wind	Doña Benita	Spain	2006	32	0
Renewables	Onshore wind	Ferreira II	Spain	2006	49	7
Renewables	Onshore wind	Hueneja	Spain	2006	49	8
Renewables	Onshore wind	Sil Expansion	Spain	2006	40	8
Renewables	Onshore wind	O Vieiro	Spain	2006	20	1
Renewables	Onshore wind	Luzón-Norte	Spain	2006	38	9
Renewables	Onshore wind	Bordecorex Norte	Spain	2006	44	7
Renewables	Onshore wind	Cerro Blanco	Spain	2006	42	6
Renewables	Onshore wind	Grijota	Spain	2006	5	5
Renewables	Onshore wind	Cabezuelo	Spain	2006	30	17
Renewables	Onshore wind	Mark Hill	United Kingdom	2011	56	14
Renewables	Onshore wind	Collados	Spain	2011	11	10
Renewables	Onshore wind	Fuentesalada	Spain	2011	46	44
Renewables	Onshore wind	Cruz de Carrutero	Spain	2011	40	32
Renewables	Onshore wind	Cabras	Spain	2012	22	22
Renewables	Onshore wind	Ventosa del Ducado	Spain	2012	44	0
Renewables	Onshore wind	Layna	Spain	2012	50	50

⁸⁴ Installed capacities attributable to each Green Bond take into account the proportion represented by the allocated amount of the total investment in each of them.

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Distribution	94
Distribution/Smart grids	80
Renewables	576
TOTAL	750

▪ **Sustainability indicators in the area of distribution**

Name of project	Increase in capacity within the horizon of the investment plan (MW)
Renewable generation connection in Scotland	2,167
Strengthen international connection in Scotland	6,640
Castile-La Mancha photovoltaic connection plan	604

▪ **Sustainability indicators in the area of smart grids**

STAR Project	Status as of 2011 ⁸⁵	Status as of 2012
Smart meters (no.)	154,428	449,441
Smart meters installed (%)	1.44	4.16
Transformer centres adapted for remote management (no.)	583	2,692
Transformer centres adapted for remote management (%)	0.88	4.01

▪ **Sustainability indicators in the area of renewable energy⁸⁶**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm) ⁸⁷
474	944	245,471

⁸⁵ Takes data from 2011 and 2012 in order to allow for identification of profits from investments made.

⁸⁶ Emissions avoided take into account the percentage of production of each facility that corresponds to the percentage of the amount invested and installed capacity allocated to each *green* bond issue.

⁸⁷ Emissions avoided, reported throughout this Annex 2: *Report on green financing returns*, have been calculated as a product of 2017 production attributable to the bond and the emission factor for the country in which the assets are geographically located. Sources: REE for Spain (January 2018, 2017 mainland data), DEFRA for United Kingdom (September 2017) and World Energy Outlook EU for Portugal (November 2017).

➤ **April 2016 Bond (ISIN code XS1398476793)**▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Alvao	Portugal	2009	42	42
Renewables	Onshore wind	Puerto de Malaga	Spain	2008	12	12
Renewables	Onshore wind	Cortijo Linera	Spain	2008	28	28
Renewables	Onshore wind	Cabezas	Spain	2009	17	17
Renewables	Onshore wind	Centenar	Spain	2009	40	40
Renewables	Onshore wind	Majal Alto	Spain	2009	50	50
Renewables	Onshore wind	Retuerta	Spain	2009	38	38
Renewables	Onshore wind	Saucito	Spain	2009	30	30
Renewables	Onshore wind	Tallisca	Spain	2009	40	40
Renewables	Onshore wind	Valdefuentes	Spain	2009	28	28
Renewables	Onshore wind	Torrecilla	Spain	2009	16	16
Renewables	Onshore wind	Coterejon II	Spain	2009	6	6
Renewables	Onshore wind	Altamira	Spain	2009	49	49
Renewables	Onshore wind	Lirios	Spain	2010	48	48
Renewables	Onshore wind	Nogueira	Spain	2010	3	3
Renewables	Onshore wind	Alto de la Degollada	Spain	2010	50	50
Renewables	Onshore wind	Gomera	Spain	2010	12	12
Renewables	Onshore wind	Savalla	Spain	2010	18	18
Renewables	Onshore wind	Conesa II	Spain	2011	32	32
Renewables	Onshore wind	Espartal	Spain	2012	6	6
Renewables	Onshore wind	Torrecilla II	Spain	2012	22	22
Renewables	Onshore wind	Gomera II	Spain	2012	6	6
Renewables	Onshore wind	Las Cabras	Spain	2012	22	22
Renewables	Onshore wind	Ventosa del Ducado	Spain	2012	44	0
Renewables	Onshore wind	Arecleoch	United Kingdom	2011	120	120

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	1,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
736	1,432	401,507

➤ **September 2016 Bond (ISIN code XS1490726590)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Whitelee Ext	United Kingdom	2012	217	139
Renewables	Onshore wind	Middleton	United Kingdom	2013	12	12
Renewables	Onshore wind	Lynemouth	United Kingdom	2012	26	26
Renewables	Onshore wind	Beinn An Tuirc 2	United Kingdom	2013	44	44
Renewables	Onshore wind	Carland Cross Ext	United Kingdom	2013	20	20
Renewables	Onshore wind	Coal Clough Repowering	United Kingdom	2014	16	16
Renewables	Onshore wind	Blacklaw Ext	United Kingdom	2016	38	38
Renewables	Onshore wind	Blacklaw Ext Ph2	United Kingdom	2016	25	25
Renewables	Onshore wind	Dersalloch	United Kingdom	2016	69	69
Renewables	Onshore wind	Ewe Hill	United Kingdom	2016	14	14

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	700

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
403	792	278,812

➤ **December 2016 Bond (ISIN code XS1527758145)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Doña Benita	Spain	2008	32	31
Renewables	Onshore wind	Sabina	Spain	2008	48	48
Renewables	Onshore wind	Vieiro	Spain	2008	20	20
Renewables	Onshore wind	Argañoso	Spain	2009	22	21
Renewables	Onshore wind	Bullana	Spain	2009	38	36
Renewables	Onshore wind	Carril	Spain	2008	28	27
Renewables	Onshore wind	Cerro Blanco	Spain	2009	42	36
Renewables	Onshore wind	Cotera	Spain	2009	18	17
Renewables	Onshore wind	Paramo Vega	Spain	2009	18	17
Renewables	Onshore wind	Radona I	Spain	2009	24	23
Renewables	Onshore wind	Radona II	Spain	2009	32	30
Renewables	Onshore wind	Sombrio	Spain	2008	28	27
Renewables	Onshore wind	Valdecarrion	Spain	2010	34	32
Renewables	Onshore wind	Valdeperondo	Spain	2010	46	44
Renewables	Onshore wind	Viñas	Spain	2010	38	36
Renewables	Onshore wind	Bolaños	Spain	2008	24	24
Renewables	Onshore wind	Dos Pueblos	Spain	2008	20	20
Renewables	Onshore wind	Nacimiento	Spain	2008	24	24
Renewables	Onshore wind	Tacica de Plata	Spain	2008	26	26

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	749

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
539	1,070	276,091

➤ **February 2017 Bond (ISIN code XS1564443759)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Bureba	Spain	2010	12	11
Renewables	Onshore wind	Cueza	Spain	2010	8	8
Renewables	Onshore wind	Candal	Spain	2012	38	24
Renewables	Onshore wind	Cerro Higuera	Spain	2009	44	31
Renewables	Solar	Puertollano	Spain	2009	50	36

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	249

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
111	221	56,926

➤ **March 2017 Bond (ISIN code XS1575444622)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Valdelanave	Spain	2012	10	6
Renewables	Onshore wind	Ventosa del Ducado	Spain	2012	44	42
Renewables	Onshore wind	Peñaflor III	Spain	2012	49	49
Renewables	Onshore wind	Peñaflor IV	Spain	2012	49	49
Renewables	Offshore wind	Wikinger	Germany	2017	350	195

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	1,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
340	220	56,712

➤ **September 2017 Bond (ISIN code XS1682538183)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Whitelee Ext	United Kingdom	2012	217	78
Renewables	Onshore wind	Clachan Flats	United Kingdom	2009	15	15
Renewables	Onshore wind	Mark Hill	United Kingdom	2011	56	44
Renewables	Onshore wind	Ewe Hill 16	United Kingdom	2017	22	8
Renewables	Onshore wind	Hare Hill Ext	United Kingdom	2017	33	30
Renewables	Offshore wind	Wikinger	Germany	2017	350	104

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	750

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
279	301	106,082

➤ **November 2017 Bond (ISIN code XS1721244371) (hybrid)**

▪ **Assets allocated**

Area	Technology	Name of project	Location	Start-up year	Installed Capacity (MW)	Installed capacity attributable to the bond (MW)
Renewables	Onshore wind	Whitelee	United Kingdom	2008	322	251
Renewables	Onshore wind	Harestanes	United Kingdom	2014	136	136
Renewables	Onshore wind	Kilgallioch	United Kingdom	2017	239	239
Renewables	Onshore wind	Glen App	United Kingdom	2017	22	22

▪ **Total amount invested by area**

Area	Investment allocated to the bond (€ millions)
Renewables	1,000

▪ **Sustainability indicators**

Installed capacity attributable to the bond (MW)	2017 output attributable to the bond (GWh)	CO ₂ avoided due to the bond (Tm)
648	916	322,544

Annex 3:

Information supplementary

to the Sustainability Report

2017

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GRI 102 GENERAL STANDARD DISCLOSURES

102-7 Scale of the organisation

Locations of operation of the Iberdrola group

The group of companies that belong to the Iberdrola group carry out various activities in a large number of countries, and more than 1,200 sites or facilities have been identified at which employees of the group carry out activities for which it is responsible.

For purposes of reporting under the *GRI Sustainability Reporting Standards*, in order to deal with such a large number of facilities, only those considered to be principal locations of operation have been identified, by business and by country, adopting as a basic standard the number of persons performing their activities at a facility, and based thereon:

- In the countries deemed to be at low risk for the violation of human rights, the most important facilities are identified as principal locations of operation, assuming that the personnel at the smaller facilities are part of a functional or hierarchical reporting structure that assures their rights through the tools and procedures established at the organisation.
- In countries with a higher risk the standard is more restrictive: if there are several facilities of different sizes dedicated to similar activities, the largest facilities are included as principal locations of operation, with the smaller ones deemed to be dependent centres with the same basic guarantees; if the number of facilities is low or it is deemed that the risk is higher, such facilities are included as principal locations of operation, regardless of the number of persons working therein.

According to these standards, the principal locations of operation identified in 2017, by business and by country, are reflected in the following tables:

Significant locations of operation 2017 by business	
Corporate	17
Wholesale and Retail Business	45
Networks Business	36
Renewables Business	16
Iberdrola total	114

Significant locations of operation 2017 by country	
Spain	33
United Kingdom	26
United States	25
Brazil	27
Mexico	2
Other countries	1
Iberdrola total	114

Based on this data, the company has performed a study to identify the significant locations of operation at which there might be some risk of violation of human rights, which is described in detail in disclosure 412-1 of this report.

102-8 Information on employees and other workers

Total workforce by employment type, employment contract, region and gender								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Total workforce	10,296	10,395	6,067	6,373	6,561	6,849	10,096	9,429
By employment type								
Full-time	10,290	10,390	5,361	5,631	6,550	6,834	9,797	9,081
Men	8,309	8,404	4,032	4,224	4,664	4,836	8,048	7,387
Women	1,981	1,986	1,329	1,407	1,886	1,998	1,749	1,694
Part-time	6	5	706	742	11	15	299	348
Men	4	4	62	56	1	2	112	143
Women	2	1	644	686	10	13	187	205
By type of contract								
Permanent	10,262	10,338	6,027	6,340	6,550	6,830	10,063	9,211
Men	8,287	8,368	4,069	4,255	4,661	4,829	8,134	7,379
Women	1,975	1,970	1,958	2,085	1,889	2,001	1,929	1,832
Temporary	34	57	40	33	11	19	33	218
Men	26	40	25	25	4	9	26	151
Women	8	17	15	8	7	10	7	67

Total workforce by employment type, employment contract, region and gender						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Total workforce	944	874	291	162	34,255	34,082
By employment type						
Full-time	943	874	291	162	33,232	32,972
Men	779	736	218	133	26,050	25,720
Women	164	138	73	29	7,182	7,252
Part-time	1	0	0	0	1,023	1,110
Men	0	0	0	0	179	205
Women	1	0	0	0	844	905
By type of contract						
Permanent	849	682	287	148	34,038	33,549
Men	708	580	214	120	26,073	25,531
Women	141	102	73	28	7,965	8,018
Temporary	95	192	4	14	217	533
Men	71	156	4	13	156	394
Women	24	36	0	1	61	139

102-41 Employees covered by collective bargaining agreements

Personnel covered by a collective bargaining agreement, by region				
	2017		2016	
	No. of Employees	%	No. of Employees	%
Spain	9,109	88.47	9,753	93.82
United Kingdom	4,219	69.54	4,510	70.77
United States	3,146	47.95	3,234	47.22
Brazil	9,805	97.12	9,190	97.47
Mexico	203	21.50	241	27.57
Other countries	161	55.53	82	50.62
Report boundary	26,643	77.78	27,010	79.25

GRI electric utilities sector supplement specific disclosures

EU1 Installed capacity

Installed capacity by region and energy source (MW)								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Renewables	15,821	15,819	2,666	2,572	6,625	6,035	2,629	2,399
Onshore wind	5,752	5,752	1,906	1,812	6,387	5,853	516	421
Offshore wind	0	0	194	194	0	0	0	0
Hydroelectric	9,715	9,715	566	566	118	118	2,113	1,978
Mini-hydro	303	302	0	0	0	0	0	0
Solar and others	50	50	0	0	119	63	0	0
Nuclear	3,177	3,410	0	0	0	0	0	0
Combined cycle	5,695	5,695	2,000	2,000	212	209	533	533
Cogeneration	368	364	1	1	636	636	0	77
Coal	874	874	0	0	0	0	0	0
Iberdrola total	25,934	26,161	4,667	4,573	7,472	6,880	3,162	3,009

Installed capacity by region and energy source (MW)						
	Mexico		Other countries		Iberdrola total	
	2017	2016	2017	2016	2017	2016
Renewables	410	367	961	621	29,112	27,813
Onshore wind	367	367	605	615	15,533	14,820
Offshore wind	0	0	350	0	544	194
Hydroelectric	0	0	0	0	12,513	12,378
Mini-hydro	0	0	0	0	303	302
Solar and others	43	0	6	6	219	120
Nuclear	0	0	0	0	3,177	3,410
Combined cycle	5,546	5,200	0	0	13,985	13,637
Cogeneration	294	237	0	0	1,299	1,315
Coal	0	0	0	0	874	874
Iberdrola total	6,250	5,804	961	621	48,447	47,049

EU2 Energy production

Net energy output, by region and source of energy (GWh)								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Renewables	19,587	30,319	4,880	3,688	15,738	15,320	8,195	4,559
Onshore wind	11,216	11,236	3,358	2,370	15,103	14,803	1,865	1,204
Offshore wind	N/A	N/A	820	728	N/A	N/A	N/A	N/A
Hydroelectric	7,903	18,325	701	590	385	327	6,330	3,355
Mini-hydro	394	686	N/A	N/A	N/A	N/A	N/A	N/A
Solar and others	74	71	N/A	N/A	250	190	N/A	N/A
Nuclear	23,249	24,381	N/A	N/A	N/A	N/A	N/A	N/A
Combined cycle	3,812	3,709	7,260	8,341	12	14	3,957	4,033
Cogeneration	2,607	2,290	0	N/A	2,354	2,557	91	446
Coal	2,642	2,084	N/A	N/A	N/A	N/A	N/A	N/A
Iberdrola total	51,897	62,783	12,139	13,748	18,104	17,891	12,243	9,038

Net energy output, by region and source of energy (GWh)						
	Mexico		Other countries		Iberdrola total	
	2017	2016	2017	2016	2017	2016
Renewables	963	1,119	1,382	1,437	50,745	56,443
Onshore wind	963	1,119	1,373	1,429	33,878	32,162
Offshore wind	N/A	N/A	0	N/A	821	728
Hydroelectric	N/A	N/A	N/A	N/A	15,320	22,597
Mini-hydro	N/A	N/A	N/A	N/A	394	686
Solar and others	0	N/A	9	9	333	270
Nuclear	N/A	N/A	N/A	N/A	23,249	24,381
Combined cycle	39,103	34,795	N/A	N/A	54,144	50,892
Cogeneration	1,800	1,654	N/A	N/A	6,853	6,947
Coal	N/A	N/A	N/A	N/A	2,642	3,803
Iberdrola total	41,866	37,569	1,382	1,437	137,632	142,466

EU3 Electricity users and producers

Electricity users (%)						
	Spain		United Kingdom		United States	
	2017	2016	2017	2016	2017	2016
Residential	92.8	92.8	93.9	93.9	88.2	87.7
Industrial	1.7	1.6	2.1	2.1	0.3	0.3
Institutional	1.1	1.1	0.1	0.1	0.0	0.0
Commercial	4.4	4.5	3.9	3.9	10.6	11.8
Other	0.0	0.0	0.0	0.0	0.9	0.2
Total users (millions)	10.3	10.3	3.1	3.2	2.2	1.6
Users that are producers of electricity (no.)	0	4,832	66,264	64,936	3,776	13,581

	Electricity users (%)					
	Brazil		Other countries		Iberdrola total	
	2017	2016	2017	2016	2017	2016
Residential	87.4	87.5	0	0	90.1	90.2
Industrial	0.3	0.3	0	0	1.0	1.0
Institutional	1.2	1.0	0	0	1.0	0.9
Commercial	6.6	6.7	0	0	5.8	5.8
Other	4.5	4.5	0	0	2.1	2.1
Total users (millions)	13.6	13.4	0	0	29.2	28.5
Users that are producers of electricity (no.)	2,033	277	0	0	72,073	83,626

EU4 Transmission and distribution lines

Power lines (Km)	Spain		United Kingdom		United States	
	2017	2016	2017	2016	2017	2016
Transmission						
Overhead	0	0	3,636	3,637	30,620	30,835
Underground	0	0	404	352	1,557	604
Total	0	0	4,040	3,989	32,177	31,439
Distribution						
Overhead	155,589	155,317	38,679	38,718	122,884	102,431
Underground	112,981	112,259	66,541	66,111	14,899	14,463
Total	268,570	267,576	105,220	104,829	137,783	116,894

Power lines (Km)	Brazil		Other countries		Iberdrola total	
	2017	2016	2017	2016	2017	2016
Transmission						
Overhead	13,832	13,560	0	0	48,088	48,032
Underground	38	31	0	0	1,999	987
Total	13,870	13,591	0	0	50,087	49,019
Distribution						
Overhead	594,322	578,674	0	0	911,474	875,140
Underground	629	452	0	0	195,050	193,285
Total	594,951	579,126	0	0	1,106,524	1,068,425

GRI 200 SERIES ECONOMIC DIMENSION

GRI 201 Economic performance

201-1 Direct economic value generated and distributed

Economic value generated, distributed and retained (€ millions)								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Revenue (sales and other income)	13,564	14,280	6,077	6,776	5,337	5,430	3,628	1,717
Operating costs	8,412	8,457	4,080	4,607	2,545	2,470	2,682	1,266
Employee remuneration (excluding company social security costs)	912	847	468	466	879	806	201	94
Payments to providers of capital	1,365	1,784	197	231	501	315	283	119
Payments to government administrations	1,496	1,581	353	380	583	596	160	51
Community investments (verified according to the LBG Model)	20	15	14	14	6	4	22	2
Economic value retained	1,359	1,596	965	1,078	823	1,239	280	185

Economic value generated, distributed and retained (€ millions)						
	Mexico		Other countries		Iberdrola consolidated total	
	2017	2016	2017	2016	2017	2016
Revenue (sales and other income)	2,770	1,769	1,338	734	32,714 ⁸⁸	30,706
Operating costs	1,999	1,119	728	669	20,446	18,588
Employee remuneration (excluding company social security costs)	39	32	18	15	2,517	2,260
Payments to providers of capital	217	189	353	54	2,916	2,692
Payments to government administrations	100	108	31	24	2,723	2,740
Community investments (verified according to the LBG Model)	1	1	0	0	63	36
Economic value retained	414	320	209	(28)	4,049	4,390

⁸⁸ Includes Turnover in the amount of €31,263 million and Other revenue €1,451 million.

201-4 Financial assistance received from governments

Financial assistance (€ millions)	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Capital subsidies	10	13	0	0	0	0	0	0
Investment tax credits	0	0	0	0	30	0	0	0
Emissions rights	0	0	0	0	0	0	0	0
Assistance for other items included in the GRI Protocol	0	0	0	0	0	0	0	0
Total	10	13	0	0	30	0	0	0

Financial assistance (€ millions)	Mexico		Other countries		Iberdrola consolidated total	
	2017	2016	2017	2016	2017	2016
Capital subsidies	0	0	0	0	10	13
Investment tax credits	0	0	0	0	30	0
Emissions rights	0	0	0	0	0	0
Assistance for other items included in the GRI Protocol	0	0	0	0	0	0
Total	0	0	0	0	40	13

Fiscal responsibility

Tax contribution (€ millions)						
	Company contributions		Contributions due to third-party payments		Iberdrola consolidated total	
	2017	2016	2017	2016	2017	2016 ⁸⁹
Spain	1,496	1,548	1,761	1,904	3,257	3,452
United Kingdom	353	380	168	156	521	535
United States	583	584	292	275	875	859
Brazil	160	126	1,997	1,855	2,157	1,981
Mexico	100	106	86	101	186	207
Other ⁹⁰	31	24	84	70	115	94
Total	2,723	2,768	4,388	4,360	7,111	7,128

⁸⁹ For better comparability of the 2017 and 2016 information, 100% of the taxes paid by Neoenergia in Brazil during 2016 are included.

⁹⁰ The figure for "Other" is mainly distributed among countries of the European Union: Portugal (€71 million), Greece (€16 million), Hungary (€11 million), Italy (€10 million), the Netherlands (€3 million) and Latvia (€1 million).

Electric Utilities Sector Topic: System efficiency

EU11 Average generation efficiency of thermal plants

Average thermal efficiency ⁹¹ at generating facilities (%)	Spain ⁹²		United Kingdom		United States	
	2017	2016	2017	2016	2017	2016
Combined cycle	49.55	48.28	51.10	49.93	N/A	N/A
Conventional thermal	34.38	33.00	0.00	33.00	N/A	N/A
Cogeneration	63.26	62.08	56.00	48.00	48.00	47.00

Average thermal efficiency ⁹⁵ at generating facilities (%)	Brazil		Mexico		Report boundary	
	2017	2016	2017	2016	2017	2016
Combined cycle	49.40	49.00	53.85	52.99	53.57	51.82
Conventional thermal	N/A	N/A	N/A	N/A	34.38	33.00
Cogeneration	0.00	69.07	50.06	58.31	53.81	56.14

⁹¹ Average of efficiencies weighted by the annual production of each thermal power plant.

⁹² Does not include the Puertollano thermo solar plant.

GRI 300 SERIES ENVIRONMENTAL DIMENSION

GRI 302 Energy

302-1 Energy consumption within the organization

Energy consumption in buildings (GJ)	2017	2016
Spain	157,264	165,637
United Kingdom	106,882	121,327
United States	346,014	401,236
Brazil	166,256	46,099
Mexico	554	911
Other countries ⁹³	1,146	1,218
Total	778,116	736,428

GRI 303 Water

303-1 Total water withdrawal by source

Water use in thermal generation

The following shows the withdrawal of water at the thermal generation facilities (coal, combined cycle, nuclear and cogeneration) in 2017.

Water use (hm ³)	Withdrawal			Discharge	
	Total withdrawal	Withdrawal process and standby services	Withdrawal for cooling	Evaporation of water used for cooling	Discharge into receptor environment
Spain	1,500.01	4.39	1,495.75	53.56	1,451.57
United Kingdom ⁹⁴	202.81	0.39	202.42	0.01	202.20
United States	4.18	3.67	0.64	1.78	1.54
Brazil	0.22	0.22	0.00	0.00	0.09
Mexico	277.45	5.34	271.52	19.14	246.24
Total⁹⁵	1,984.67	14.01	1,970.33	74.49	1,901.74

⁹³ Other countries: Greece, Romania and Hungary.

⁹⁴ The cooling systems in the United Kingdom are open circuits or air condensers, and therefore it is estimated that the volume of evaporated water is practically zero, except for steam from cogeneration. The data include the Daldowie thermal drying facility and the Hatfield gas storage facility.

⁹⁵ The total discharge figure includes the return from cooling, the return of water used in processes, and rainwater collected at some thermal facilities without an independent storm sewer system.

Water consumption at offices and control facilities

Water consumption at offices and facilities ⁹⁶ (m ³)	2017	2016
Spain	94,239	84,693
United Kingdom	63,242	93,375
United States	183,256	139,385
Brazil	1,975	89,576
Mexico	36,604	1,124
Other countries	5,132	901
Total	384,448	409,054

GRI 305 Emissions**305-1 Direct greenhouse gas emissions. Scope 1 (per GHG Protocol)**

CO ₂ emissions (t)	2017	2016
Spain	5,943,916	5,268,737
Generating plants	4,398,610	3,912,787
Cogeneration	1,545,306	1,355,950
United Kingdom	2,899,545	4,944,407
Generating plants	2,881,551	4,927,630
Cogeneration	17,994	16,777
United States	965,570	1,040,335
Generating plants	0	N/A
Cogeneration	965,570	1,040,335
Brazil	1,547,050	1,739,902
Generating plants	1,471,816	1,369,047
Cogeneration	75,234	370,855
Mexico	15,334,843	13,543,565
Generating plants	14,267,039	12,598,905
Cogeneration	1,067,804	944,660
Total	26,690,924	26,536,946
Generating plants	23,019,016	22,808,369
Cogeneration	3,671,908	3,728,577

305-2 Indirect greenhouse gas emissions. Scope 2 (per GHG Protocol)

Emissions associated with the consumption of energy at offices	CO ₂ (t)
Spain	10,269
United Kingdom	9,586
United States	27,130
Brazil	4,198
Mexico	59
Other countries ⁹⁷	N/Av.
Total	51,242

⁹⁶ Includes offices, substations and control buildings at wind farms.

⁹⁷ Not taken into account to calculate the Carbon Footprint as it entails less than 0.1% of the internal energy consumption of the group.

305-7 NO_x, SO_x and other significant air emissions

NO _x emissions (t)	2017	2016
Spain	12,490	12,172
Generating plants	4,394	5,013
Cogeneration	8,096	7,159
United Kingdom	989	5,363
Generating plants	989	5,363
Cogeneration	0	N/A
United States	18	152
Generating plants	0	N/A
Cogeneration	18	152
Brazil	233	702
Generating plants	233	233
Cogeneration	0	469
Mexico	2,422	2,583
Generating plants	1,997	2,325
Cogeneration	425	258
Total	16,152	20,971
Generating plants	7,613	12,934
Cogeneration	8,539	8,037

Sulphur dioxide (SO ₂) emissions (t)	2017	2016
Spain	4,936	3,277
Generating plants	3,723	2,744
Cogeneration	1,213	533
United Kingdom	2	3,384
Generating plants	2	3,384
Cogeneration	0	N/A
United States	5	6
Generating plants	0	N/A
Cogeneration	5	6
Brazil	0	23
Generating plants	0	12
Cogeneration	0	11
Mexico	449	398
Generating plants	418	370
Cogeneration	31	28
Total	5,392	7,088
Generating plants	4,143	6,510
Cogeneration	1,249	578

Particulate emissions (t)	2017	2016
Spain	375	305
Generating plants	298	259
Cogeneration	77	46
United Kingdom	2	88
Generating plants	1	88
Cogeneration	1	N/A
United States	19	19
Generating plants	0	N/A
Cogeneration	19	19
Brazil	0	22
Generating plants	0	0
Cogeneration	0	22
Mexico	876	774
Generating plants	815	720
Cogeneration	61	54
Total	1,272	1,208
Generating plants	1,114	1,067
Cogeneration	158	141

GRI 306 Effluents and waste

306-2 Total weight of waste by type and disposal method

Hazardous waste generation ⁹⁸ (t)	2017			2016		
	Produced (Total)	Deposited and/or incinerated	Recovered, recycled, reused	Produced (Total)	Deposited and/or incinerated	Recovered, recycled, reused
Spain	5,564	1,256	4,328	5,418	849	4,539
United Kingdom	2,214	562	1,600	3,568	482	2,161
United States	573	425	337	1,183	601	478
Brazil	614	593	981	234	76	140
Mexico	171	171	0	126	126	0
Other countries	57	16	42	50	15	35
Total	9,193	3,023	7,288	10,579	2,149	7,353

Non-hazardous waste generation ¹⁰² (t)	2017			2016		
	Produced (Total)	Deposited and/or incinerated	Recovered, recycled, reused	Produced (Total)	Deposited and/or incinerated	Recovered, recycled, reused
Spain	277,282	165,453	109,727	208,681	129,178	79,512
United Kingdom	589,409	224,699	304,434	387,925	189,640	155,103
United States	131,066	96,988	34,097	338,276	107,134	231,038
Brazil	38,330	38,536	1,614	27,513	1,346	5,179
Mexico	17,581	17,576	47	16,449	16,449	0
Other countries	3	2	1	3	3	0
Total	1,053,671	543,220.6	449,920	978,847	443,750	470,832

⁹⁸ Liquid waste has been converted into kg using a density of 1.3 kg/m³.

GRI 400 SERIES SOCIAL DIMENSION

GRI 401 Employment⁹⁹

401-1 New employee hires and employee turnover

New hires by region, gender and age group								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Total workforce	10,296	10,395	6,067	6,373	6,561	6,849	10,096	9,429
By gender								
Men	252	244	464	261	322	369	1,127	808
Women	64	93	177	81	148	126	174	262
By gender (%)								
Men	3.03	2.90	11.33	6.10	6.90	7.63	13.81	10.73
Women	3.23	4.68	8.97	3.87	7.81	6.27	8.99	13.80
By age group								
Men								
Up to 30 years old	116	121	141	112	114	141	550	515
Between 31 and 50 years old	125	116	245	109	171	181	559	289
More than 50 years old	11	7	78	40	37	47	18	4
Women								
Up to 30 years old	31	35	59	25	54	37	108	167
Between 31 and 50 years old	31	55	104	52	70	75	64	94
More than 50 years old	2	3	14	4	24	14	2	1
By age group (%)								
Men								
Up to 30 years old	35.26	30.17	23.46	18.51	23.17	27.87	24.86	23.90
Between 31 and 50 years old	2.92	2.65	11.84	5.01	8.07	8.24	11.55	6.85
More than 50 years old	0.30	0.19	5.48	2.67	1.80	2.20	1.62	0.35
Women								
Up to 30 years old	41.89	39.77	30.41	11.90	34.39	22.98	18.15	28.02
Between 31 and 50 years old	2.34	4.02	7.76	3.70	7.76	7.89	5.47	8.30
More than 50 years old	0.34	0.56	3.20	1.00	2.87	2.00	1.17	0.59

⁹⁹ As the percentage interests in certain companies may not be 100%, the sums added may not correspond to the total presented due to rounding.

New hires by region, gender and age group						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Total workforce	944	874	291	162	34,255	34,082
By gender						
Men	323	146	66	13	2,554	1,841
Women	74	31	19	0	656	593
By gender (%)						
Men	41.46	19.84	30.28	9.77	9.74	7.10
Women	44.85	22.46	26.03	0	8.17	7.27
By age group						
Men						
Up to 30 years old	73	72	18	1	1,012	962
Between 31 and 50 years	210	67	43	9	1,353	771
More than 50 years old	40	7	5	3	189	108
Women						
Up to 30 years old	37	17	6	0	295	281
Between 31 and 50 years	36	14	13	0	318	290
More than 50 years old	1	0	0	0	43	22
By age group (%)						
Men						
Up to 30 years old	42.69	39.13	60.00	11.11	26.39	24.90
Between 31 and 50 years	38.82	13.70	25.75	8.04	9.65	5.68
More than 50 years old	59.70	11.11	23.81	25.00	2.26	1.27
Women						
Up to 30 years old	61.67	44.74	66.67	0	27.09	25.66
Between 31 and 50 years	36.00	14.74	22.41	0	6.50	5.83
More than 50 years old	20.00	0	0.00	0	2.10	1.06

Persons leaving the company by region, gender and age group								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Total workforce	10,296	10,395	6,067	6,373	6,561	6,849	10,096	9,429
By gender								
Men	461	452	346	516	471	320	580	544
Women	76	66	214	119	252	172	165	184
By gender (%)								
Men	5.55	5.38	8.45	12.06	10.10	6.61	7.11	7.22
Women	3.83	3.32	10.85	5.69	13.29	8.55	8.52	9.69
By age group								
Men								
Up to 30 years old	4	6	26	33	53	69	137	116
Between 31 and 50 years old	99	74	75	173	137	89	269	219
More than 50 years old	358	372	245	310	281	162	174	209
Women								
Up to 30 years old	2	3	18	9	34	30	51	56
Between 31 and 50 years old	36	32	85	58	61	61	84	76
More than 50 years old	38	31	111	52	157	81	30	52
By age group (%)								
Men								
Up to 30 years old	1.22	1.50	4.33	5.45	10.77	13.64	6.19	5.38
Between 31 and 50 years old	2.31	1.69	3.62	7.95	6.47	4.05	5.56	5.19
More than 50 years old	9.68	10.23	17.21	20.69	13.68	7.59	15.68	18.06
Women								
Up to 30 years old	2.70	3.41	9.28	4.29	21.66	18.63	8.57	9.40
Between 31 and 50 years old	2.72	2.34	6.34	4.12	6.76	6.42	7.18	6.71
More than 50 years old	6.48	5.83	25.34	10.92	18.76	9.00	17.54	30.59

Persons leaving the company by region, gender and age group						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Total workforce	944	874	291	162	34,255	34,082
By gender						
Men	80	95	14	11	1,952	1,931
Women	23	18	7	5	737	564
By gender (%)						
Men	10.27	12.91	6.25	8.27	7.44	7.45
Women	13.94	13.04	18.92	17.24	9.18	6.91
By age group						
Men						
Up to 30 years old	20	30	2	0	242	254
Between 31 and 50 years old	47	55	11	10	638	614
More than 50 years old	13	10	1	1	1,072	1,063
Women						
Up to 30 years old	7	8	1	0	113	106
Between 31 and 50 years old	16	10	6	5	288	242
More than 50 years old	0	0	0	0	336	216
By age group (%)						
Men						
Up to 30 years old	11.70	16.30	5.88	0.00	6.31	6.58
Between 31 and 50 years old	8.69	11.25	6.56	8.93	4.55	4.53
More than 50 years old	19.40	15.87	4.76	8.33	12.80	12.50
Women						
Up to 30 years old	11.67	21.05	33.33	0.00	10.38	9.68
Between 31 and 50 years old	16.00	10.53	19.35	20.00	5.88	4.86
More than 50 years old	0.00	0.00	0.00	0.00	16.45	10.36

401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation

Benefits offered ¹⁰⁰	2017					
	Life insurance	Medical insurance	Disability insurance	Maternity/paternity leave	Pension fund	Shares
Spain	All	All	All	All	All	-
United Kingdom	All	All	-	All	All	All
United States	All	All	Full-time	All	All	-
Brazil	Full-time	Full-time	All	All	Full-time	-
Mexico	All ¹⁰¹	All	All	All	All	All ¹⁰²

¹⁰⁰ All: Includes full-time and part-time employees.

¹⁰¹ Only for managers/senior specialists/executives and interns.

¹⁰² Only for executives.

401-3 Return to work and retention rates after parental leave, by gender.

Leaves from and returns to work due to maternity/paternity, by region								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Employees entitled to parental leave								
Men	8,313	8,408	4,094	4,280	4,665	4,838	8,160	7,530
Women	1,983	1,987	1,973	2,093	1,896	2,011	1,936	1,899
Total	10,296	10,395	6,067	6,373	6,561	6,849	10,096	9,429
Employees taking parental leave								
Men	31	276	39	26	0	0	274	132
Women	145	158	130	151	48	125	105	18
Total	176	434	169	177	48	125	379	150
Employees that returned to work after parental leave ended								
Men	29	N/Av.	39	N/Av.	0	N/Av.	290	N/Av.
Women	114	N/Av.	73	N/Av.	48	N/Av.	103	N/Av.
Total	143	N/AV.	112	N/AV.	48	N/AV.	393	N/AV.
Employees that returned to work after parental leave ended that were still employed 12 months after their return to work.								
Men	28	N/Av.	28	N/Av.	41	N/Av.	226	N/Av.
Women	114	N/Av.	80	N/Av.	137	N/Av.	74	N/Av.
Total	142	N/AV.	108	N/AV.	178	N/AV.	300	N/AV.
Return to work rate								
Men	93.55	N/AV.	100.00	N/AV.	N/A	N/AV.	105.84	N/AV.
Women	78.62	N/AV.	56.15	N/AV.	100.00	N/AV.	98.10	N/AV.
Total	86.08	N/AV.	78.08	N/AV.	100.00	N/AV.	101.97	N/AV.

Leaves from and returns to work due to maternity/paternity, by region						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Employees entitled to parental leave						
Men	779	736	218	133	26,229	25,295
Women	165	138	73	29	8,026	8,157
Total	944	874	291	162	34,255	34,082
Employees taking parental leave						
Men	0	0	1	0	345	434
Women	9	10	3	1	440	463
Total	9	10	4	1	785	897
Employees that returned to work after parental leave ended						
Men	4	N/Av.	1	N/Av.	363	N/Av.
Women	10	N/Av.	1	N/Av.	349	N/Av.
Total	14	N/AV.	2	N/AV.	712	N/AV.
Employees that returned to work after parental leave ended that were still employed 12 months after their return to work.						
Men	4	N/Av.	1	N/Av.	328	N/Av.
Women	6	N/Av.	0	N/Av.	411	N/Av.
Total	10	N/AV.	1	N/AV.	739	N/AV.
Return to work rate						
Men	100.00 ¹⁰³	N/AV.	100.00	N/AV.	105.22	N/AV.
Women	111.11	N/AV.	33.33	N/AV.	79.32	N/AV.
Total	55.56	N/AV.	66.67	N/AV.	92.27	N/AV.

¹⁰³ Although there were no employees using the parental leave, the return rate is considered to 100%, with the return of 4 people from leave last year.

GRI Electric Utilities Sector Supplement Specific disclosures

EU15 Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region.

Employees eligible to retire in the next 5 years								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
By professional category								
Management Team	55	46	5	6	80	36	13	2
Middle managers and skilled technicians	396	303	222	300	1,109	685	379	666
Skilled workers and support personnel	850	606	286	320	1,553	726	571	383
Total	1,301	955	513	626	2,742	1,447	963	1,051
By professional category (%)								
Management team	0.53	0.44	0.08	0.09	1.22	0.53	0.13	0.02
Middle managers and skilled technicians	3.85	2.91	3.66	4.71	16.90	10.00	3.75	7.06
Skilled workers and support personnel	8.26	5.83	4.71	5.02	23.67	10.60	5.66	4.06
Total	12.64	9.19	8.45	9.82	41.79	21.13	9.54	11.15

Employees eligible to retire in the next 5 years						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
By professional category						
Management team	2	2	2	1	157	93
Middle managers and skilled technicians	25	14	2	1	2,133	1,969
Skilled workers and support personnel	4	3	0	0	3,264	2,038
Total	31	19	4	2	5,554	4,100
By professional category (%)						
Management team	0.21	0.23	0.69	0.62	0.46	0.27
Middle managers and skilled technicians	2.65	1.60	0.69	0.62	6.23	5.78
Skilled workers and support personnel	0.42	0.34	0.00	0	9.53	5.98
Total	3.28	2.17	1.38	1.24	16.22	12.04

Employees eligible to retire in the next 10 years								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
By professional category								
Management Team	149	120	28	29	94	80	24	7
Middle managers and skilled technicians	931	809	713	823	1,488	1,263	484	905
Skilled workers and support personnel	1,845	1,689	646	739	2,032	1,451	959	634
Total	2,925	2,618	1,387	1,591	3,614	2,794	1,467	1,546
By professional category (%)								
Management Team	1.45	1.15	0.46	0.46	1.43	1.17	0.24	0.07
Middle managers and skilled technicians	9.04	7.78	11.75	12.91	22.68	18.44	4.79	9.60
Skilled workers and support personnel	17.92	16.25	10.65	11.60	30.97	21.19	9.50	6.72
Total	28.41	25.18	22.86	24.96	55.08	40.79	14.53	16.40

Employees eligible to retire in the next 10 years						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
By professional category						
Management team	5	5	1	1	301	242
Middle managers and skilled technicians	32	26	4	2	3,652	3,828
Skilled workers and support personnel	20	15	0	0	5,502	4,528
Total	57	46	5	3	9,455	8,598
By professional category (%)						
Management team	0.53	0.57	0.34	0.62	0.88	0.71
Middle managers and skilled technicians	3.39	2.97	1.37	1.23	10.66	11.23
Skilled workers and support personnel	2.12	1.72	0.00	0	16.06	13.29
Total	6.04	5.26	1.71	1.85	27.60	25.23

GRI 403 Occupational health and safety

403-1 Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes

Employees represented on health and safety committees, by region (%)	2017	2016
Spain	96.88	95.89
United Kingdom	100.00	94.68
United States	100.00	99.40
Brazil	100.00	90.76
Mexico	49.47	48.97
Other countries	37.46	66.05
Report boundary	97.14	93.61

403-2 Type of injury and rates of injury, occupational diseases, lost days, absenteeism and total number of work-related fatalities, by region and by gender.

Number of accidents by region and gender								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
By gender								
Men	69	83	61	74	176	154	69	89
Women	13	8	31	27	33	20	0	10
Total	82	91	92	101	209	174	69	99

Number of accidents by region and gender						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
By gender						
Men	1	6	0	1	376	407
Women	2	0	0	0	79	65
Total	3	6	0	1	455	472

Number of accidents by type, region and gender								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Fatal								
Men	0	0	0	0	0	0	0	0
Women	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
With leave								
Men	24	25	3	7	40	38	34	23
Women	0	1	0	0	3	8	0	3
Total	24	26	3	7	43	46	34	26
Without leave								
Men	58	58	58	67	136	116	35	66
Women	0	7	31	27	30	12	0	7
Total	58	65	89	94	166	128	35	73

Number of accidents by type, region and gender						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Fatal						
Men	0	0	0	0	0	0
Women	0	0	0	0	0	0
Total	0	0	0	0	0	0
With leave						
Men	0	2	0	1	101	96
Women	0	0	0	0	3	12
Total	0	2	0	1	104	108
Without leave						
Men	1	4	0	0	265	311
Women	2	0	0	0	76	53
Total	3	4	0	0	341	364

Accident rate and absenteeism by region and gender ¹⁰⁴								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Accident rate								
Number of fatalities - company	0	0	0	0	0	0	0	0
Number of fatalities - subcontractor	1	1	1	0	1	0	10	0
Number of lost days	1,558	998	214	164	2,141	1,274	461	326
Injury with leave rate (IR)	0.32	0.32	0.06	0.13	0.65	0.70	0.40	0.30
Occupational disease rate (ODR)	0.00	0.01	0.02	0.00	0.08	0.00	0.01	0.01
Lost day rate (LDR)	20.20	12.30	4.02	3.03	32.53	19.36	5.40	3.71
Absenteeism								
Number of sick leaves per year	1,926	2,140	2,490	2,776	5,308	4,800	1,552	5,862
Men	1,381	1,486	1,443	1,632	3,587	3,147	886	3,833
Women	545	654	1,047	1,144	1,721	1,653	666	2,029
Lost days	90,991	92,139	46,477	52,916	34,021	36,274	17,354	18,113
Men	67,341	66,689	26,491	29,835	20,848	21,924	11,155	11,900
Women	23,650	25,450	19,986	23,081	13,173	14,350	6,199	6,213
Person equivalents	249.29	252.44	127.33	144.98	93.21	99.38	47.55	49.63
Men	184.50	182.71	72.58	81.74	57.12	60.07	30.56	32.60
Women	64.79	69.73	54.75	63.24	36.09	39.31	16.98	17.03
Absenteeism rate (AR)	9,437.53	10,047.58	6,989.38	7,234.95	4,135.13	4,468.46	1,626.70	1,651.9

¹⁰⁴ Methodology for calculating the indicators (per GRI standard):

- Injury rate (IR) = (number of injuries with missed (absentee) days*200,000)/hours worked
- Occupational disease rate (ODR) = (number of occupational disease cases/hours worked)*200,000
- Lost day rate (LDR) = (calendar days lost per accident, as from first day of leave/hours worked)*200,000
- Absenteeism rate (AR) = (missed (absentee) days, as from first day of leave/days worked)*200,000

Accident rate and absenteeism by region and gender ¹⁰⁵						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Accident rate						
Number of fatalities - company	0	0	0	0	0	0
Number of fatalities - subcontractor	0	0	0	0	13	1
Number of lost days	0	105	0	10	4,374	2,877
Injury with leave rate (IR)	0.00	0.27	0.00	0.64	0.35	0.36
Occupational disease rate (ODR)	0.00	0.00	0.00	0.00	0.02	0.01
Lost day rate (LDR)	0.00	14.41	0	6.44	14.96	9.66
Absenteeism						
Number of sick leaves per year	171	153	0	3	11,447	15,734
Men	123	116	0	3	7,420	10,217
Women	48	37	0	0	4,027	5,517
Lost days	182	197	0	26	189,025	199,665
Men	120	87	0	26	125,955	130,461
Women	62	110	0	0	63,070	69,204
Person equivalents	0.50	0.54	0	0.07	517.88	547.03
Men	0.33	0.24	0	0.07	345.09	357.43
Women	0.17	0.30	0	0	172.79	189.60
Absenteeism rate (AR)	160.47	361.06	0	189.54	5,171.71	5,508.74

Specific accident rate in Spain	2017	2016
Frequency ratio (Number of accidents with sick leave per million hours)	1.58	1.60
Incident ratio (Number of accidents with sick leave per one hundred employees)	0.24	0.25
Seriousness ratio (no standard) (Total number of days lost, actual per thousand hours)	0.10	0.06

¹⁰⁵ Methodology for calculating the indicators (per GRI standard):

- Injury rate (IR) = (number of injuries with missed (absentee) days*200,000)/hours worked
- Occupational disease rate (ODR) = (number of occupational disease cases/hours worked)*200,000
- Lost day rate (LDR) = (calendar days lost per accident, as from first day of leave/hours worked)*200,000
- Absenteeism rate (AR) = (missed (absentee) days, as from first day of leave/days worked)*200,000

GRI 404 Training and education

404-1 Hours of training

Total number of training hours by professional category, region and gender								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Total workforce	428,821	447,075	178,233	152,271	239,097	379,200	570,747	337,515
Men	361,284	372,244	155,610	139,262	197,590	264,353	479,619	290,445
Women	67,537	74,831	22,623	13,009	41,507	114,847	91,128	47,070
Management Team								
Men	12,752	12,910	3,061	3,510	1,036	1,576	2,354	1,186
Women	2,952	3,299	1,200	141	540	587	400	217
Total	15,704	16,209	4,261	3,651	1,576	2,163	2,754	1,403
Middle managers and skilled technicians								
Men	150,887	152,006	64,319	84,433	42,425	50,698	64,789	132,450
Women	52,992	59,571	15,282	7,589	13,524	25,100	40,535	33,231
Total	203,879	211,577	79,601	92,022	55,949	75,798	105,324	165,681
Skilled workers and support personnel								
Men	197,645	207,328	88,230	51,319	154,129	212,079	412,476	156,809
Women	11,593	11,961	6,141	5,279	27,443	89,160	50,193	13,622
Total	209,238	219,289	94,371	56,598	181,572	301,239	462,669	170,431

Total number of training hours by professional category, region and gender						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Total workforce	81,059	46,382	9,154	2,551	1,507,111	1,364,994
Men	71,278	40,992	7,742	2,242	1,273,123	1,109,538
Women	9,781	5,390	1,412	309	233,988	255,456
Management Team						
Men	1,968	544	306	8	21,477	19,734
Women	117	522	16	0	5,225	4,766
Total	2,085	1066	322	8	26,702	24,500
Middle managers and skilled technicians						
Men	28,982	19,703	4,436	1254	355,838	440,544
Women	8,542	3,709	1,198	280	132,073	129,480
Total	37,524	23,412	5,634	1,534	487,911	570,024
Skilled workers and support personnel						
Men	40,328	20,745	3,000	980	895,808	649,260
Women	1,122	1,159	198	29	96,690	121,210
Total	41,450	21,904	3,198	1,009	992,498	770,470

Average hours of training per employee trained, broken down by professional category, region and gender								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Total workforce	39.79	44.67	29.11	35.57	31.80	56.49	56.35	40.30
Men	41.00	45.77	37.61	39.50	36.52	55.28	58.75	42.69
Women	34.37	39.91	11.40	17.23	19.70	59.48	46.38	29.94
Management team								
Men	14.83	36.37	28.34	39.89	9.17	15.92	34.62	40.90
Women	36.44	45.19	41.38	14.10	10.19	15.05	25.00	27.13
Total	16.69	37.87	31.10	37.26	9.49	15.67	32.79	37.92
Middle managers and skilled technicians								
Men	42.96	47.00	25.04	39.02	20.30	27.27	36.28	40.60
Women	40.42	47.77	14.50	18.93	11.65	22.86	35.40	30.74
Total	42.27	47.22	21.97	35.88	17.21	25.63	35.93	38.15
Skilled workers and support personnel								
Men	44.52	45.64	60.39	40.28	48.05	75.10	65.37	44.64
Women	20.23	21.51	6.82	15.35	30.73	112.29	62.43	28.20
Total	41.75	43.01	39.95	34.98	44.28	83.26	65.04	42.65

Average hours of training per employee trained, broken down by professional category, region and gender						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Total workforce	90.17	87.35	15.44	8.80	41.82	45.25
Men	96.71	87.59	15.93	8.37	45.88	46.33
Women	60.38	85.56	13.20	14.05	28.23	41.08
Management team						
Men	70.29	36.27	25.50	8.00	18.06	33.74
Women	29.25	174.00	5.33	0	28.09	35.82
Total	65.16	59.20	21.47	8.00	19.42	34.11
Middle managers and skilled technicians						
Men	69.17	78.19	19.20	10.63	33.55	40.66
Women	64.71	67.45	12.61	17.50	26.96	33.23
Total	68.10	76.26	17.28	11.45	31.47	38.71
Skilled workers and support personnel						
Men	139.06	103.21	12.35	6.58	56.16	51.92
Women	43.15	231.80	22.00	4.83	30.16	55.40
Total	131.17	106.33	12.69	6.51	51.81	52.44

404-3 Employees receiving regular performance and career development reviews

Employees receiving performance reviews by region and gender								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
By professional category								
Men	8,313	8,408	4,094	4,280	4,665	4,838	8,160	7,530
Management team	408	424	111	111	112	104	73	26
Middle managers and skilled technicians	3,430	3,435	2,547	2,576	1,722	1,856	1,704	3,360
Skilled workers and support personnel	4,475	4,549	1,436	1,593	2,831	2,878	6,383	4,144
Women	1,983	1,987	1,973	2,093	1,896	2,011	1,936	1,899
Management team	87	80	28	28	51	42	19	6
Middle managers and skilled technicians	1,294	1,308	1,068	1,054	1,012	1,097	1,102	1,278
Skilled workers and support personnel	602	599	877	1,011	833	872	815	615
Total	10,296	10,395	6,067	6,373	6,561	6,849	10,096	9,429
Receiving performance reviews (%)								
Men	95.18	95.49	100	99.60	47.03	48.08	83.66	93.60
Management team	97.55	100	100	98.20	99.11	100	61.64	92.31
Middle managers and skilled technicians	94.58	95.84	100	99.42	98.90	99.57	92.78	100.00
Skilled workers and support personnel	95.42	94.64	100	100	13.42	13.00	81.48	85.64
Women	93.29	94.67	100	100	61.34	63.45	88.22	88.31
Management team	90.80	97.50	100	100	98.04	100	47.37	100.00
Middle managers and skilled technicians	93.66	93.41	100	100	98.72	99.54	90.56	86.85
Skilled workers and support personnel	92.86	92.82	100	100	13.69	16.28	86.01	91.06
Total	94.80	95.33	100	99.75	51.17	52.59	84.54	92.53

Employees receiving performance reviews by region and gender						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
By professional category						
Men	779	736	218	133	26,229	25,925
Management team	24	22	8	6	736	693
Middle managers and skilled technicians	454	418	148	75	10,005	11,720
Skilled workers and support personnel	301	296	62	52	15,488	13,512
Women	165	138	73	29	8,026	8,157
Management team	4	3	3	2	192	161
Middle managers and skilled technicians	132	110	63	22	4,671	4,869
Skilled workers and support personnel	29	25	7	5	3,163	3,127
Total	944	874	291	162	34,255	34,082
Receiving performance reviews (%)						
Men	100.00	45.92	51.38	48.87	83.58	85.13
Management team	100.00	4.55	75.00	66.67	94.57	97.11
Middle managers and skilled technicians	100.00	69.62	62.16	61.33	96.20	98.23
Skilled workers and support personnel	100.00	15.54	22.58	28.85	74.91	73.13
Women	100.00	65.94	60.27	37.93	86.00	86.18
Management team	100.00	33.33	100.00	100.00	90.10	98.14
Middle managers and skilled technicians	100.00	73.64	61.90	27.27	95.23	94.31
Skilled workers and support personnel	100.00	36.00	28.57	60.00	72.15	72.95
Total	100.00	49.08	53.61	46.91	84.15	85.38

GRI 405 Diversity and equal opportunity

405-1 Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership and other indicators of diversity.

Total workforce by region, gender and professional category								
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Total workforce	10,296	10,395	6,067	6,373	6,561	6,849	10,096	9,429
By gender								
Men	8,313	8,408	4,094	4,280	4,665	4,838	8,160	7,530
Women	1,983	1,987	1,973	2,093	1,896	2,011	1,936	1,899
By gender (%)								
Men	81%	81%	67%	67%	71%	71%	81%	80%
Women	19%	19%	33%	33%	29%	29%	19%	20%
By professional category								
Men								
Management team	408	424	111	111	112	104	73	26
Middle managers and skilled technicians	3,430	3,435	2,547	2,576	1,722	1,856	1,704	3,360
Skilled workers and support personnel	4,475	4,549	1,436	1,593	2,831	2,878	6,383	4,144
Women								
Management team	87	80	28	28	51	42	19	6
Middle managers and skilled technicians	1,294	1,308	1,068	1,054	1,012	1,097	1,102	1,278
Skilled workers and support personnel	602	599	877	1,011	833	872	815	615
By professional category (%)								
Men								
Management team	4%	4%	2%	2%	2%	2%	1%	0%
Middle managers and skilled technicians	33%	33%	42%	40%	26%	27%	17%	36%
Skilled workers and support personnel	43%	44%	24%	25%	43%	42%	63%	44%
Women								
Management team	1%	1%	0%	0%	1%	1%	0%	0%
Middle managers and skilled technicians	13%	12%	18%	17%	15%	16%	11%	14%
Skilled workers and support personnel	6%	6%	14%	16%	13%	12%	8%	7%
By age group								
Men								
Up to 30 years old	329	401	601	605	492	506	2,212	2,155
Between 31 and 50 years old	4,284	4,370	2,069	2,177	2,119	2,197	4,838	4,218
More than 50 years old	3,700	3,637	1,424	1,498	2,054	2,135	1,110	1,157
Women								
Up to 30 years old	74	88	194	210	157	161	595	596
Between 31 and 50 years old	1,323	1,367	1,341	1,407	902	950	1,170	1,133
More than 50 years old	586	532	438	476	837	900	171	170

By age group (%)								
Men								
Up to 30 years old	3%	4%	10%	9%	8%	8%	22%	23%
Between 31 and 50 years old	42%	42%	34%	34%	32%	32%	48%	45%
More than 50 years old	36%	35%	24%	24%	31%	31%	11%	12%
Women								
Up to 30 years old	1%	1%	3%	3%	2%	2%	6%	6%
Between 31 and 50 years old	13%	13%	22%	22%	14%	14%	11%	12%
More than 50 years old	5%	5%	7%	8%	13%	13%	2%	2%

Total workforce by region, gender and professional category						
	Mexico		Other countries		Report boundary	
	2017	2016	2017	2016	2017	2016
Total workforce	944	874	291	162	34,255	34,082
By gender						
Men	779	736	218	133	26,229	25,925
Women	165	138	73	29	8,026	8,157
By gender (%)						
Men	83%	84%	75%	82%	77%	76%
Women	17%	16%	25%	18%	23%	24%
By professional category						
Men						
Management team	24	22	8	6	736	693
Middle managers and skilled technicians	454	418	148	75	10,005	11,720
Skilled workers and support personnel	301	296	62	52	15,488	13,512
Women						
Management team	4	3	3	2	192	161
Middle managers and skilled technicians	132	110	63	22	4,671	4,869
Skilled workers and support personnel	29	25	7	5	3,163	3,127
By professional category (%)						
Men						
Management team	3%	3%	3%	4%	2%	2%
Middle managers and skilled technicians	48%	48%	51%	46%	29%	35%
Skilled workers and support personnel	32%	34%	21%	32%	45%	40%
Women						
Management team	0%	0%	1%	1%	1%	0%
Middle managers and skilled technicians	14%	12%	22%	14%	14%	14%
Skilled workers and support personnel	3%	3%	2%	3%	9%	9%
By age group						

Men

Up to 30 years old	171	184	30	9	3,835	3,859
Between 31 and 50 years old	541	489	167	112	14,018	13,564
More than 50 years old	67	63	21	12	8,376	8,502

Women

Up to 30 years old	60	38	9	2	1,089	1,095
Between 31 and 50 years old	100	95	58	25	4,894	4,977
More than 50 years old	5	5	6	2	2,043	2,085

By age group (%)

Men

Up to 30 years old	18%	21%	10%	6%	11%	11%
Between 31 and 50 years old	57%	56%	58%	69%	41%	40%
More than 50 years old	7%	7%	7%	8%	25%	25%

Women

Up to 30 years old	6%	4%	3%	1%	3%	3%
Between 31 and 50 years old	11%	11%	20%	15%	14%	15%
More than 50 years old	1%	1%	2%	1%	6%	6%

Breakdown of Board of Directors by gender and age group

Number of members of the Board	2017		2016	
	no.	%	no.	%
Men				
Up to 30 years old	0	0%	0	0%
Between 31 and 50 years old	1	7%	1	7%
More than 50 years old	8	57%	8	57%
Women				
Up to 30 years old	0	0%	0	0%
Between 31 and 50 years old	1	7%	2	14%
More than 50 years old	4	29%	3	21%

GRI 414 Supplier social assessment

Management approach

414-1 New suppliers that were screened using social criteria

414-2 Negative social impacts in the supply chain and actions taken

Volume of general procurement purchases in countries considered to be at risk (%)	2017
Brazil	17.4
Mexico	6.3
Canada	0.8
China	0.4
India	0.1

Volume of fuel purchases in countries considered to be at risk (%)	2017
Brazil	4
Mexico	34
Others (Colombia + Algeria + Nigeria + Peru + Trinidad y Tobago + Dom. Republic)	14

The standards used to identify countries at risk are the same as those described in disclosure 412-1 of the *Sustainability Report* for financial year 2017.

Electric Utilities Sector Topic: Access

EU27 Residential disconnections for non-payment

Residential disconnections for non-payment by region (no.)						
	Spain		United Kingdom		United States	
	2017	2016	2017	2016	2017	2016
Paid up to 48 h after disconnection	24,811	103,802	0	0	40,229	64,437
Paid between 48 h and one week after disconnection	1,942	11,473	0	0	7,487	9,004
Paid between one week and one month after disconnection	2,212	14,963	0	0	3,441	4,299
Paid between one month and one year	1,095	11,465	0	0	1,723	2,221
Paid after more than one year	0	0	0	0	0	0
Outstanding and unclassified	0	0	0	0	0	0
Total	30,060	141,703	0	0	52,880	79,961

Residential disconnections for non-payment by region (no.)				
	Brazil		Iberdrola total	
	2017	2016	2017	2016
Paid up to 48 h after disconnection	1,239,946	1,014,227	1,304,986	1,182,466
Paid between 48 h and one week after disconnection	227,007	217,099	236,436	237,576
Paid between one week and one month after disconnection	221,001	195,483	226,654	214,745
Paid between one month and one year	178,323	174,818	181,141	188,504
Paid after more than one year	7	0	7	0
Outstanding and unclassified	0	48,606	0	48,606
Total	1,866,284	1,650,233	1,949,224	1,871,897

Residential reconnections following payment of unpaid bills, by region (no.)						
	Spain		United Kingdom		United States	
	2017	2016	2017	2016	2017	2016
Less than 24 h after payment	28,784	139,706	0	0	42,560	43,262
Between 24 h and one week after payment	803	3,537	0	0	4,180	5,663
More than one week after payment	141	173	0	0	7,082	5,296
Unclassified	0	0	0	0	0	0
Total	29,728	143,416	0	0	53,822	54,221

Residential reconnections following payment of unpaid bills, by region (no.)				
	Brazil		Iberdrola total	
	2017	2016	2017	2016
Less than 24 h after payment	1,541,234	1,378,234	1,612,578	1,561,202
Between 24 h and one week after payment	179,797	182,132	184,780	191,332
More than one week after payment	109,172	96,599	116,395	102,068
Unclassified	0	14,634	0	14,634
Total	1,830,203	1,671,599	1,913,753	1,869,236

GRI Electric Utilities Sector Supplement Specific Disclosures

EU30 Average plant availability

The availability of a plant (during a particular period) is the percentage of time within such period that the plant is able to produce energy. It is calculated using normalising indicators, for which reason, knowing the availability of each facility and the net installed capacity thereof yields the average availability factors of the group, as presented in the following table:

	Average availability factor (%)							
	Spain		United Kingdom		United States		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016
Combined cycle	91.87	89.94	88.30	86.63	N/A	N/A	85.41	86.00
Conventional thermal	93.94	85.54	N/A	N/A	N/A	N/A	N/A	N/A
Cogeneration	92.65	88.90	1.70	82.00	82.04	90.00	N/A	96.65
Nuclear	89.29	85.98	N/A	N/A	N/A	N/A	N/A	N/A
Hydroelectric	84.45	86.00	87.23	94.00	36.78	31.21	95.66	93.00
Wind	91.87	97.80	95.21	95.91	95.58	N/A	97.34	97.50

	Average availability factor (%)					
	Mexico		Other countries		Total	
	2017	2016	2017	2016	2017	2016
Combined cycle	94.95	95.32	N/A	N/A	90.94	89.94
Conventional thermal	N/A	N/A	N/A	N/A	93.94	85.54
Cogeneration	72.18	95.17	N/A	N/A	82.75	91.00
Nuclear	N/A	N/A	N/A	N/A	89.29	85.98
Hydroelectric	N/A	N/A	N/A	N/A	86.02	86.96
Wind	96.22	97.50	97.61	97.90	94.36	96.84

Specific topics of the Iberdrola group

Iberdrola's contribution to the community

Outputs and impacts

Iberdrola has been measuring the results achieved by its community support programmes using various parameters. Iberdrola's foundations are applying a methodology adapted from LBG to measure outputs and impacts for its most important programmes and projects.

The charts below show the results and achievements by country during 2017:

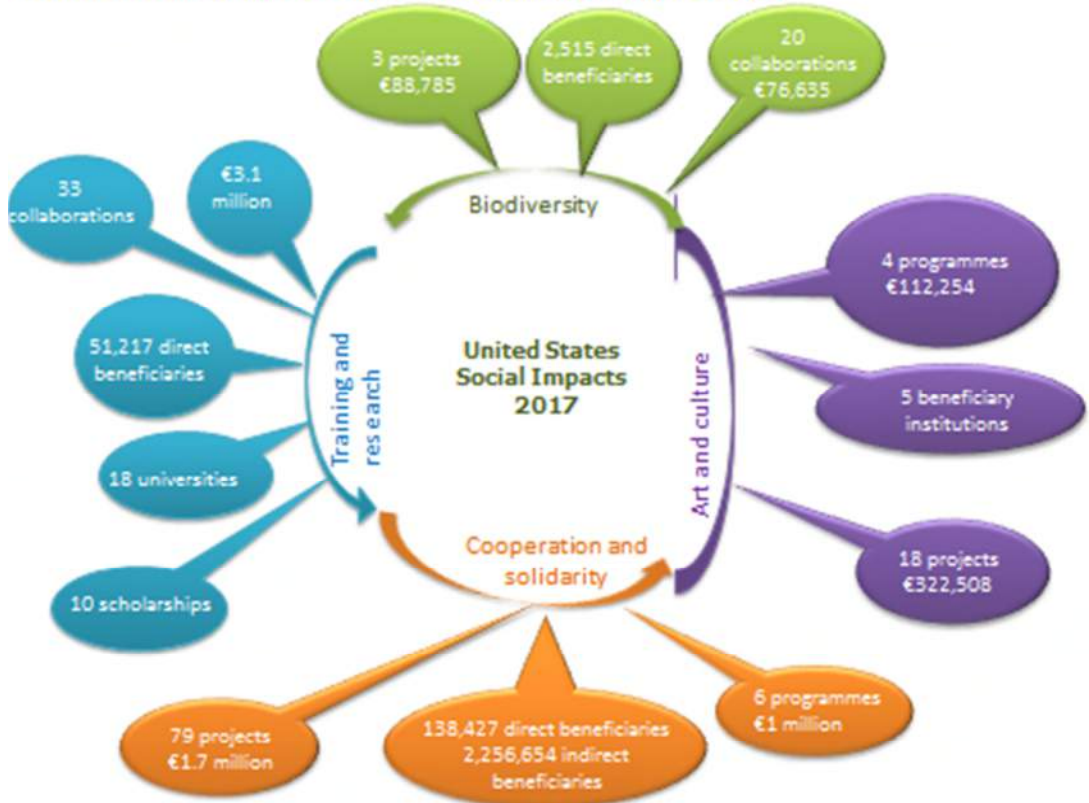
FUNDACION IBERDROLA ESPAÑA - Results in areas of activity in 2017(€)



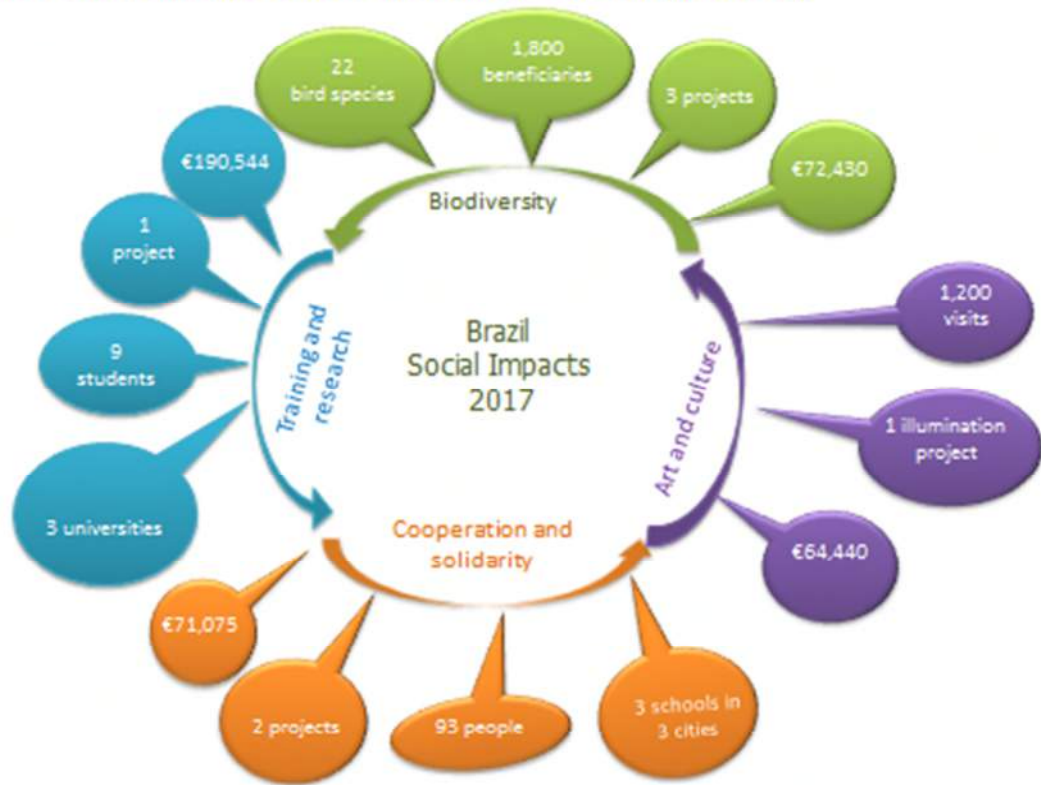
SCOTISHPOWER FOUNDATION: Results in areas of activity in 2017 (€)



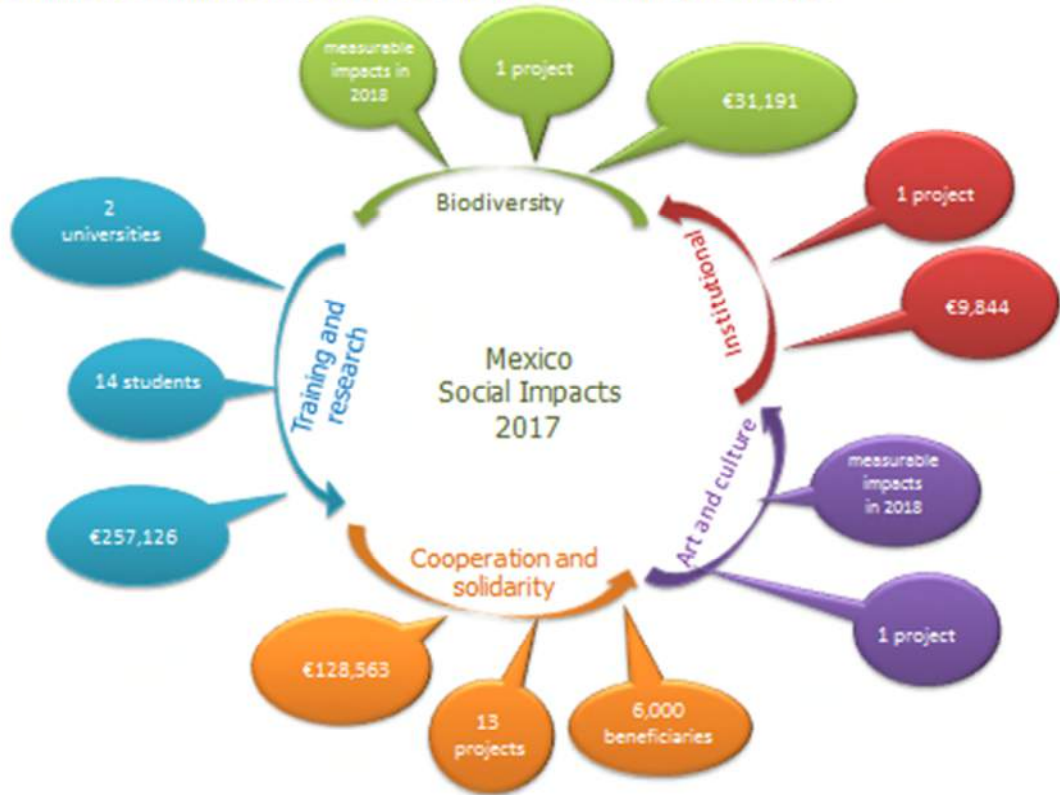
AVANDGRID FOUNDATION - Results in areas of activity in 2017 (€)



INSTITUTO NEOENERGIA BRASIL - Results in areas of activity in 2017 (€)



FUNDACION IBERDROLA MEXICO - Results in areas of activity in 2017 (€)





ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.6-16 Iberdrola SA Accounts 2016

Integrated Report február / 2017

- Comfort for homes
- Sustainability for the future
- Competitiveness for companies
- Innovation for infrastructure

Our goal is to offer a reliable, high-quality, and environmentally-friendly energy supply, in order to:

- Improve the well-being of people.
- Drive the economic and social development of the communities in which we are present.
- Create sustainable value for our shareholders, employees, customers, suppliers, and society in general.

Mission

We create value in a sustainable way and we are committed to social dividend.

Vision

We want to be a global energy leader and create a better future for people with the support of our human team.

Values

The twelve values inspire and guide the Group's strategy and all of its actions.

Whitelee wind farm,
Scotland / UK
© Chris James

Utility of the future



Iberdrola's Public Information

Iberdrola makes all of its public information available to our shareholders, employees, customers, suppliers, and society in general to provide reliable and relevant information regarding the Company's performance and its strategic lines for the coming years.

Annual information

Integrated Report

Prepared based on the recommendations of the International Integrated Reporting Council (IIRC).

Financial Report

Prepared according to international financial reporting standards and externally audited.

Corporate Governance Report

Prepared according to the form provided by the National Securities Market Commission of Spain.

Sustainability Report

Prepared according to the Global Reporting Initiative (GRI) guidelines and externally assured.

Activities Report of the Board of Directors and of the Committees thereof

Prepared according to Iberdrola internal standards.

Director Remuneration Report

Prepared according to the form provided by the National Securities Market Commission of Spain.

Report on Compliance with Legal Provisions on the Separation of Regulated Activities

Prepared according to Iberdrola internal standards.

Report on Related-Party Transactions with Directors and Significant Shareholders

Prepared according to Iberdrola internal standards.

Report on the Application of the Shareholder Engagement Policy and the Policy regarding Communication and Contacts with Shareholders, Institutional Investors, and Proxy Advisors.

Prepared according to Iberdrola internal standards.

Report on the Independence of the Auditor in relation to the audit report for financial year 2016.

Prepared according to Iberdrola internal standards.

Additional information

Quarterly Results Report

IBE Watch Fact Sheet

Quarterly Shareholder Bulletin

Innovation Report

Environmental Footprint Report

Biodiversity Report

Greenhouse Gas Report

Information on the corporate website www.iberdrola.com

About Us

Corporate Governance

Sustainability

Shareholders and Investors

Suppliers

People and Talent

Press Room



Access the annual reports for financial year 2016 and supplementary documentation regarding the Iberdrola Group by scanning the corresponding QR code using your smart phone or tablet:

© This icon refers to related information. It also gives information on other specific reports where more information of interest can be accessed.

Integrated Report

February 2017

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Notes:

- The company Iberdrola, S.A., parent company of the Iberdrola Group, is referred to as "Iberdrola" or the "Company" in this report. Iberdrola (as parent company) and the group of subsidiaries over which Iberdrola has the power of control or joint control is also referred to as the "Iberdrola Group" or the "Group".
- The figures included in this translation follow the customary English convention, with figures in thousands separated by a comma (,) and decimals indicated by a full stop (.).
- €M: millions of euros; \$M: millions of dollars.

Letter from the Chairman & CEO

Ignacio S. Galán
Chairman & CEO of Iberdrola
© Adrián Ruiz



“In the coming years, Iberdrola will intensify its wager on the solutions required by the energy transition and which have made the company the utility of the future”.

I am pleased to present to you Iberdrola's Integrated Report, in which you can find extensive and detailed information regarding the Group's performance, the strategic foundations on which the company addresses its future, and the most significant aspects of its performance.

In the energy scenario within which Iberdrola will be acting in the coming years, notable progress has been made towards the achievement of a more sustainable energy model following the entry into force of the Paris Climate Summit Agreement on 4 November, only eleven months after it was signed. This swiftness of action, which stands in contrast with the almost eight years that the Kyoto Protocol took to come to fruition, reveals the firm commitment of the international community to reduce the emissions causing climate change and to limit the increase in temperature to less than 2 degrees by the end of the century as compared to the levels of the pre-industrial era, leaving the door open for an improvement of this goal to 1.5 degrees.

This commitment was ratified at the latest Climate Summit, held in Marrakesh, through the establishment of the agenda and the instruments needed to implement the Paris Agreement over the next two years and the preparation of working programmes on key issues in order to facilitate compliance therewith.

Meanwhile, the European Commission has affirmed its goal of a 40% reduction in CO₂ emissions by 2030 and its intention for the European Union to lead the energy transition through its “Clean Energy for All Europeans” package of proposals.

In this context, and given the technological potential of our industry to contribute to decarbonisation thanks to renewable energy, increased electrification of the economy is indispensable to honour the international commitments concerning emissions and at the same time respond to the strong growth in global energy demand.

In the coming years, Iberdrola will intensify its firm wager on the solutions required by the energy transition and which have made the company the utility of the future: more renewable energies, increased storage capacity, more and smarter grids, and growing digitisation to offer new and better services to our customers.

2016-2020: accelerating growth

In February 2017, Iberdrola updated its *Outlook 2016-2020*, which was presented a year ago, following its decision to increase investments to 25,000 million euros during the period in view of the company's financial strength to take advantage of new

opportunities for growth, primarily for the development of renewable energy projects in the United States.

Following its unique model, which combines geographic diversification with a focus on activities linked to the energy transition, the Company will allocate 91% of investment to the expansion and digitisation of networks, renewable energy, and regulated generation, which areas will contribute 81% of the Group's Ebitda. By currency, the investments will be split amongst dollars (48%), pounds (29%), euros (20%), and other (3%), and will go mainly to countries with an A rating.

Iberdrola will add 8,200 MW of new capacity to its generation pool through 2020, such that the Group's overall capacity will exceed 50,000 MW (with more than 29,000 MW of renewable energy), growing 12% from year-end 2015.

During the 2016-2020 period, the Company expects to obtain annual average growth in after-tax profits of approximately 7.5% (which will come mainly from countries with an A rating), up to approximately 3,500 million euros.

At the same time, we will continue to maintain financial strength, increase the return on investments, and improve operational efficiency thanks to advances in automation and digitisation in all businesses and processes.

Iberdrola will thus offer its shareholders growing remuneration in line with its results, with a pay-out of between 65% and 75%, such that a range of between 0.37 and 0.40 euro per share could be reached by 2020, with a floor of 0.31 euro per share in any case. We will also maintain the flexible dividend formula, and the current number of outstanding shares will remain stable.

Impact on society

The expansion of this strategic coverage will allow us to continue generating a positive economic and social impact on all of the regions in which we have a presence, contributing to their progress and to the well-being of their citizens. According to a study by PwC,⁽¹⁾ for each euro obtained in profits, Iberdrola contributes 11.1 euros to the GDP of the countries in which it does business.

We will thus continue to act as a major driving force through procurement contracts (which came to more than 9,800 million euros in 2016, thus exceeding the record figure for the prior year) and through our commitment to maintaining and creating stable and quality jobs, as shown by the addition of more than 2,600 people to our workforce only last year. Overall, Iberdrola provides direct, indirect, and induced employment to 288,000 people throughout the world, thanks to its investments and operations.⁽¹⁾

"The expansion of our strategic coverage will allow us to continue generating a positive economic and social impact on all of the regions in which we have a presence".

Our unwavering commitment to the training of the company's personnel (we currently provide three times more hours of training per employee per year than the average of European companies⁽¹⁾) will be boosted by the activities of the Iberdrola Campus in Madrid, which, with a built-up area of 45,000 square metres and 540 seats in classrooms and workshops, has already become a leading centre for corporate training. We will also continue to improve the management of our human resources by promoting the reconciliation of working and family life, gender equality, and job security.

Iberdrola will also strengthen its commitment to clean energies and to protection of the environment, by increasing its production capacity with renewable technologies over the next years and by reaffirming its goal to reach a 50% reduction in emissions by 2030 as compared to 2007 levels.

The development of our sustainable business model will allow us to remain at the top of the main indices in this field, such as the Dow Jones Sustainability Index (on which we are the only European electric utility to have been included for seventeen years), FTSE4Good, and CDP Climate Change.

Furthermore, our efforts in the area of R&D (to which we allocated 211 million euros in 2016) will be focused on sustainability, the promotion of renewable energy, and the exploitation of the opportunities offered by digitisation and automation for the development of new products and services. We thus expect to continue to be at the forefront among the most innovating electric utilities, Iberdrola now being the fourth largest electric company in the world by volume of investment.⁽¹⁾

As part of our commitment to society, the Foundations of the Iberdrola Group will continue with their programmes in the areas of training and research (primarily through the International Scholarship Programme), the protection of biodiversity and the promotion of art and culture, and cooperation and solidarity with the most vulnerable groups.

In the coming years, we will also move forward with the "Electricity for All" programme, which in 2016 already reached more than two and a half million beneficiaries in emerging or developing countries who have been given access to electric power, the aim being to reach four million beneficiaries by 2020. In parallel with all of the foregoing, Iberdrola will continue to develop its Corporate Governance System, based on ethical principles, transparency, and leadership in the application of the best international practices on good governance, an area in which the company has become an international leader.

⁽¹⁾ PwC study "Iberdrola's economic, social, and environmental impact on the world" (based on 2015 data).

Wikinger marine wind farm -
Baltic Sea / Germany

© David López Navarro





Iberdrola Today

1.1 Iberdrola Today

Our activities

- Production of electricity from renewable and conventional sources.
- Purchase/sale of electricity and gas on wholesale markets.
- Transmission and distribution of electricity.
- Supply of electricity, gas, and related energy services.
- Other activities, mainly linked to the energy sector.

Presence focused on the Atlantic area

Iberdrola carries out its activities mainly in the five countries of the Atlantic area: Spain, the United Kingdom, the United States, Mexico, and Brazil.

What we are

The process of internationalisation carried out in recent years has led Iberdrola to be one of the leading electric companies, and among the largest utilities in the world by stock market capitalisation. The corporate and governance structure is described in chapter 5.1 of this report and consists of:

- Iberdrola, as a holding company.
- Country subholding companies in the 5 main geographic areas of activity.
- Head of business companies reporting to the country subholding companies.

Iberdrola is one of the leading electric companies in the world.

2016 Data Iberdrola Group

46,925

MW
Installed capacity⁽¹⁾

142,453

GWh
Net output⁽¹⁾

229,816

GWh
Electric power distributed⁽¹⁾

9,884

€M
Procurement awarded

27,723

MW
Renewable installed capacity⁽¹⁾

34.5

Million
users⁽¹⁾

5,750

€M
Direct tax contribution

30,591

People
Direct employment

288,000

People
Direct, indirect, and induced employment⁽²⁾

4,264

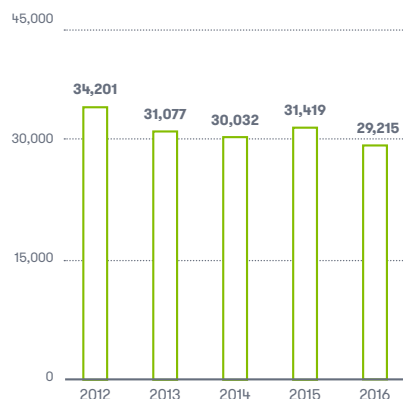
€M
Investments

(1) Managed magnitudes including 100% Neoenergia.

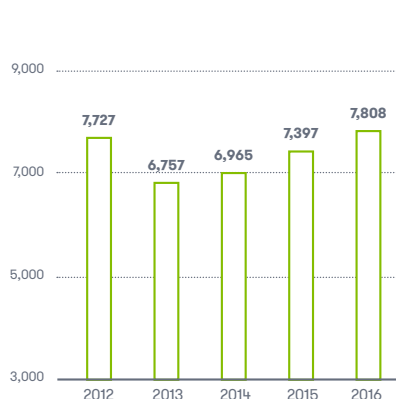
(2) Data from a Study of Iberdrola's Impact, prepared by PwC, based on 2015 figures.

1.2 Company Performance

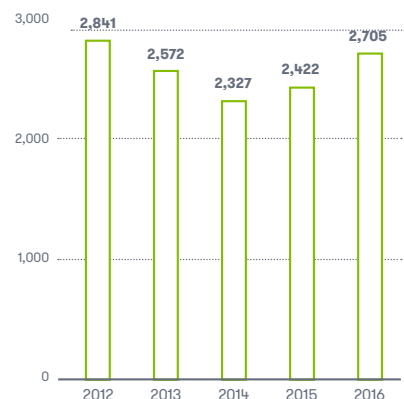
Revenues (€M)



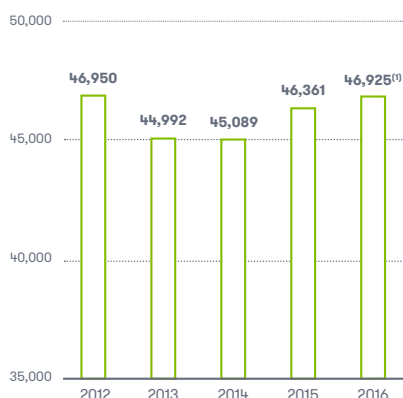
Ebitda (€M)



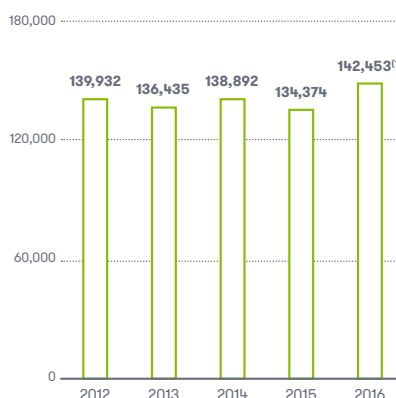
Net Profit (€M)



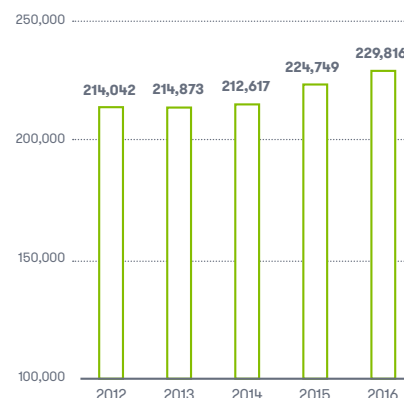
Installed capacity (MW)



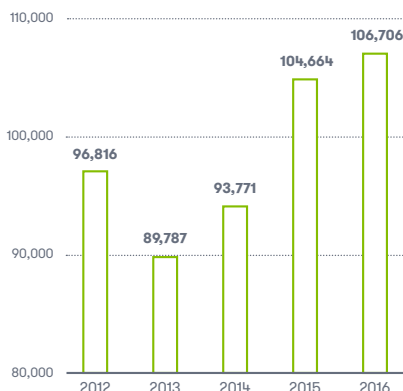
Net output (GWh)



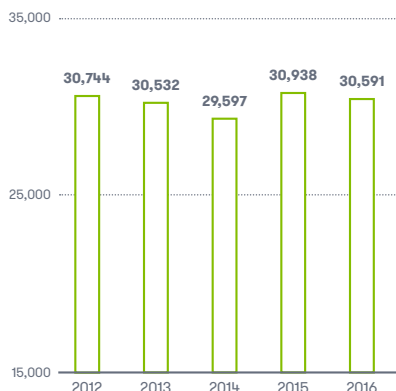
Energy distributed (GWh)⁽¹⁾



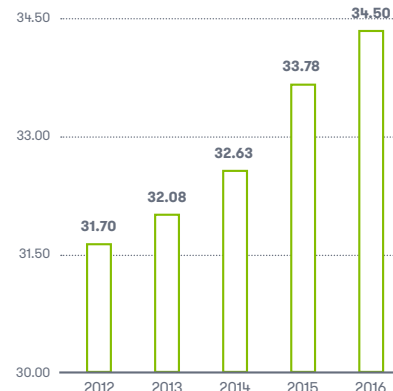
Assets (€M)



Employees



Users (millions)



(1) Managed magnitudes including 100% Neoenergia.

* Note: Due to legal requirements, Iberdrola has applied International Financial Reporting Standard IFRS-11 to the financial information for the financial years 2013 to 2016, which aspect should be taken into account in evaluating the historical performance of the Company.

1.3 Key Figures

Financial performance (€M)	2012	2013	2014	2015	2016	Δ annual average 2012-16	Δ 2015-2016
Revenues	34,201.2	31,077.1	30,032.3	31,418.7	29,215.4	-3.9%	-7.0%
Consolidated Gross Margin	12,578.1	11,781.9	12,179.5	12,842.7	12,916.2	0.7%	0.6%
Consolidated Ebitda	7,726.6	6,756.9	6,964.5	7,397.4	7,807.7	0.3%	5.5%
Ebitda - Networks (Regulated)	3,773.7	3,346.5	3,534.7	3,628.0	4,081.7	2.0%	12.5%
Spain	1,348.3	1,450.3	1,438.5	1,456.8	1,603.1	4.4%	10.0%
United Kingdom	937.3	939.0	1,024.8	1,138.0	976.2	1.0%	-14.2%
United States	660.2	718.2	772.0	780.5	1,269.6	17.8%	62.7%
Brazil	827.9	239.0	299.4	252.7	232.8	-27.2%	-7.9%
Ebitda - Wholesale and Retail (Liberalised)	2,355.2	1,986.6	2,292.2	2,323.1	2,253.3	-1.1%	-3.0%
Spain	1,605.4	1,341.2	1,517.6	1,504.6	1,520.5	-1.3%	1.1%
United Kingdom	360.6	320.4	456.6	421.7	293.6	-5.0%	-30.4%
United States	9.1	-22.6	-32.0	-58.4	6.1	-9.5%	-
Mexico and Brazil ⁽¹⁾	380.1	347.6	350.0	455.2	433.1	3.3%	-4.9%
Ebitda - Renewables	1,620.3	1,501.1	1,326.0	1,647.2	1,500.2	-1.9%	-8.9%
Spain	804.3	668.4	420.6	473.2	497.4	-11.3%	5.1%
United Kingdom	168.1	231.8	265.2	438.1	267.0	12.3%	-39.1%
United States	412.2	448.0	495.3	570.9	563.6	8.1%	-1.3%
Mexico	37.2	34.1	38.2	43.1	52.0	8.7%	20.6%
Brazil	11.3	9.1	33.0	26.9	24.9	21.8%	-7.4%
Rest of World	187.2	109.7	73.7	95.0	95.3	-15.5%	0.3%
Ebitda - other businesses	44.3	0.5	-17.0	-10.5	-111.3	-	-
Ebitda - Corporation and adjustments	-66.9	-77.8	-171.4	-190.4	83.8	-	-
Amortisation charge, provisions, and other	-3,349.7	-4,537.5	-3,023.6	-3,568.1	-3,253.7	0.7%	8.8%
Operating profit (EBIT)	4,376.9	2,219.5	3,940.9	3,829.3	4,554.0	1.0%	18.9%
Financial result	-1,100.3	-1,277.9	-1,122.4	-1,023.1	-903.4	4.8%	11.7%
Results from companies accounted for using the equity method	-187.5	205.0	135.4	55.3	48.7	-	-11.9%
Gains on non-current assets	-13.9	-10.4	247.9	125.1	48.2	-	-61.5%
Profit before Tax (PBT)	3,075.1	1,136.1	3,201.8	2,986.6	3,747.5	5.1%	25.5%
Corporate tax	-206.5	1,466.7	-837.1	-527.1	-904.6	-44.7%	-71.6%
Non-controlling interests	-27.9	-31.0	-38.2	-38.0	-137.9	-49.1%	-262.9%
Net attributable profit	2,840.7	2,571.8	2,326.5	2,421.6	2,705.0	-1.2%	11.7%
Total assets	96,816.4	89,786.8	93,771.4	104,664.1	106,706.2	2.5%	2.0%
Equity	34,084.8	35,288.6	35,790.5	40,956.1	40,687.4	4.5%	-0.7%
Net investments	3,259.0	3,053.0	2,848.0	3,223.0	4,264.3	7.0%	32.3%
Funds from operations (FFO)	6,196.0	5,619.0	5,459.0	5,906.7	6,310.8	0.5%	6.8%
Net financial debt	30,324.4	26,836.3	25,618.4	28,067.1	29,414.0	-0.8%	4.8%

Financial ratios	2012	2013	2014	2015	2016	Δ annual average 2012-16	Δ 2015-2016
Ebitda - outside eurozone (%)	51.0	49.5	54.0	56.0	54.0	1.4%	-3.6%
Ebitda margin (Ebitda/revenue) (%)	22.6	21.7	23.2	23.5	26.7	4.3%	13.5%
Net profit margin (Net profit/Revenues) (%)	8.3	8.3	7.7	7.7	9.3	2.8%	20.1%
NOE/Gross margin (%)	30.1	29.4	29.8	29.8	27.7	-2.1%	-7.3%
Net financial debt/ebitda (multiple)	3.92	3.97	3.68	3.79	3.77	-1.0%	-0.6%
Financial leverage (%)	47.1	43.2	41.7	40.7	42.0	-2.8%	3.2%
Funds from operations (FFO)/Net financial debt (NFD)	20.4	20.8	21.3	21.0	21.5	1.3%	1.9%
Retained cash flow (RCF/NFD) (%)	17.2	17.5	17.4	18.7	19.1	2.6%	2.0%
Return on equity (ROE) (%)	8.3	7.5	6.7	6.3	7.3	-3.2%	15.9%

Stock market performance	2012	2013	2014	2015	2016	Δ annual average 2012-16	Δ 2015-2016
Stock market capitalisation (€M)	25,753	28,922	35,756	41,506	39,661	11.4%	-4.4%
Number of shares at year-end (millions)	6,139	6,240	6,388	6,337	6,362	0.9%	0.4%
Share price (€)	4.20	4.63	5.60	6.55	6.23	10.4%	-4.8%
Earnings per share (EPS)	0.45	0.41	0.36	0.37	0.42	-1.7%	14.4%
Dividend per share (DPS)	0.340	0.310	0.275	0.276	0.286	-4.2%	3.6%
Dividend yield (%)	8.13	6.65	4.91	4.21	4.59	-13.3%	9.0%
Total dividend (including payment in kind) (€M)	2,093	1,922	1,716	1,732	1,966	-1.6%	13.5%
Payout ratio (%)	65.4	65.5	73.8	71.5	72.7	2.7%	1.7%
Price/net earnings per share (PER)	9.31	11.25	15.37	17.17	14.66	12.0%	-14.6%

- Sustainability Report
- Quarterly Results Report
- Consolidated Annual Financial Statements

(1) These figures only include Mexico until 2015. The 2015 and 2016 figures include the value for Mexico and Brazil.

* Note: Due to legal requirements, Iberdrola has applied International Financial Reporting Standard IFRS-11 to the financial information for financial years 2013 to 2016, which aspect should be taken into account in evaluating the historical performance of the Company.

Operating performance	2012	2013	2014	2015	2016	Δ annual average 2012-16	Δ 2015-2016
Installed capacity (MW)	46,950	44,992	45,089	46,361	46,925 ⁽¹⁾	-0.9%	-2.4%
Net output (GWh)	139,932	136,435	138,892	134,374	142,453 ⁽¹⁾	-0.5%	2.2%
Electric power distributed (GWh) ⁽¹⁾	214,042	214,873	212,617	224,749	229,816	1.8%	2.3%

Environmental performance	2012	2013	2014	2015	2016	Δ annual average 2012-16	Δ 2015-2016
Emission-free installed capacity (%)	59.4	61.2	61.9	63.0	65.9	2.6%	4.6%
Emission-free production (%)	51.9	54.6	56.8	52.5	57.1	2.4%	8.8%
Specific CO ₂ emissions (t/GWh)	264	226	212	225	176	-9.6%	-21.8%
Fuel consumption (M Tep)	19,236	18,968	18,849	19,001	17,734	-2.0%	-6.7%
Environmental investments (€M)	1,062.4	1,015.7	1,100.9	1,014.2	2,262.2	20.8%	123.1%
Environmental expenses (€M)	723.3	686.4	635.7	669.2	527.1	-7.6%	-21.2%
Energy produced under certified environmental management systems (%)	85.2	84.4	87.0	84.2	84.0	-0.4%	-0.2%
Water use/overall production (m ³ /GWh)	699	976	509	533	586	-4.3%	9.9%
Direct CO ₂ emissions. Scope 1 (kt)	35,461	31,846	30,217	31,752	25,194	-8.2%	-20.7%
Indirect CO ₂ emissions. Scope 2 (kt)	2,122	997	1,544	963	817	-21.2%	-15.2%
CO ₂ avoided due to efficiency initiatives (kt)	24,014	18,480	21,459	19,269	16,461	-9.0%	14.6%
SO ₂ emissions (t/GWh)	0.366	0.217	0.154	0.125	0.051	-38.9%	-59.2%
NO _x emissions (t/GWh)	0.334	0.262	0.236	0.230	0.144	-19.0%	-37.4%

- ⊙ Sustainability Report
- ⊙ Quarterly Results Report
- ⊙ Consolidated Annual Financial Statements

Social performance	2012	2013	2014	2015	2016	Δ annual average 2012-16	Δ 2015-2016
Users (millions)	31.7	32.1	32.6	33.8	34.5	2.1%	2.0%
Electrical power	28.1	28.5	29.0	29.7	30.4	2.0%	2.4%
Spain	10.9	10.9	10.9	10.9	11.0	0.1%	0.5%
United Kingdom	3.5	3.5	3.5	3.5	3.5	0.1%	0.6%
United States	1.8	1.8	1.8	2.2	2.5	8.5%	13.2%
Latin America	11.9	12.4	12.8	13.1	13.4	3.0%	2.3%
Gas	3.6	3.6	3.6	4.1	4.1	3.3%	-0.2%
Spain	0.8	0.8	0.8	0.9	0.9	4.1%	5.6%
United Kingdom	2.2	2.2	2.2	2.2	2.1	-0.8%	-2.7%
United States	0.6	0.6	0.6	1.0	1.0	13.6%	0.0%
Number of employees	30,744	30,532	29,597	30,938	30,591	-0.1%	-1.1%
Permanent contracts (%)	98.0	98.5	98.5	98.4	98.7	0.2%	0.3%
Employees with collective bargaining agreement (%)	79.8	79.4	79.0	76.6	76.9	-0.9%	0.4%
Employee turnover (%)	10.6	6.6	8.6	7.0	7.3	-8.9%	4.3%
Diversity (men/women)	76/24	76/24	77/23	76/24	76/24	-	-
Ratio between basic entry level wage and local minimum wage (%)	151	154	161	153	154	0.6%	0.9%
Injury rate (IR)	0.34	0.46	0.39	0.28	0.35	0.7%	25.0%
Hours of training (millions of hours)	1.12	1.2	1.0	0.9	1.3	3.8%	44.4%
Hours of training per employee (h)	44.2	44.7	38.7	38.6	46.0	1.0%	19.2%
Funds for social development (€M)	51.7	91.7	65.0	46.0	61.5	4.4%	33.7%
Contributions to society (€M)	37.7	31.6	34.0	38.0	43.7	3.8%	15.0%
Rural electrification programmes (€M)	14	60	31	8	17.8	6.2%	122.5%
Investments in R&D (€M)	145	159	170	200	211	9.8%	5.5%
General procurement (€M invoiced) ⁽²⁾	4,830	4,359	4,599	5,093	6,415	7.4%	26.0%
Procurement from qualified suppliers (%)	84	87	92	94	89	1.5%	-5.3%
Number of suppliers with social responsibility standards	1,233	1,202	1,326	1,536	1,667	7.8%	8.5%
Procurement in sensitive countries per ILO (%)	8.9	12.0	10.7	10.8	8.2	-2.1%	-24.2%
Procurement from local suppliers (%)	90	86	87	85	84	-1.7%	-1.2%

(1) Managed magnitudes including 100% Neoenergia.

(2) Supplies in the amount of 9,884 million euros were awarded during 2016.

1.4 Presence by Areas of Activity

Iberdrola in Spain

Largest energy company

Δ 2016 / 2015

GDP +3.0%

Electricity demand +0.7%

Primary brands



**IBERDROLA
ESPAÑA**

Spain subholding company



**IBERDROLA
ESPAÑA**
Renovables

Renewables business



**IBERDROLA
ESPAÑA**
Redes

Networks business



**IBERDROLA
DISTRIBUCIÓN
ELÉCTRICA**



**IBERDROLA
ESPAÑA**
Generación

Wholesale and retail business



IBERDROLA



IBERDROLA
Inmobiliaria

Real Estate



IBERDROLA
Ingeniería y Construcción

Engineering



Fundación
**IBERDROLA
ESPAÑA**

Foundation

2016 data

26,162

MW
Installed capacity

15,819

MW
Renewable installed capacity

62,784

GWh
Net output

267,576

Km
Power lines

92,308

GWh
Electric power distributed

11.8

Million users

10,395

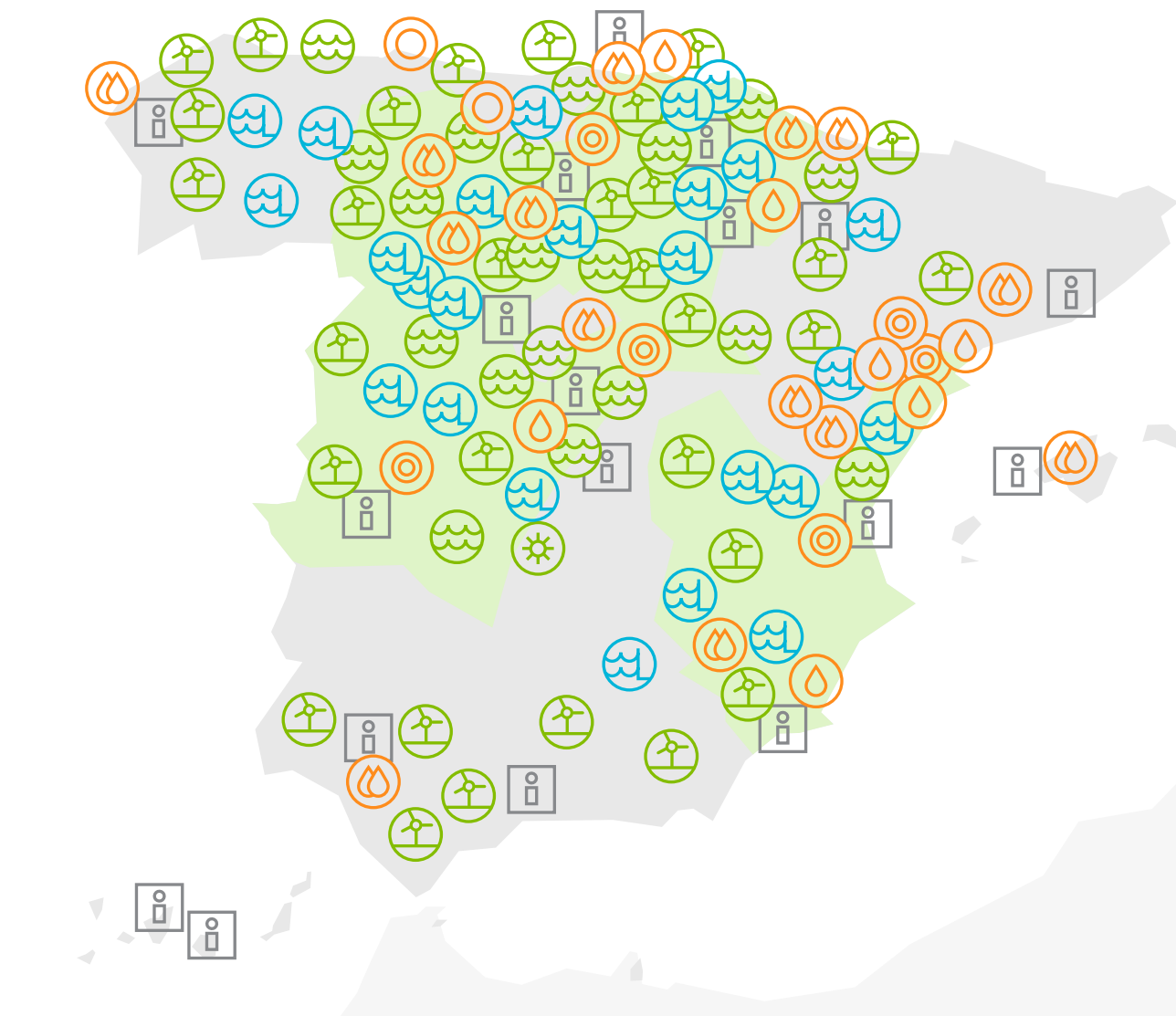
Employees

649

€M
Investments

3,454

€M
Direct tax contribution



Primary facilities

195



Windfarms
5,751 MW

89



Minihydro power plants
303 MW

1



Solar thermal plant
50 MW

8



Combined cycle gas plants
5,695 MW

20



Cogeneration plants
364 MW

6



Nuclear plants
3,410 MW

2



Thermal plants
874 MW

79



Hydro power plants
9,715 MW



Offices

Area
of influence

Electricity
distribution

Iberdrola in the United Kingdom

Largest wind producer

3rd-largest network company

Δ 2016 / 2015

GDP +1.8%

Electricity demand -1.3%

Primary brands



SCOTTISHPOWER

United Kingdom subholding company



**SCOTTISHPOWER
RENEWABLES**

Renewables businesses



**SP ENERGY
NETWORKS**

Networks business



SCOTTISHPOWER
Generation

Wholesale and retail business



SCOTTISHPOWER



IBERDROLA
Engineering & Construction

Engineering



Foundation
SCOTTISHPOWER

Foundation

2016 data

4,537

MW

Installed capacity

2,568

MW

Renewable installed capacity

13,748

GWh

Net output

108,818

Km

Power lines

35,704

GWh

Electric power distributed

5.6

Million users

6,373

Employees

1,740

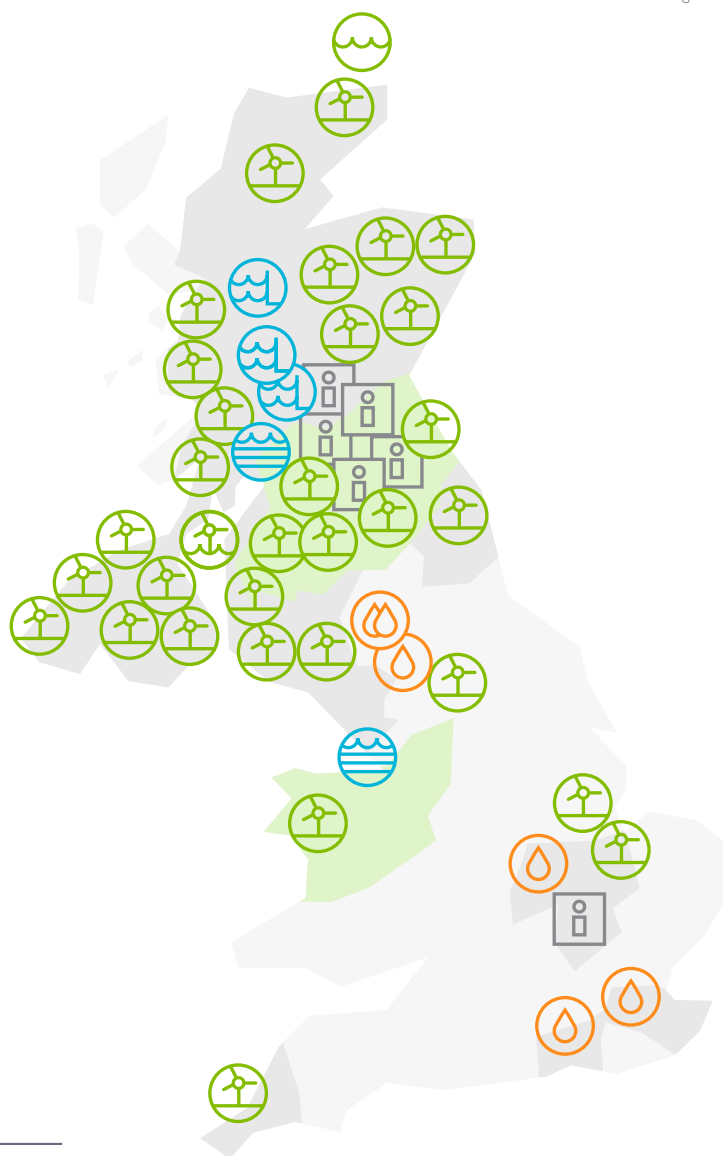
€M

Investments

536

€M

Direct tax contribution



Primary facilities

32 

Windfarms
1,811 MW

1 

Offshore windfarm
194 MW

1 

Cogeneration plant
1 MW

4 

Combined cycle gas plants
1,967 MW

3 

Hydro power plants
563 MW

1 

Underwater power line
425 Km



Offices

**Area
of influence**

**Electricity
distribution**

Iberdrola in the United States

Second-largest wind producer

Electricity and gas distributor in New York, Maine, Connecticut, and Massachusetts

Δ 2016 / 2015

GDP +1.9%

Electricity demand -1.3%

Primary brands



AVANGRID

United States subholding company



AVANGRID RENEWABLES

Renewables business



IBERDROLA Energy Projects

Engineering



AVANGRID Networks



CENTRAL MAINE POWER



MAINE NATURAL GAS



NYSEG



RG&E



UI



SCG



CNG



BERKSHIRE GAS

Regulated networks business and sale of electricity and gas



Foundation AVANGRID

Foundation

2016 data

6,875

MW

Installed capacity

6,033

MW

Renewable installed capacity

17,912

GWh

Net output

130,791

Km

Power lines

39,079

GWh

Electric power distributed

3.5

Million users

6,849

Employees

1,492

€M

Investments

864

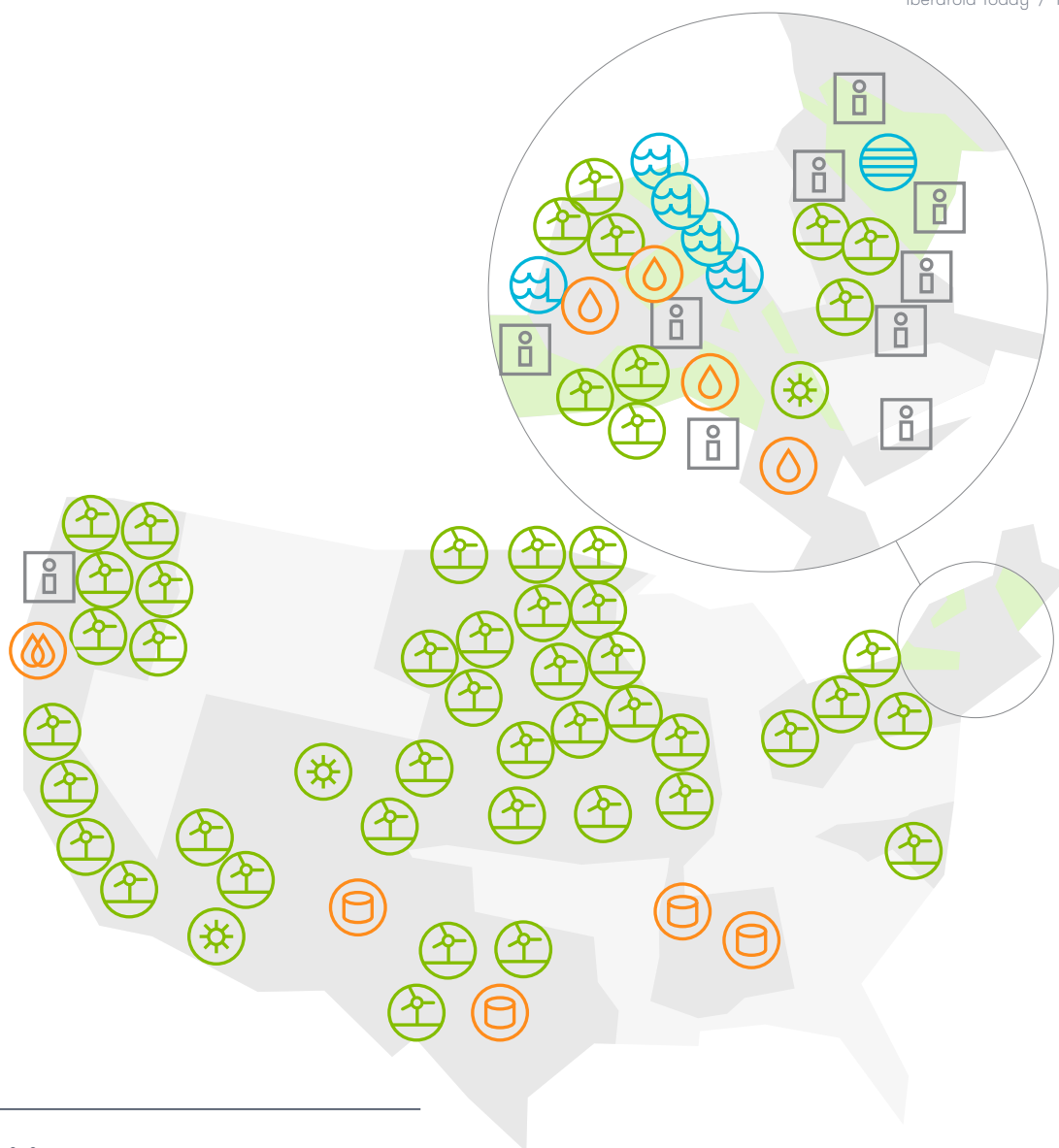
€M

Direct tax contribution

2.4

BCM

Gas storage capacity



Primary facilities

55 

Windfarms
5,855 MW

2 

Photovoltaic energy
50 MW

1 

Cogeneration plant
636 MW

4 

Gas storage facilities

4 

Combined cycle gas plants
209 MW

9 

Hydro power plants
118 MW

1 

Power transmission line
United States-Canada / 708 Km



Offices

Area of influence

Electricity distribution

Iberdrola in Mexico

Largest private electricity producer

Δ 2016 / 2015

GDP +2.3%

Electricity demand +3.2%

Primary brands



**IBERDROLA
MÉXICO**

Mexico subholding
company



**IBERDROLA
MÉXICO**
Renovables

Renewables business



**IBERDROLA
MÉXICO**
Generación

Wholesale generation
business



IBERDROLA
Ingeniería y Construcción

Engineering

2016 data

5,804

MW
Installed capacity

367

MW
Renewable installed capacity

37,569

GWh
Net output

874

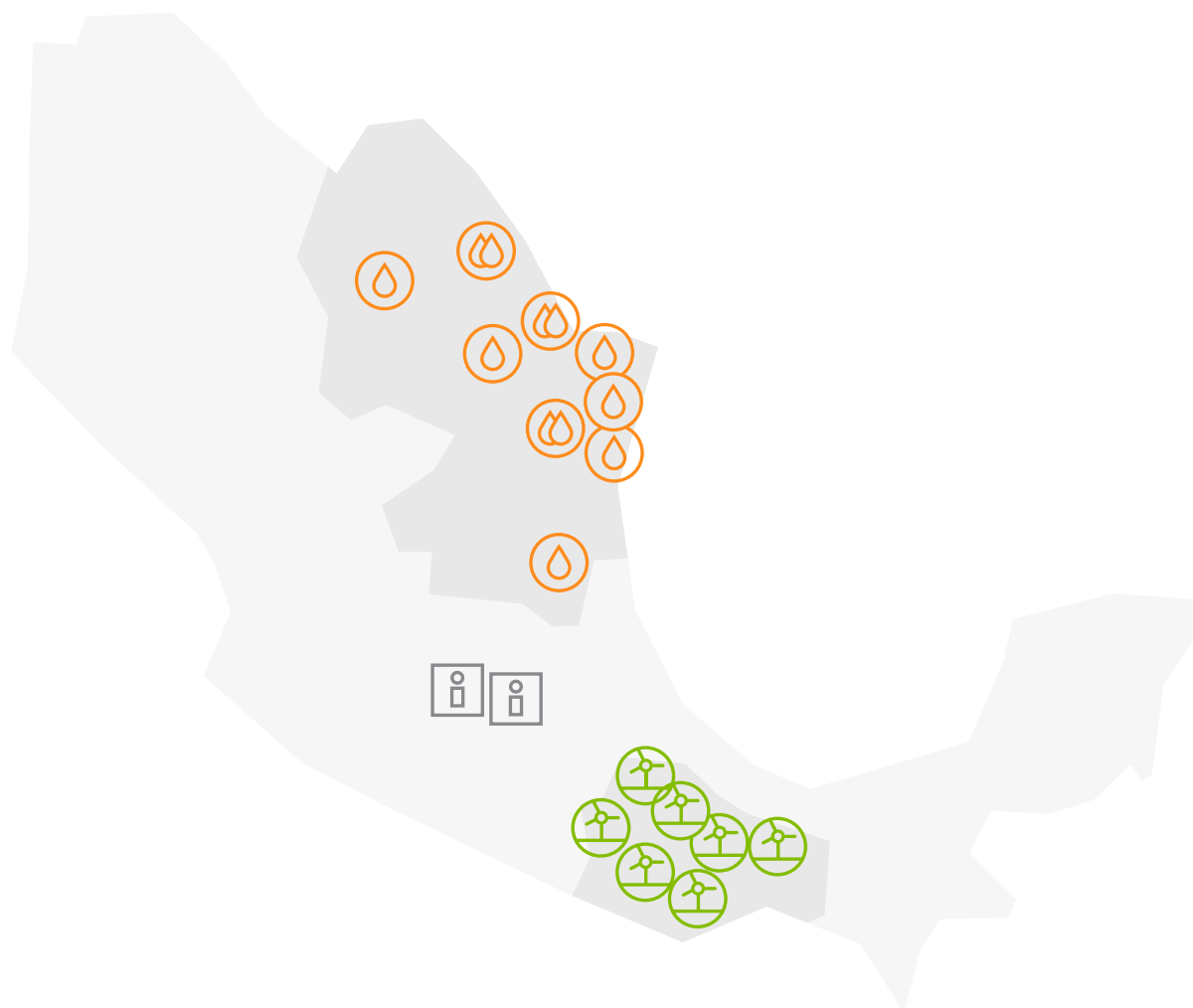
Employees

358

€M
Investments

209

€M
Direct tax contribution



Primary facilities

7 

Windfarms
367 MW

3 

Cogeneration plants
237 MW

6 

Combined cycle gas plants
5,200 MW



Offices

Area
of influence

Iberdrola in Brazil

Largest distributor in Brazil by number of customers

Δ 2016 / 2015

GDP -3.5%

Electricity demand -0.9%

Primary brands



ELEKTRO

Brazil subholding
company



Instituto
ELEKTRO



IBERDROLA

Ingeniería y Construcción
Engineering

2016 data

2,926

MW
Installed capacity⁽¹⁾

2,315

MW
Renewable installed capacity⁽¹⁾

9,003

GWh
Net output⁽¹⁾

592,717

Km
Power lines⁽¹⁾

62,726

GWh
Electric power distributed⁽¹⁾

13.4

Million users⁽¹⁾

3,742

Employees

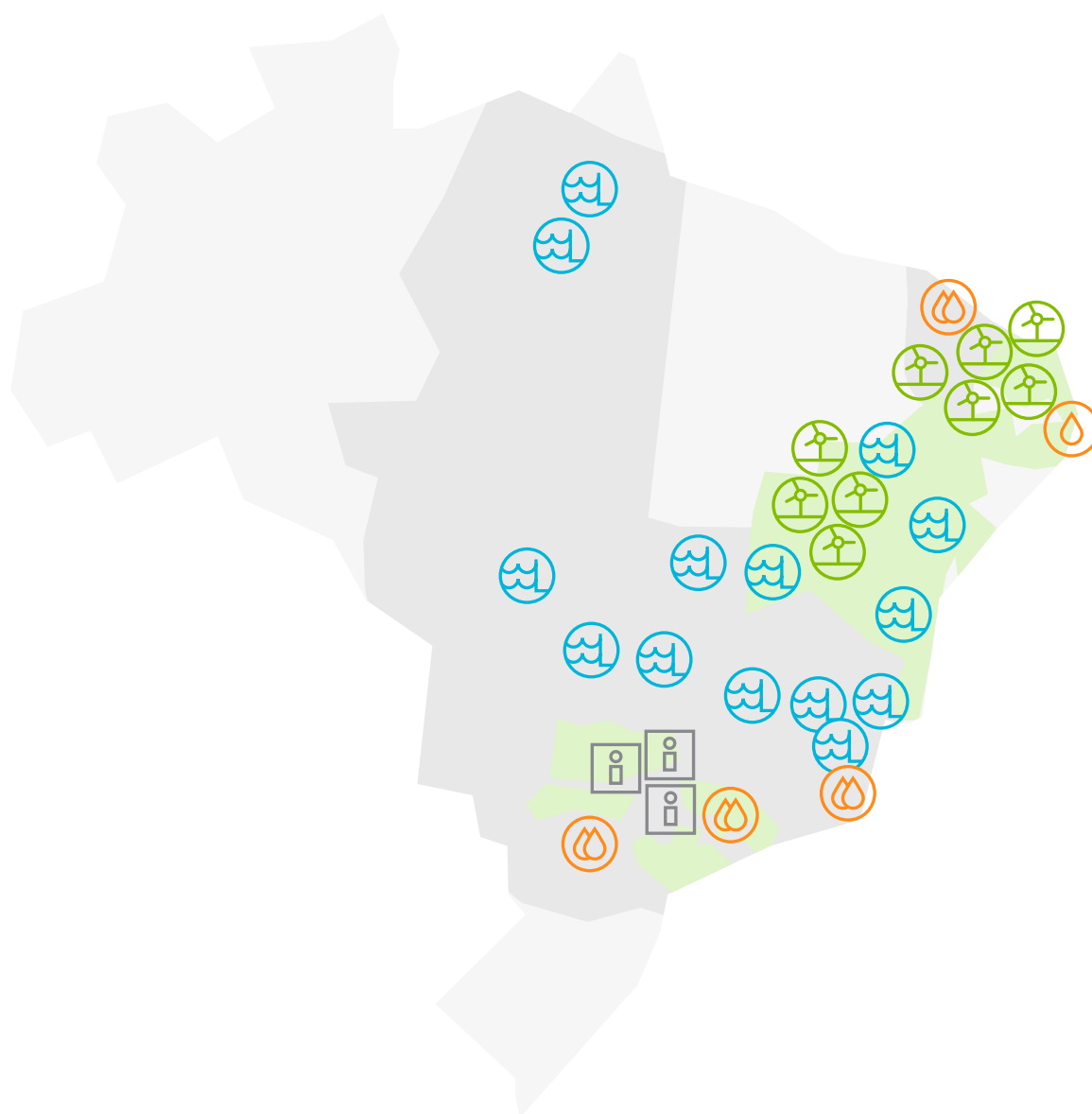
81

€M
Investments

593

€M
Direct tax contribution

⁽¹⁾ Managed magnitudes including 100% Neoenergia.



Primary facilities

11 

Windfarms
337 MW

4 

Cogeneration plants
78 MW

1 

Combined cycle gas plant
533 MW

14 

Hydro power plants
1,978 MW



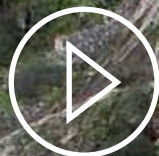
Offices

Area
of influence

Electricity
distribution

Aledeadávila Hydroelectric
plant, Salamanca
/ España

© Iberdrola, S.A.



2.

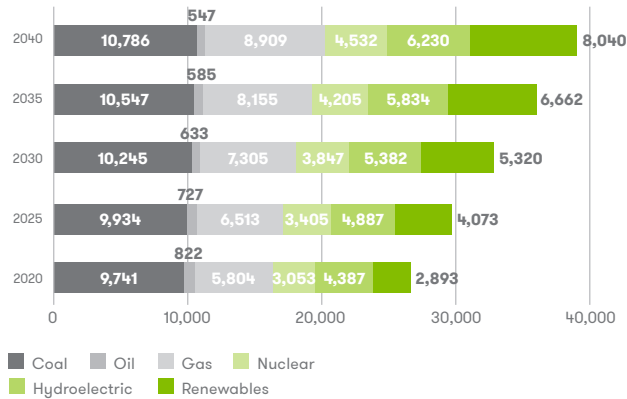
Business Model and Strategy

2.1 The Future of Energy

Opportunities for continued growth

The energy sector presents strong opportunities for growth over the long term.

Electricity production by type of source (TWh)



Source: World Energy Outlook 2016 - International Energy Agency

“Meeting the emissions targets will only be possible by massively electrifying the economy, through more clean energies, especially hydroelectric, wind and solar power, more storage capacity, and more and smarter distribution networks”

Ignacio Galán, at the WORLD ECONOMIC FORUM 2017

The electric industry, according to World Energy Outlook 2016

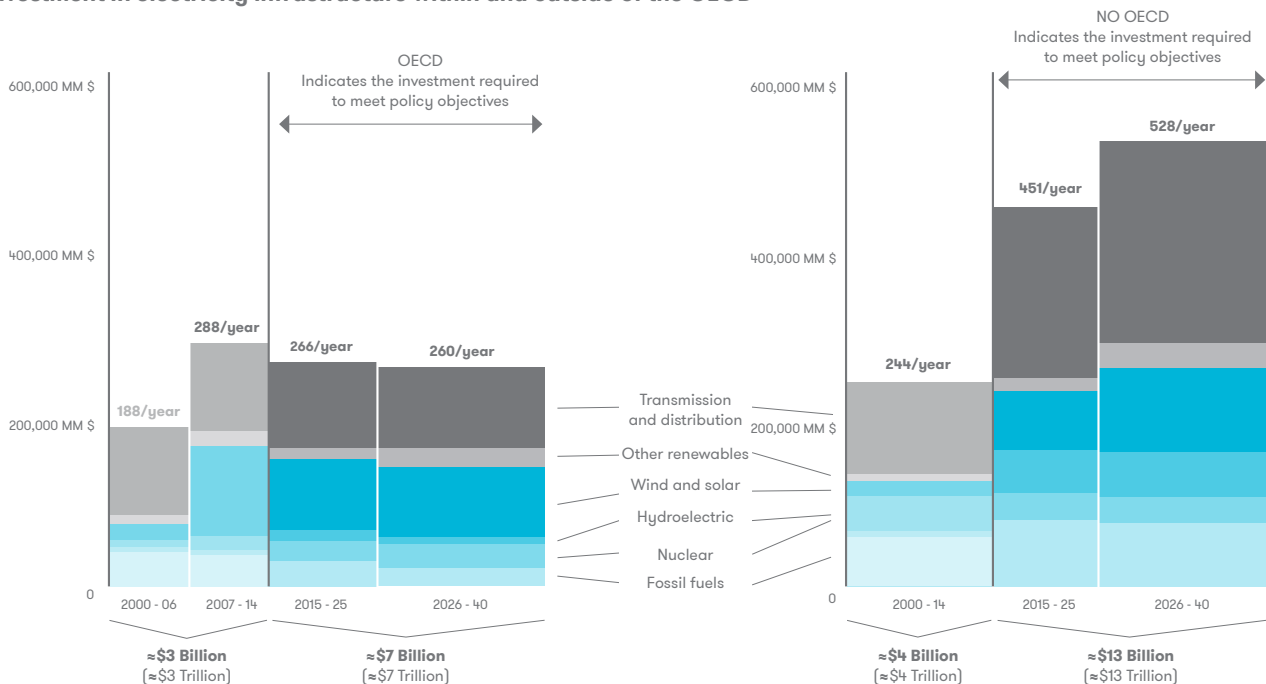
The Paris Agreement on climate change (COP21) will transform the global energy system in the coming decades.

The electricity sector is the focus of many of the Paris commitments. Almost 60% of all new electric generation capacity to be installed through 2040 will come from renewable sources. It is also estimated that by 2040 most renewable generation will be competitive without needing any kind of subsidy.

Another important factor in the near future will be the strengthening of the electric distribution grids, to facilitate better integration of renewable technologies, and ensuring the availability of sufficient backup capacity.

It will also be interesting to have the ability to store energy and to improve energy efficiency in all industries and energy-using processes.

Investment in electricity infrastructure within and outside of the OECD



Source: The Future of Electricity Report, World Economic Forum 2016

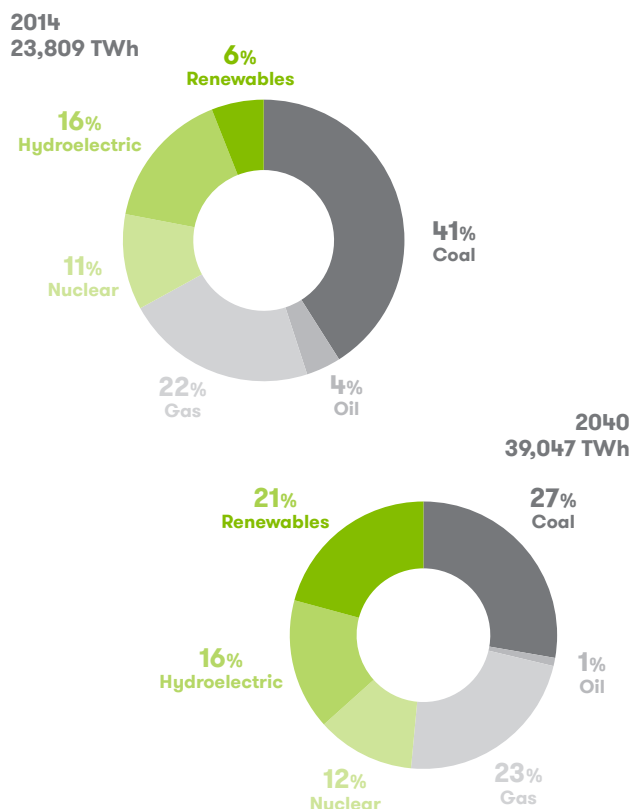
Evolution of demand^{(1), (2)}

The prospects set out in *International Energy Outlook 2016* regarding the use of energy continue to show an increase in energy demand over the next three decades, driven mainly by non-OECD countries, whose strong long-term economic growth translates into a growing demand for energy.

The EU Roadmap forecasts that electricity will at least double its share in final energy demand to 36-39% in 2050, which would contribute to a reduction in carbon emissions in heating systems and in the transport sector.

The energy sector is launching measures to reduce CO₂ emissions, showing its commitment to reach the goals set out in the Paris Agreement on climate change.

Growth in global electricity production (TWh)⁽³⁾



Sources: [1] *World Energy Outlook 2016* - IEA; [2] *Energy Roadmap 2050* of the European Parliament; [3] *World Energy Outlook 2016* - IEA

Trends in production and use of electricity

Sectoral^{(4), (5), (6)}

- The European Union has a significant challenge in meeting its commitments on climate and energy established for 2020, 2030, and 2050. The energy sector knows that supplying energy with lower CO₂ emissions is not an option, but rather a necessity.
- Rapid development of electricity output with renewable sources will mean lower manufacturing costs: an additional reduction in the average cost of photovoltaic solar energy and onshore wind energy is expected from now through 2040.
- Unsustainable pressure on natural resources. A world economy four times larger than today is projected to use 80% more energy in 2050.

Technological^{(4), (5), (7)}

- Rapid implementation of technologies with low variable costs, like most renewable energies, increases the possibility of sustainable periods of low wholesale electricity prices.
- Intelligent technologies applied to networks and remote management will allow for more active participation of demand and thus strengthen the role of the consumer in the energy market.
- Urban/technological lifestyles require more electricity. The growing middle class, the increase in income, and the larger amount of electric appliances will contribute to a doubling of electricity demand through 2060.
- Electricity storage, as a still-embryonic technological possibility, can open up new vistas for the operation and management of power systems.

Consumption^{(4), (6)}

- 1.2 billion people, or 17% of the global population, currently lack access to electricity, and 2.7 billion people, or 38% of the global population, put their health at risk by resorting to the traditional use of solid biomass for cooking.
- Over the next 25 years, it will be necessary to reduce emissions by almost half in order to halt climate change, with the difficulty that if consumption stays on its current pace, it will have increased by approximately 45%. "To solve this equation, we will need a huge energy transformation that can increase efficiency and substantially alter the energy mix with a higher contribution of low carbon sources" (Ignacio Galán).
- The development of new uses and applications for electricity may result in new markets and opportunities.

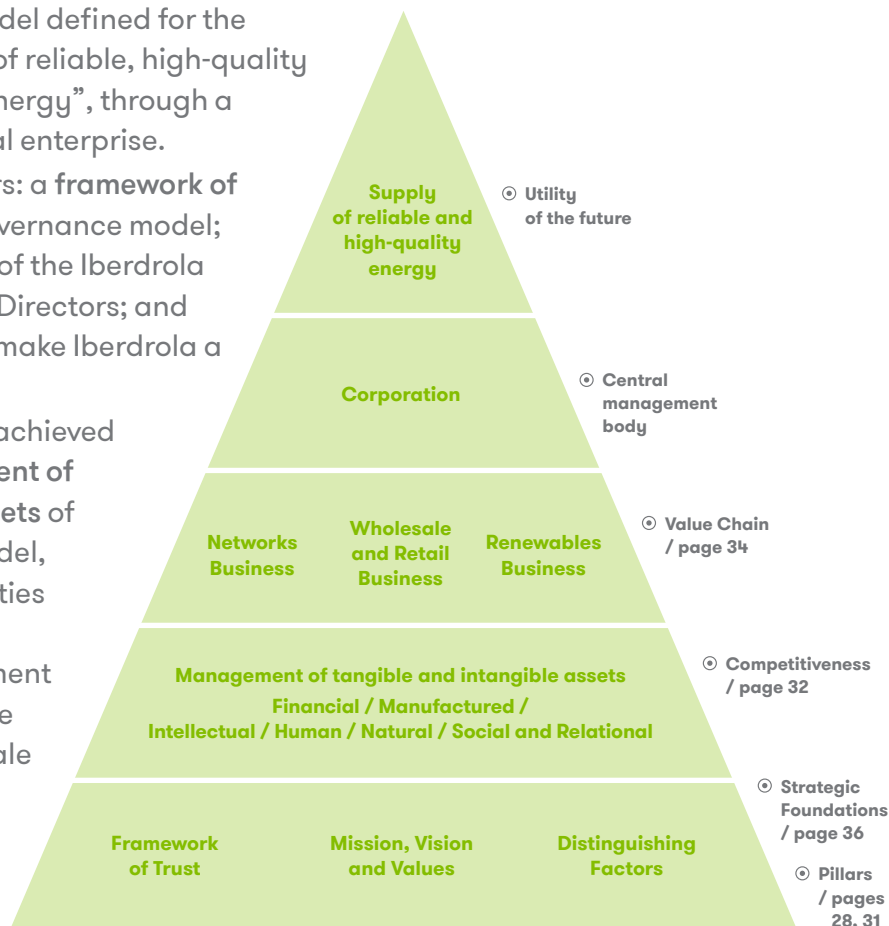
Sources: [4] *World Energy Outlook 2016* - IEA; [5] *Energy today in Spain, 15 key issues for the next legislature* - Club Español de la Energía; [6] *World Energy Outlook 2014* - IEA; [7] *World Energy Scenarios 2016* - World Energy Council

2.2 Business Model

The purpose of the business model defined for the Iberdrola Group is the “supply of reliable, high-quality and environmentally-friendly energy”, through a sustainable, long-term industrial enterprise.

The model is built on three pillars: a framework of trust based on an advanced governance model; the Mission, Vision, and Values of the Iberdrola Group defined by the Board of Directors; and the distinguishing factors that make Iberdrola a different company.

The model’s competitiveness is achieved through responsible management of the tangible and intangible assets of the Company. To apply this model, Iberdrola has defined the activities in which it seeks to be an active player, structuring its management into three global businesses: The Networks Business, the Wholesale and Retail Business, and the Renewables Business, with a Corporation as the Group’s central management unit.



Framework of trust

To ensure the sustainability of its business model, Iberdrola has implemented:

- A Corporate Governance System consistent with best international practices.
- Corporate ethics, internalised by the management units and the organisation as a whole.
- Social responsibility policies, with a view to meeting the expectations of Stakeholders.
- An advanced risk control system, to maintain an optimal “risk/opportunity” balance, taking advantage of opportunities and mitigating risks.

⊙ Corporate Governance Model
/ page 78

Mission, Vision, and Values

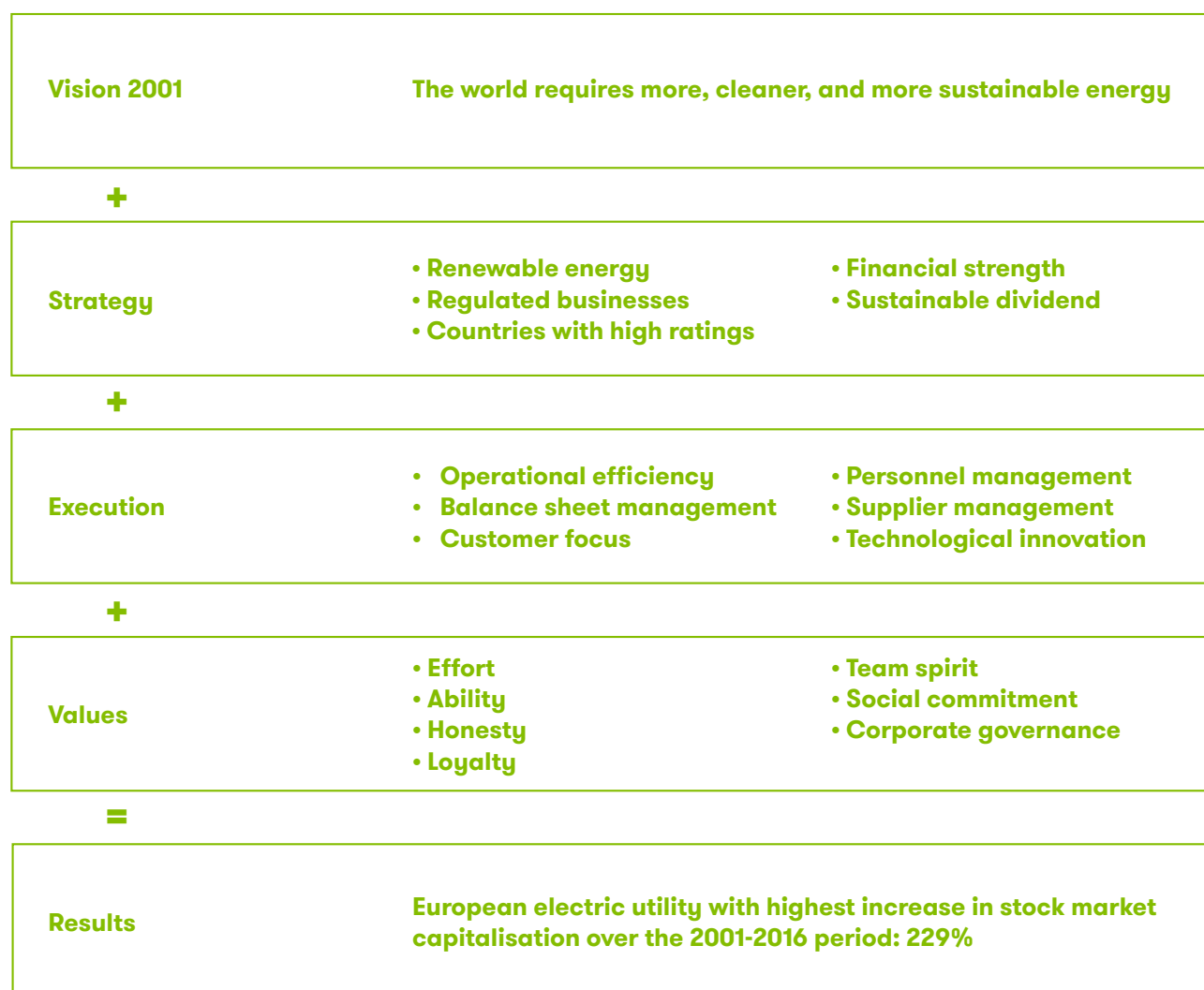
“We want to be the leading multinational group in the energy sector at the forefront of a better future, sustainably creating value with a quality service for people...”.

This Vision is based on twelve Values:

- Sustainable creation of value
- Ethical principles
- Good corporate governance and transparency
- Development of our workforce
- Social commitment
- Sense of belonging
- Safety and reliability
- Quality
- Innovation
- Respect for the environment
- Customer focus
- Institutional loyalty

⊙ Ethics and Social Responsibility
/ page 90

Iberdrola wants to be a responsible and sustainable company, serving society and people
 The Company has been leading with a history of growth and foresight...



... with a very positive impact on society

Iberdrola generates a number of very significant economic, social, and environmental impacts on the countries in which it does business. The most significant are⁽¹⁾:

- Annual generation of more than €27,000 million in Gross Domestic Product (GDP) in the countries in which it operates.
- Annual contribution of more than €4,400 million in investments, for the capital formation of the world economy.
- Investment of more than €2,300 million in “green generation” (2013-15), entailing:
 - Installed green capacity (hydroelectric and renewable) constituting 55% of all of Iberdrola’s installed capacity.
 - Avoidance of the emission of more than 57 million tonnes of CO₂.
- Creation of close to 300,000 jobs throughout the world (direct, indirect, and induced employment).
- Investments of more than €100 million in rural electrification programmes in Brazil (2013-15), and facilitating access to electricity for more than 1.4 million people in developing countries (2014-15).

⁽¹⁾ Data from a Study of Iberdrola’s Impact, prepared by PwC, based on 2015 figures.


Iberdrola's strategy is perfectly aligned with the Sustainable Development Goals (SDGs)


Iberdrola is fully committed to the Sustainable Development Goals defined by the United Nations for the 2015-2030 period. There are 17 global goals intended to transform our world, ending poverty, fighting against inequality and injustice, and confronting climate change. They affect both developing and developed countries, and also all types of organisations and institutions, including companies.

Iberdrola has incorporated the Sustainable Development Goals (SDGs) into its business strategy and its *Sustainability Policy*.

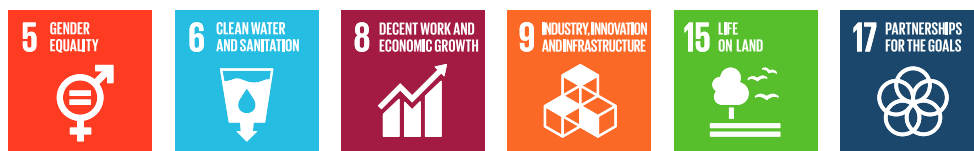
The Company has prioritised the various SDGs based on type of activity, defining 3 levels of contribution:

Main focus

	Goal		2020			
	▲ Access to electricity		4 million people			

	Goal		2020	2030	2050	
	▼ CO ₂		30%	50%	Neutral	

Direct contribution



Indirect contribution



Iberdrola has set ambitious challenges relating to the Goals selected as its principal Focus:

- **Goal 13 Climate action:** Achieve a 30% reduction in the intensity of CO₂ emissions by 2020 compared to those in 2007; a 50% reduction in emissions intensity by 2030; and be carbon neutral by 2050.

At year-end 2016, Iberdrola's emissions intensity was 34% lower than the European average, and 66% of its installed capacity is emission-free.

- **Goal 7 Affordable and clean energy:** By 2020, bring electricity to 4 million people who today lack access to this energy source.

By year-end 2016, we had contributed to 2.5 million people benefiting from access to electricity through projects carried out in various countries of Latin America and Africa.

2.3 Iberdrola, a Different Company

© Iberdrola's Primary Businesses
/ page 43

Focus on basic and regulated businesses

Approximately 75% of Ebitda comes from regulated businesses or long-term contracts.

Operational efficiency

An energy model based on clean energy, networks, and digitisation has allowed our Company to be 30% more efficient than the average for the industry in Europe.

© Iberdrola's Primary Businesses
/ page 43

© Presence by Areas of Activity
/ page 14

International diversification

Approximately 55% of earnings are generated outside of Spain.

Financial strength and solidity of the Group

- Strengthening of the balance sheet due to growth in Ebitda and FFO, which allows for continued strength in solvency ratio levels.
- Liquidity position that covers financial needs for more than 18 months under a stress scenario.

© Financial capital
/ page 62

© Natural Capital
/ page 70

Commitment to clean and competitive energies

- Generation and production of largely emissions-free electricity.
- Large portfolio of offshore wind generation projects and wave and tidal power projects.
- Clear goals for reducing emissions.

Global, committed, and qualified workforce

- Stable and high-quality jobs, with high level of training.
- Health and safety as values: "accident reduction" goal.
- The companies of the Group have been recognised: In Spain for their Reputation (Merco) and in Brazil as the best company to work for in Latin America (Great Place to Work).

© Human Capital
/ page 68

2.4 Management of Tangible and Intangible Assets

	ⓘ Financial capital / page 62	ⓘ Manufactured Capital / page 64	ⓘ Intellectual Capital / page 66
	Financial capital	Manufactured capital	Intellectual capital
What is it?	Financial resources that the Company already has or obtains through financing.	Tangible assets or goods used by the Company to carry out its business activities.	Intangible, knowledge-based assets.
Management Approach	Create value for shareholders through sustainable growth.	Offer a competitive supply of energy in a safe and reliable environment.	Consider innovation as a strategic element of the Company.
Significant aspects	<ul style="list-style-type: none"> • Balanced growth. • Sound financial structure. • Operational efficiency. • Sustainable results and dividends. 	<ul style="list-style-type: none"> • Power generation assets. • Power transmission and distribution assets. • Other assets. 	<ul style="list-style-type: none"> • Promotion of R&D. • Efficiency and new products and services. • Disruptive technology and business models.

The Iberdrola Group holds valuable assets for the development of its business model. The strategy defined by the Company transforms these assets to create value for all its Stakeholders.

<p>⊙ Human Capital / page 68</p>	<p>⊙ Natural Capital / page 70</p>	<p>⊙ Social and Relational Capital / page 72</p>
Human capital	Natural capital	Social and relationship capital
Employee knowledge, skills, experience and motivation.	Natural resources affected by the Company's activities.	Ability to share, relate, and collaborate with its Stakeholders, promoting community development and well-being.
Guarantee the availability of a committed and qualified workforce.	Ensure sustainable use of natural resources and contribute to combating climate change.	Promote relations of trust with Stakeholders, improving the quality of life of people in areas where the Group has a presence.
<ul style="list-style-type: none"> • Global human resources management. • Goal of "accident reduction". • Talent management. • Diversity, equal opportunity, and reconciliation. 	<ul style="list-style-type: none"> • Environmental management. • Preservation of biodiversity. • Prevention of pollution. • Operating excellence and energy efficiency. • Waste management. 	<ul style="list-style-type: none"> • Stakeholder relations. • Community support and electricity access programmes. • Foundations of the Iberdrola Group. • Corporate reputation. • Brand management. • Informational transparency.

2.5 Value Chain

Power generation

Electricity production through the construction, operation, and maintenance of generating plants, and purchase/sale of energy on wholesale markets.

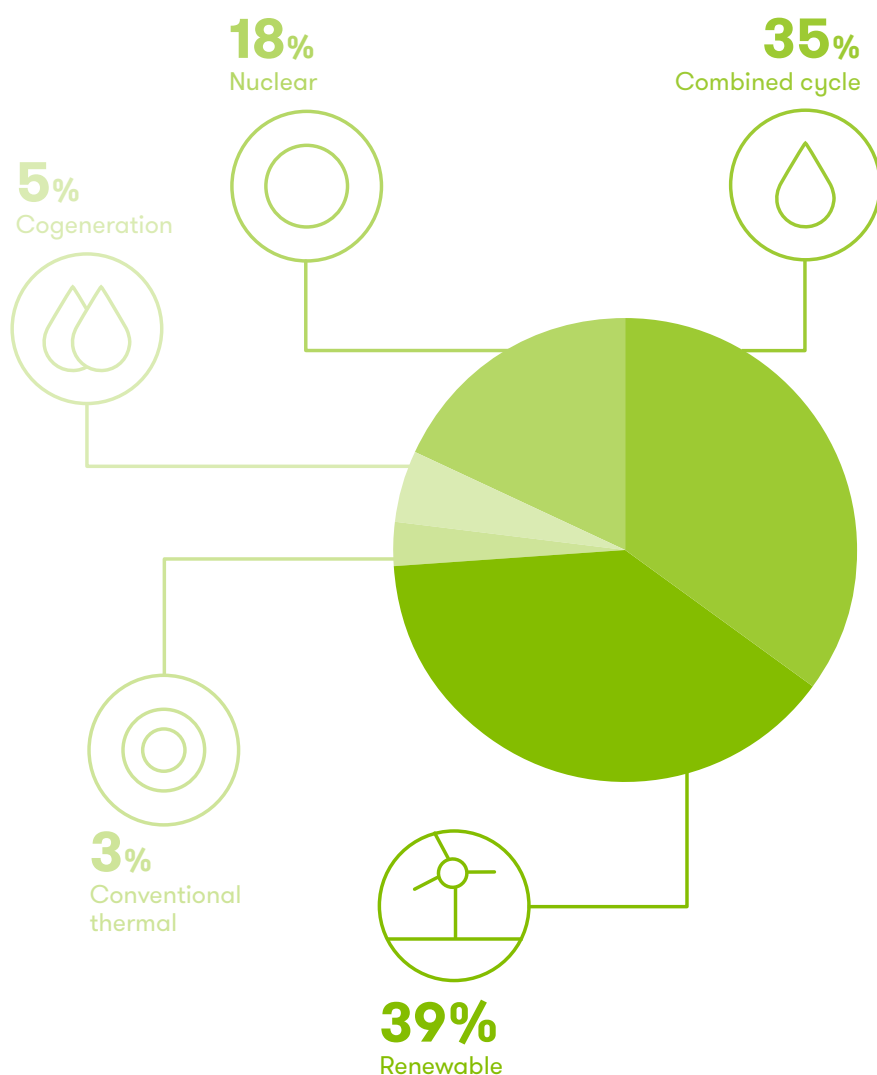


Power transmission and distribution

Construction, operation, and maintenance of electrical lines, substations, transformer centres, and other infrastructure, to transfer electrical power from production centres to the end user.

Generating plants*

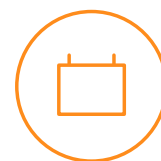
* % of 2016 net output



Electric grids*

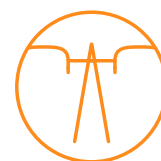
* At 31 December 2016

Overhead lines



4,000

High and medium voltage transformer substations



30,491 km
of transmission lines



875,140 km
of distribution lines



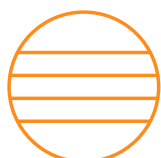
Retail sale of energy

Supply to end users of energy and additional products and services.

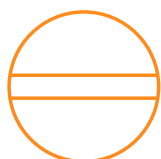
Underground lines



1.4 million
Medium to low
voltage distribution
transformers



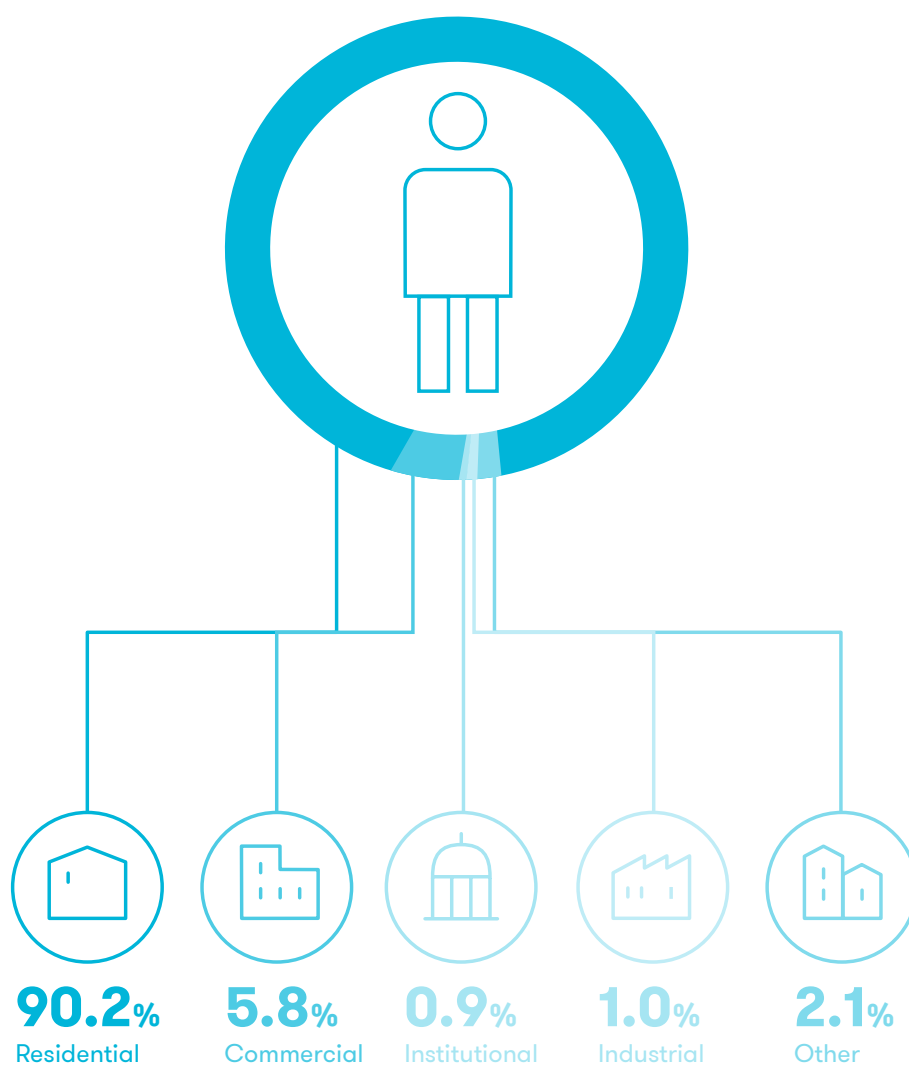
986 km
of transmission lines



193.285 km
of distribution lines

Users*

* % by sector at 31 December 2016



2.6 Strategic Foundations

for 2016-2020

Market conditions

The global energy markets are showing a certain amount of volatility, which is a reflection of geopolitical factors affecting the oil- and gas-producing countries. Our update of the scenario for the 2016-2020 period compared to prior forecasts is maintenance of prices in Spain and an increase in electricity prices in the United Kingdom, explained by an increase in the price of gas. We expect a relatively flat scenario over the full period. The diversification of businesses and countries will allow the Company to develop a strategy of growth and value creation that conforms to this environment.

Challenges and opportunities

Challenges

- Decarbonisation in the energy sector. Demand for cleaner and more sustainable energy.
- Management of a scenario of constant prices for energy in the medium term.
- Attainment of higher efficiency levels in all businesses.
- Regulatory management in all businesses, with special emphasis on transmission and distribution businesses, and in the development of the single market in Europe.
- Implementation of an investment plan focused on growth in the businesses of regulated networks, renewables, and long-term contracted generation.

Opportunities

- Balanced business model focused on regulated activities and renewable generation.
- Significant experience in the development and construction of network and emission-free generation projects.
- International diversification with a presence in countries with stable and predictable regulatory frameworks that require investment in the electricity and gas sectors.
- High quality of assets.
- Proven management capacity, culture of efficiency, and results.
- Culture of innovation to implement digitisation in relation to customers and the development of new products and services.

Growth vectors 2016-2020

Investments

- United States: the Company, through Avangrid, will continue with new onshore wind developments, taking advantage of the extension of tax credits to 2020. It is also facing growth in the area of distribution networks as well as in transmission.
- Mexico: it will consolidate its position as the largest private power generator in Mexico, through new plants under long-term contract with the Federal Electricity Commission (*Comisión Federal de Electricidad*) (CFE), and also taking advantage of the opportunities arising from the liberalisation of the sector.
- United Kingdom: Iberdrola continues with its growth phase in the power transmission and distribution businesses and with the start-up of onshore and offshore renewable energy projects. Offshore wind will gain significance beginning in 2018.
- Brazil: strengthened growth in renewables, maintaining its position as largest electricity distributor by number of customers.
- Spain: maintenance and improvement of facilities. Growth in smart grids.

Operational efficiency

- In all areas of activity, with a plan to save €1,300 million over the period.

.... expanding the geographic diversification of the Company in countries with an A rating, and increasing its presence in regulated businesses with low risk and the generation of recurring cash flows.

Strategic pillars

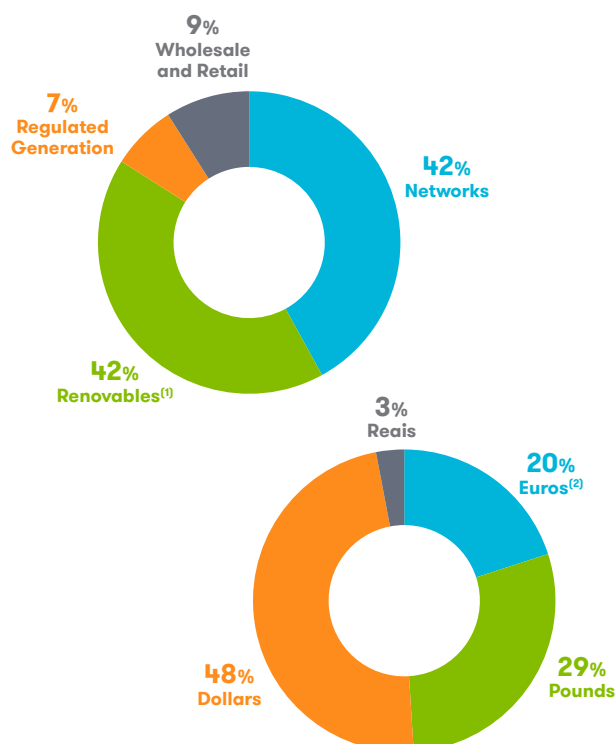
Iberdrola's strategy for 2016-2020 will remain focused on balanced growth, ensuring its financial strength and the sustainability of its dividend policy, the growth of which will be linked to growth in results.

New investments will be concentrated in countries with high credit ratings (A rating), and in businesses that are preferably regulated or under long-term contract, thus improving the profile of the Company.

1. Balanced growth

- Investments focused on businesses and countries with stable and predictable regulatory frameworks, 71% in countries with a credit rating of A.
- Net investment increases €1,000 million over the plan presented in 2016, to €25,000 million, due to higher growth in renewable generation in the United States.
- Of total investments during the period, 75% are focused on growth and the rest on maintenance.
- Electric power transmission and distribution networks will account for 42% of net investments. Of the overall amount, 42% will be dedicated to renewable energy and 7% to regulated wholesale generation. 9% of the total will be invested in the Wholesale and Retail business.
- The regulated businesses (networks, renewables, and regulated generation) will account for 90% of all planned investments.
- Geographically, Iberdrola will concentrate the bulk of its growth in the international area. By currency, 48% will be invested in dollars, 29% in pounds Sterling, 20%⁽²⁾ in the Euro zone, and 3% in Brazilian reais.

Investment by business and currency 2016-2020



(1) Includes hydroelectric

(2) Includes offshore windfarm in Germany: Wikinger

2. Financial strength

The Company obtained solid results in financial year 2016, thanks to the good performance of the businesses and a reduction in costs. Ebitda reached €7,808 million, increasing 5.5%, although it would have grown 8.2% excluding the exchange rate effect (depreciation of the pound). Net profit grew 11.7% to €2,705 million. The efficient operation of operating assets, together with the above-described investment plan, will lead to sustainable growth in the Company's results, with an estimated average annual increase of approximately 7.5% over the 2016-2020 period.

The profile of the Company's businesses, together with a balanced investment plan, will allow for sustained growth in Ebitda and Net profit of approximately 6% and 7.5%, respectively...

- Average annual funds from operations (FFO) in the amount of €7,100 million will amply exceed investments, which will reach an annual average of €5,100 million. By business, cash flow generation from Wholesale and Retail and from Networks will be significantly greater than investments, while Renewables will invest a number somewhat higher than its cash flow generation.
- Maintenance of the current financial model to provide subsidiaries with an optimal

capital structure giving appropriate financial signals and which is consistent with an investment grade rating, while respecting current guidelines for structural subordination.

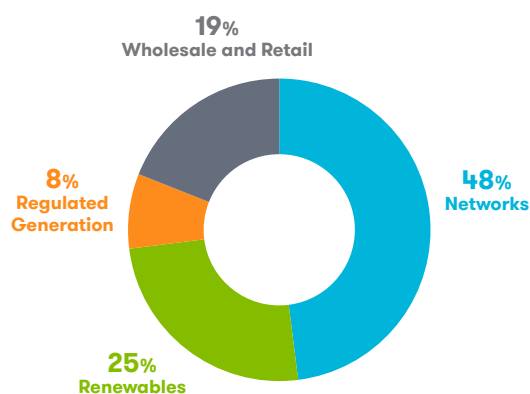
- Optimisation of liquidity position (around €8,000 - 9,000 million) to current market conditions in order to improve financial costs, maintaining 18 months of coverage even during stress scenarios.
- Maintenance of the strong 2016 solvency ratios through 2018, after which they will substantially improve, thanks to increase in Ebitda and FFO.

...resulting in the Company proposing a sustainable shareholder remuneration policy linked to the growth in results.

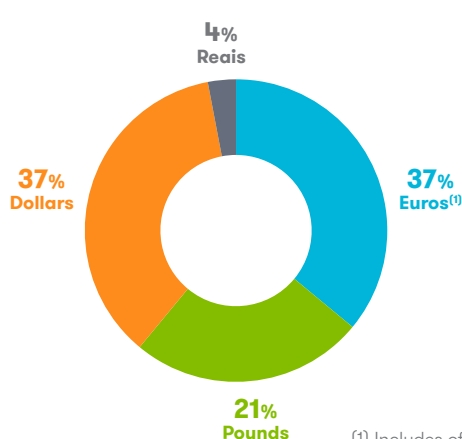
3. Sustainable dividend

- Thanks to the strength of the results obtained, the Company has announced a proposal to immediately increase the annual dividend to 0.31 euro per share with a charge to financial year 2016. This amount is also set as the minimum dividend for future years.
- In the coming years, shareholder remuneration will grow in line with the increase in results, converging towards a payout ratio between 65% and 75%. Taking into account this range and the forecast growth in net profit, the dividend would be between 0.37 and 0.40 euro per share by 2020.

Ebitda by business (forecast to 2020)



Ebitda by currency (forecast to 2020)



(1) Includes offshore windfarm in Germany: Wikinger

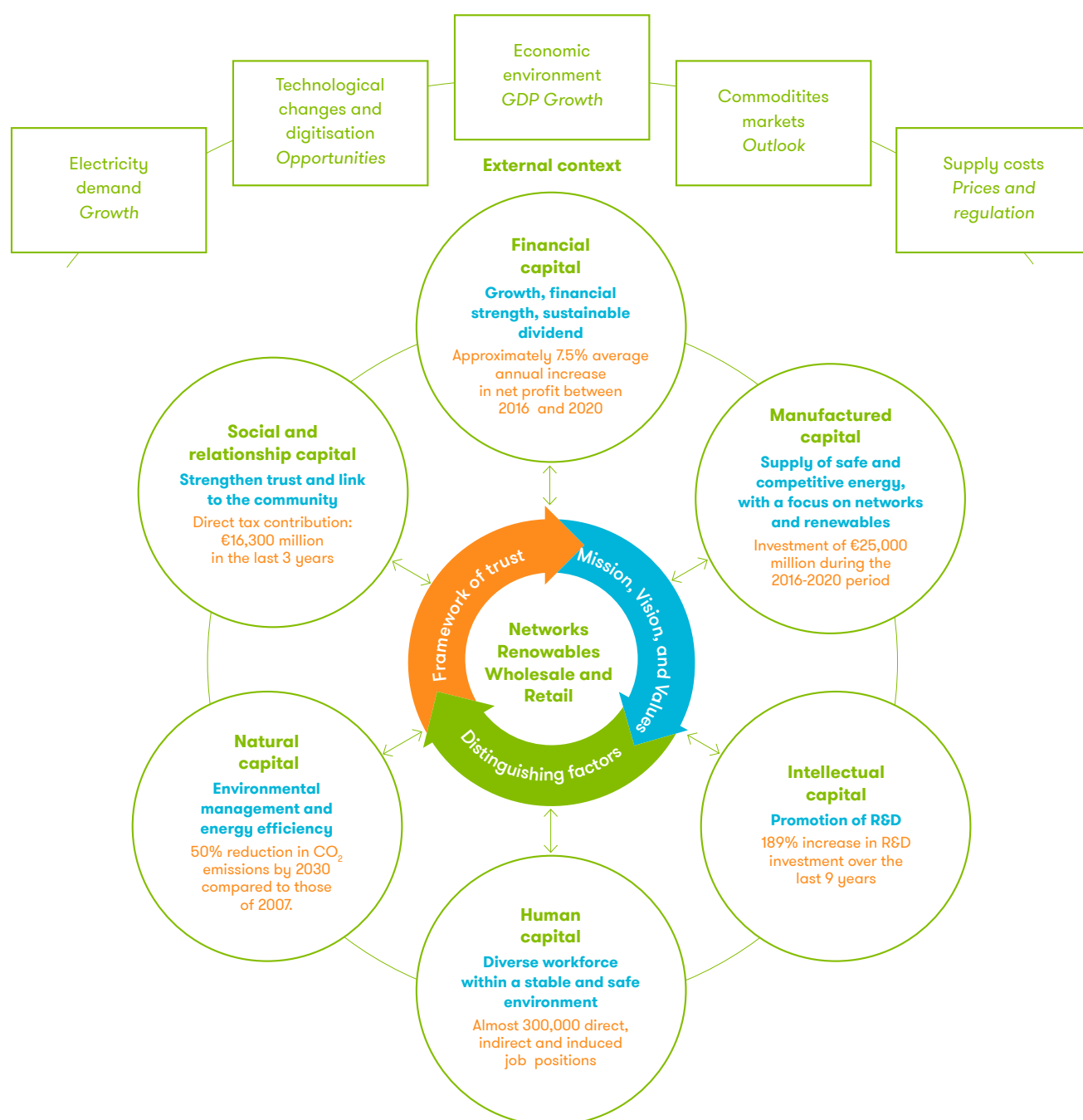
2.7. Capital/Business

Relationship

The value created by the business strategy and model of Iberdrola over time translates into an increase in its capital, which in turn feeds back into a cycle of value creation, efficiently inter-relating the operations of the businesses and the capital of the Company. The chart below shows for each Chapter its strategic focus and quantifies an aspiration

or achievement of the Company in this area.

This process creates shared value for both Iberdrola and for its Stakeholders, and constitutes a main vector for achieving the Company's goal to offer a reliable, high-quality, and environmentally-friendly energy supply.



2.8 Comparative Results

and Awards

Comparative analysis*

Comparative economic/financial variables 2016

Growth in Ebitda

ACGR (%)	Average comparables	Iberdrola
31-Dec.-06 / 31-Dec.-16	1.3%**	7.2%

Growth in capitalisation

Total growth (%)	Average comparables	Iberdrola
31-Dec.-06 / 31-Dec.-16	-54.2%	32.8%

Iberdrola held 5th place among comparable companies in terms of stock market capitalisation for the last 10 years. It is now in second place.

Share price

Total growth (%)	Average comparables	Eurostoxx Utilities	Iberdrola
31-Dec.-06 / 31-Dec.-16	-70.1%	-52.4%	-24.7%

* Comparable companies analysed: Engie, EDF, E.On, Enel, RWE. ACGR: Annual Compound Growth Rate, i.e. weighted average annual growth.

** For Engie, Enel, E.ON, and RWE, the 2016 Ebitda figures are the estimates published by Bloomberg, due to the lack of final closing figures on the date of preparation of this document. In addition, for Engie, the 2006 figure is for GDF (prior to the merger of GDF and Suez SA).

Comparative performance of total shareholder return

Profitability (%)	Average comparables	Eurostoxx Utilities	Iberdrola
31-Dec.-06 / 31-Dec.-16	-37.0%	-16.6%	11.3%

Iberdrola's performance

Over the last 10 years, Iberdrola has more than tripled its assets, tripled its revenues, doubled its Ebitda and increased its net profit by 60% and shareholder remuneration by 30%, while maintaining its financial strength.

Iberdrola	31-Dec.-06	31-Dec.-16	Multiple
Assets (€M)	33,061	106,706	3.2x
Revenues (€M)	11,017	29,215	2.7x
Ebitda (€M)	3,890	7,808	2.0x
Net Profit (€M)	1,660	2,705	1.6x
Dividends ⁽¹⁾ (€/share)	0.22	0.28	1.3x
Net Debt/Ebitda	3.7	3.8	1.0x

(1) Not including the bonus for attending the General Shareholders' Meeting.



Ignacio Galán at the offices
of the Iberdrola Tower
/ Bilbao

External awards

For the Company:

- Best Corporate Governance in Spain (World Finance): 2015, 2014, and 2012.
- Best Corporate Governance among European Utilities (Ethical Boardroom): 2016, 2015, and 2014.
- World's Most Ethical Company Index (Ethisphere Institute): 2016, 2015, and 2014.
- Leading Ibex 35 company in the tax transparency ranking 2015, from *Fundación Compromiso y Transparencia*.

© Other Awards
/ page 91

For the chairman & CEO:

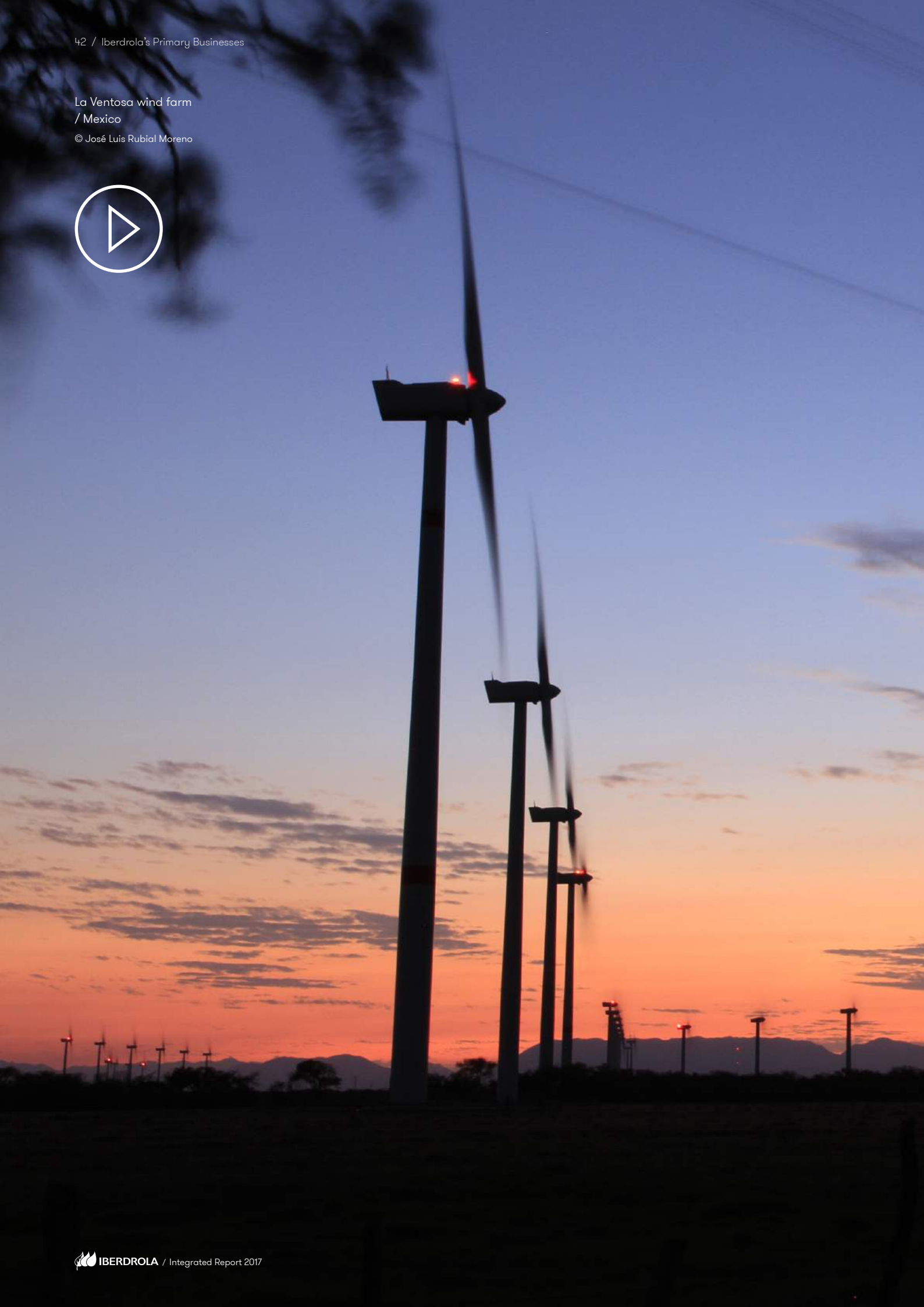
- Best European Utility CEO (Institutional Investor Research): 2016, 2015, 2014, 2013, and 2011.
- Commander of the Most Excellent Order of the British Empire: 2014.
- Honorary Doctorate from the Universities of Salamanca (2011), Strathclyde (2013), and Edinburgh (2011).

For other members of the Company:

- Best European Utility CFO (Institutional Investor Research): 2016, 2015, 2014, and 2012.
- Best European Utility Investor Relations (Institutional Investor Research): 2016, 2015, 2014, 2013, 2012, and 2011.

La Ventosa wind farm
/ Mexico

© José Luis Rubial Moreno





Iberdrola's Primary Businesses

Regulation is a key factor in the sustainability of Iberdrola's activities.

Energy policies must set clear and predictable goals in order to attract the investment needed to guarantee a safe, competitive, and sustainable supply, developing to the maximum its potential as a source of growth and employment.

3.1 Regulatory Environment

European Union

- The Climate Change Conference (COP21) agreements reached during the Paris Summit in 2015 were ratified in 2016, before the commencement of the Marrakesh Summit. These agreements entail a multilateral commitment to implement measures to reduce emissions in order to limit the increase in temperature to a maximum of 2°C. These measures will foster investment and must be supported by signals incentivising low-carbon technologies. In addition, these costs must be paid in accordance with the “polluting party pays” principle.
 - In November 2016, the European Commission (EC) published the “Clean Energy for All Europeans” package (also known as the “Winter Package”), the legislative proposals of which, in the words of the EC, have three main goals: putting energy efficiency first, achieving global leadership in renewable energy, and providing a fair deal for consumers. Among the more far-reaching measures included in the proposed Directives and Regulations are those concerning the market design reform and the safety of supply framework. Proposals have also been submitted to modify the frameworks for renewables and for energy efficiency, in line with the 2030 goals.
 - During 2017, there will be continued steps in connection with the Emissions Market Directive, and preparation of the regulations and directives contained in the “Winter Package” will begin.
-

Spain

- After the strong tariff deficit during the 2005-2013 period and a slight surplus in 2014 and 2015, the system has reached financial balance. A Ministry Order freezing electricity and gas usage charges for 2017 was published in December 2016.
 - The Supreme Court has rendered judgements holding that the funding system for the subsidised rate (*bono social*) is invalid on the grounds that it is discriminatory. The companies funding these amounts (up to now, the parent companies of vertically integrated groups) must be reimbursed for the amounts contributed between 2014 and 2016, with interest.
-

United Kingdom

- On 23 June 2016, the United Kingdom voted to leave the European Union. Future trade agreements have not yet been determined, but significant changes are expected in the energy regulatory environment in the short term.
 - After the referendum, David Cameron resigned and Theresa May was elected Prime Minister; her government stated that the protection of consumer interests is a priority and reiterated its commitment to decarbonising the economy.
 - The Competition and Markets Authority (CMA) completed its investigation into the industry in June, and the proposed orders were implemented at the end of 2016. The CMA largely disregarded the concerns about the wholesale market and vertical integration, but recommended Ofgem or the Government adopt remedies in the retail market, such as a temporary limit on prepayment tariffs, a data base to help disconnected customers, and reforms in the SME market.
-

United States and Canada

- On 8 November 2016 Donald Trump won the elections and Republicans gained control of Congress and the Senate. The states will continue establishing a large part of the regulations affecting Avangrid.
- In 2016 litigation continued forward to determine whether the Environmental Protection Agency (EPA) can implement the *Clean Power Plan* (CPP). Trump has vowed to revoke it. There are various possible scenarios depending on the decision of the U.S. Court of Appeals for the D.C. Circuit regarding the CPP.
- It is expected that PTCs (Production Tax Credits) will be maintained during the Trump administration, as they have the support of Congress. Current laws already provide for their gradual phase-out, and a change therein would have an impact on regulatory security.
- The methodology to replace net metering in the State of New York is now being debated. An order of the Commission is expected in January 2017.

Mexico

- The energy reform encourages private investment in the generation, sale, and supply of electric power. The networks continue to be under state ownership but are open to contracts with private persons. In this context, the first auction of transmission lines is expected to take place in the first half of 2017. The share of clean energy is forecast to increase up to 35% by 2024 with the creation of a clean energy certification system that will determine certain supply obligations.
- The Real-Time and Day-Ahead Markets began to operate in 2016. Two Long-term Auctions were also held, which will add almost 5 GW of new clean generation capacity.

Brazil

- The regulator has launched a Strategic Plan for the improvement of the Brazilian energy industry in order to carry out a revision of the sector, make improvements, and mitigate the risks facing the players involved. This project will continue until the first quarter of 2018.
- Due to the decrease in demand and the migration of customers to the free market, distributors have found themselves to have contracted for an oversupply of energy. The regulatory agency and the ministry have approved various regulations to minimise the effects of the 2016 oversupply.
- A two-part tariff was approved in 2016 with a view to modernising the tariff system.
- The Government has announced a plan to privatise six state-owned distribution companies belonging to Eletrobras; the plan should be completed before the end of 2017. The wave of privatisations began in 2016 with the auction sale of the distributor CELG.
- 2016 saw a modification in the model defining the maximum contract income by public auction for concessions of transmission lines. The main change was the method for calculation of the WACC,⁽¹⁾ which has been set at 9.67%. This measure increases the profitability of transmission concessions and makes auctions more appealing.

(1) WACC: Weighted Average Cost of Capital.

Work on distribution line
/ Spain

© Iberdrola, S.A.



3.2 Networks

Regulatory environment of the business

Spain

- After the approval of unit costs in December 2015, 2016 was the first year of the first regulatory period, which will end in December 2019.
- The remuneration of Iberdrola Distribución Eléctrica for 2016 was set at €1,664 million. This remuneration will increase each year based on the investments made.

United States

- The new tariff conditions for the NYSEG and RG&E (New York) gas and electricity businesses came into effect in July 2016. They will be in force for three years.
- A new three-year tariff agreement will come into effect for the electricity distribution company UI (Connecticut) in January 2017.
- In Maine, a 10-year tariff agreement for the gas distributor MNG came into effect, and the agreement for the electricity distributor CMP was extended for an additional year.
- The tariff conditions for the gas distributors CNG and SCG (Connecticut) and BCG (Massachusetts) will remain the same in 2017.

United Kingdom

- Ofgem has revised the investment scenario contemplated for the mid-period RII0-T1, with no impact on the transmission projects of ScottishPower Transmission Ltd. (SPT) agreed in 2013 and which will end in 2021.
- Distributors ScottishPower Distribution Ltd. (SPD) and ScottishPower Manweb plc (SPM) carry out their activities during the first regulatory period RII0-ED1, which will extend through March 2023.

Brazil

- The new tariff agreement for Celpe will come into force in April 2017 and will be in effect for five years.
- The tariff agreements for Coelba and Cosern will remain in effect until April 2018, and that for Elektro until 2019.
- The remuneration for the distribution activities of Elektro, Coelba, Cosern, and Celpe has been adjusted based on inflation in Brazil.

New tariff conditions for UI enter into effect in the State of Connecticut (USA) in 2017.

Objectives, risks, and principal activities

Objectives

- Zero accidents.
- Offer our customers excellent service based on the quality of supply and information regarding the network.
- Maximise efficiency in system operations through operational excellence and the digitisation of our assets.
- Lead the transformation towards more efficient integration of renewable and distributed energy.

Significant risks

- Safety of individuals due to risk of accidents.
- Assuring supply in the face of meteorological effects.
- Technological and cybersecurity risks affecting the security of the facilities and service to our customers.

Principal activities 2016

- Spain: continuation of the network digitisation and automation project, with

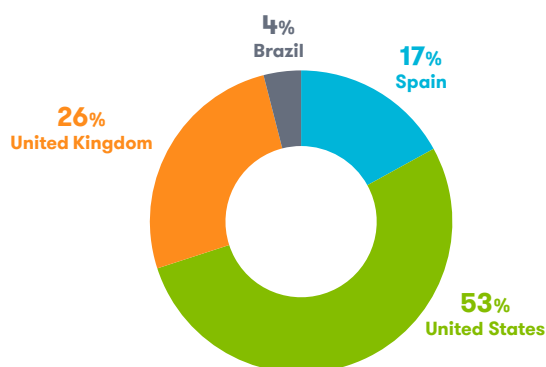
the installation of more than 8.8 million meters (83.5%) and digitisation of 55,500 transformer centres (66%).

- United Kingdom: developing the investment plans contained in RIIO-T1 and RIIO-ED1. Continuation of the Western Link HVDC project, which is expected to be completed in 2017.
- United States: developing the plan for integrating UIL's distributors within Avangrid. All regulatory quality levels have been met. Submission of filing with the regulator to launch smart meters, and creation of a platform for the integration of distributed generation within New York. Launch of Energy Smart Community project in Ithaca.
- Brazil: strengthening the position of Coelba and Celpe in Brazil's quality ranking thanks to Neoenergia's efficiency and supply quality improvement plan. At Elektro, development of facilities to meet demand and connect new customers.

Outlook 2016-2020

- Increased regulatory visibility in all countries, with investments of €10,300 million. 15% increase in RAV* since 2015, which would increase to 22% taking into account 100% of Neoenergia.
- Increase in efficiency: improvement in NOE/MB* by 2 percentage points, with a 41% in Ebitda/Employee.
- Growth in digitisation of the network (€2,600 million in investments during the 2017-2020 period), to increase efficiency and the quality of supply, and to offer new services to customers.
- Opportunities for selective growth in transmission.

Net Investment of €10,300 million between 2016 and 2020, mainly in the United States and the United Kingdom



2016-2020 cash flow generation to finance investments (€ thousands of millions)



* RAV: Regulatory Asset Value; NOE: Net Operating Expenditure; GM: Gross Margin.

Key figures of the Networks Business

Item	Unit	Spain		United Kingdom		United States ⁽¹⁾		Brazil				Total	
		2015	2016	2015	2016	2015	2016	Elektro		Neoenergia ⁽²⁾		2015	2016
								2015	2016	2015	2016		
Gross margin	€M	1,952	2,029	1,472	1,267	1,698	2,537	390	328	–	–	5,512	6,160
Ebitda	€M	1,457	1,603	1,138	976	781	1,270	253	233	–	–	3,628	4,082
Electric power distributed	GWh	92,685	92,308	36,253	35,704	33,697	39,079	17,448	17,425	44,673	45,301	224,749	229,816
Users (Electricity)	Millions	10.9	11.0	3.5	3.5	2.2	2.5	2.5	2.6	10.6	10.8	29.7	30.4
Gas supply	GWh	–	–	–	–	36,196	59,544	–	–	–	–	36,196	59,544
Users (gas)	Millions	–	–	–	–	1.0	1.0	–	–	–	–	1.0	1.0
Investments	€M	346	389	847	628	429	752	71	76	–	–	1,693	1,845
Workforce	No. of people	3,981	3,887	2,934	2,819	5,795	5,734	3,713	3,708	5,101	5,403	21,524	21,548

International Financial Reporting Standard (IFRS) 11 has been applied to the financial information.

1 UIL included in users and workforce in 2015. Not included in energy supplied.

2 Operational information is deemed to be 100% from Neoenergia.

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Customer service, operational efficiency, and digitisation of networks are the strategic pillars of the Networks Business upon which the business rests.

Customer service

- Investment in expansion, renewal of network, and investments in operation and maintenance to improve service quality for our customers.
- Met service quality targets, despite poor meteorological conditions during the last quarter of 2016.
- Implementation of transmission and distribution projects to improve service quality for customers.
- Development of digital customer service channels: improvements in website, apps, social media, etc.

Efficiency

- Increase in operating expenses contained despite strong increase in activity.
- Implementation of best practices throughout the networks companies, mainly in the areas of asset management, processes and technology, control systems, digitisation and automation, and customer service.
- Emphasis on the fight against electricity fraud in Brazil and Spain.
- Containment of increase in late payments in Brazil due to the country's economic crisis.

Digitisation of the network

- Projects to increase the automation of the MV network.
- Expand visibility of the LV network in Spain.
- Deployment of smart meters in Spain and the United States.
- Focus on maximising operational efficiency and improving service quality and providing useful information to customers.
- Improve customer service using new technologies.
- Strengthened measures to protect against cybersecurity risks associated with new grid management technologies.

Dulces Nombres II Combined Cycle
gas plant / Mexico

© Iberdrola, S.A.



3.3 Wholesale and Retail

Regulatory environment of the business

Spain

- Royal Decree 469/2016 was approved in November 2016, establishing the methodology for calculation of voluntary prices for small consumers of electric power and the legal rules governing contracting therefor.
- Ministry Order ETU/1948/2016 was approved in December 2016, establishing specific values for the supply costs of leading supply companies to be included in the calculation of the voluntary price for small consumers during the 2014-2018 period. A fixed amount is set in €/kW and per year and a variable amount is set in €/kWh.
- Royal Decree-Law 7/2016 was published in December 2016, governing the mechanism for financing the cost of the subsidised rate (*bono social*) and establishing other measures for the protection of vulnerable consumers of electric power. This Decree-Law provides that the costs of the subsidised rate shall be borne by the parent companies of the groups engaged in the supply of electric power, or by the supplier companies themselves if they are not part of a group, and expands the protection of groups of vulnerable customers by extending the periods before interruption of supply in the event of non-payment and by including new categories of severely vulnerable customers, who will be considered essential supply customers.
- The availability service of the generation facilities has been extended in 2017.

United Kingdom

- The capacity auction 2020/2021 took place in December 2016, with the participation of both existing plants and new projects. A total of 52.4 GW was awarded at a price of £22.50/kW, of which 48.4 GW correspond to existing capacity (generation and interconnections) and 4 GW to new capacity, mainly diesel engines and batteries.
- Based on the plan for implementation of the measures recommended by the CMA⁽¹⁾ in June 2016, Ofgem⁽²⁾ has proposed limiting the charges for the installation of prepayment meters by court order and prohibiting the billing of more vulnerable customers for the installation. Such limit will be in effect as from April 2017.

Mexico

- There were two long-term auctions in 2016 awarding the proceeds from Power, Capacity and Clean Energy Certificates (*Certificados de Energías Limpias*) (CELs).
- In April 2016, Iberdrola was awarded the Noroeste 887 MW combined cycle plant located in the state of Sinaloa.
- As from August 2016, consumers with demand greater than 1 MW can acquire their energy on the market.

⁽¹⁾ CMA: Competition and Markets Authority

⁽²⁾ Ofgem: Government regulator for gas and electricity markets

Objectives, risks, and principal activities

Objectives

- Competitive supply and excellence in service to customers.
- Operating excellence, safety, and respect for the environment.
- Risk identification and minimisation.
- Safety and continuous improvement in operating efficiency.
- Analysis of growth opportunities.

Significant risks

- Regulatory uncertainty in the countries in which it operates.
- Operating risks: downtime of facilities and incidents with environmental impact.
- Market risk: uncertainty regarding fuel prices and revenues from the sale of electricity and gas.
- Credit, exchange-rate, and interest-rate risks.
- Technological and cybersecurity risks affecting the security of the facilities or the information of our customers.

Principal activities 2016

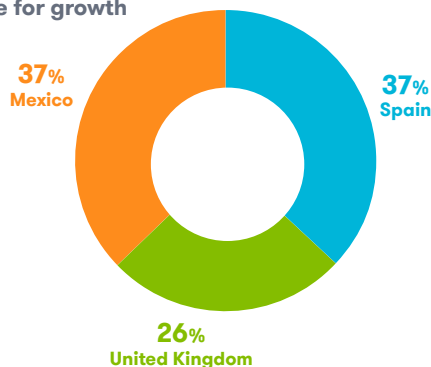
- Spain: ongoing development of products and services adapted to the needs of customers (Customised Plans, Smart Solar, Iberdrola Smart Home, ...).

- United Kingdom: final shut down of the Longannet Coal Plant took place in the month of April. The decrease in variable rates for domestic gas customers (-5.4%) became effective in March 2016. 180,000 smart meters were installed during 2016.
- Mexico: installation of 409 MW (5th unit of Monterrey CCGT (300 MW), Ramos Arizpe cogeneration (53 MW, and repowerings (56 MW)), in addition to 308 MW from the Baja California III CCGT, which entered into operation at the beginning of 2017. 2,761 MW of thermal capacity under construction.
- Brazil: work continues on the construction of the Baixo Iguazu and Belo Monte hydroelectric plants, of which 245 MW and 1,123 MW belong to Iberdrola through Neoenergia, a company in which Iberdrola holds a stake.
- Portugal: continued construction of the Tamega hydro complex, which will have 1,158 MW. As to Customers, there has been a strengthening of the offer to mass segments with the inclusion of gas and new products and services.

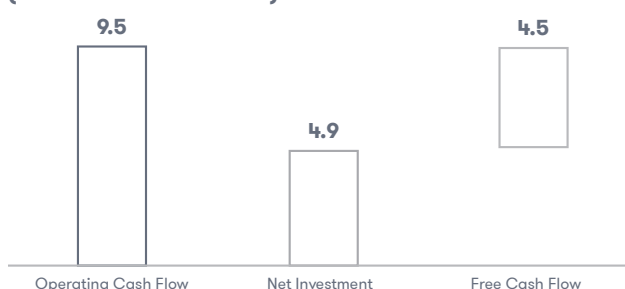
Outlook 2016-2020

- Investments of €4,900 million, mainly to increase installed capacity and to deploy 5.3 million smart meters in the United Kingdom.
- During the period, entry into service of 3,600 MW in Mexico, of which more than 700 MW have already entered into operation and almost 2,800 are under construction.
- In Retail, commitment to digitisation, multiple channels, personalisation of products adapted to the needs of our customers, and service excellence.
- Continuing improvement of operational processes and practices to increase efficiency.

Investment of €4,900 million during the period, of which €3,600 million are for growth



2016-2020 cash flow generation to finance investments (€ thousands of millions)



Key figures of the Wholesale and Retail Business

Item	Unit	Spain		United Kingdom		United States and Canada		Mexico		Total	
		2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Gross margin	€M	2,971	3,072	1,306	1,000	-19	48	583	509	4,842	4,629
Ebitda	€M	1,505	1,521	421	294	-58	6	455	436	2,323	2,253
Installed capacity	MW	20,081	20,058	4,835	2,531	N/A	N/A	4,976	5,437	29,892	28,026
Net output (excluding renewables)	GWh	43,616	50,790	14,925	10,650	N/A	N/A	38,128	36,449	96,669	97,889
Electricity contracts	Millions	10.3	10.3	3.3	3.2	N/A	N/A	N/A	N/A	13.6	13.5
Gas contracts	Millions	0.9	0.9	2.2	2.1	N/A	N/A	N/A	N/A	3.1	3.0
Products and services contracts	Millions	4.9	5.0	0.1	0.1	N/A	N/A	N/A	N/A	5.0	5.1
Total retail contracts	Millions	16.2	16.3	5.5	5.4	N/A	N/A	N/A	N/A	21.7	21.7
Investments	€M	188	215	94	134	5	6	353	353	640	708
Workforce	No. people	3,395	3,375	2,491	2,254	108	110	489	582	6,483	6,321

International Financial Reporting Standard (IFRS) 11 has been applied to the financial information.

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The Wholesale and Retail Business is focused on the safety of operations, the loyalty of customers, and growth in Mexico, which will allow for the stability of results and ensure the generation of funds for the Group.

Efficiency

- Optimisation of thermal production.
- Facilitating operations in complementary markets.
- Operating improvements and increase in availability and energetic yield of the thermal facilities in Mexico and Spain.

Prices

- Minimisation of risks through appropriate hedging of all generation, including renewable generation.

Growth

- Mexico: Almost 2,800 MW under development by 2020:
 - Escobedo I CCGT (857 MW).
 - Noroeste CCGT (887 MW).
 - El Carmen CCGT (866 MW).
 - Bajío Cogeneration (50 MW).
 - Altamira Cogeneration (57 MW).
 - Repowering improvements (44 MW).
- United Kingdom: Continued widespread deployment of smart meters that began in 2016, to reach 100% of customers by 2020.

Customers

- Loyalty-building and development of new products and personalised services adapted to the needs of customers.
- Retail development in Mexico pursuant to changes in legal provisions on energy reform.
- In Portugal, leadership in industrial customers, and strong growth in SMEs and residential customers.

Harestanes wind farm,
Scotland / UK

© Chris James



3.4 Renewables

Regulatory environment of the business

Spain

- A proposed Ministry Order was published in December, whereby the specific remuneration for renewables and cogeneration is revised as from 1 January 2017, following the established schedule. In the case of the wind power sector, this will entail increasing the return on investment (ROI) by €212 million, in order to offset the lower existing and expected market prices. It is expected that the final Ministry Order will be published in the first quarter of 2017.
- In 2016 the first auction of renewable capacity took place in Spain, at which 500 MW were awarded in wind-powered capacity and 200 MW in biomass. A new auction of 3,000 MW has been announced to take place in 2017, which will be technologically neutral and subject to controls in order to verify the credibility of the winning projects.

United Kingdom

- In November 2016, the new Government of Theresa May announced the second auction of Contracts for Differences, which is expected to begin in April 2017. Eligible for this auction, with an annual budget of £290 million, will be the less mature technologies: offshore wind, biomass, tidal, and wave, with start-up dates of 2021-22 and 2022-23. The starting price for offshore wind technology is £105/MWh.

United States

- Donald Trump's victory in the presidential elections might entail a shift in the policies expected from the White House for the promotion of renewable energy. However, the main federal support comes in the form of tax credits (PTCs), which have already been approved for the coming years.
- The state support systems are stable and independent of the federal system, and it is expected that such stability will be preserved.

Mexico

- Two long-term auctions took place in 2016 for the sale of 20-year Clean Energy Certificates. The contracts deriving from such auctions included the sale of the energy and capacity associated with the projects awarded.
- According to the schedule, a new auction is slated to take place in April 2017.

Brazil

- The macroeconomic situation has entailed a certain change in planning.
- No wind or photovoltaic MW were awarded in 2016, as the December auction was cancelled due to overextension in the sector.
- It is expected that less volume than usual will be awarded in 2017.

The business will engage in sustainable growth, mainly based on onshore and offshore wind investments in the countries most important to the Group.

Objectives, risks, and principal activities

Objectives

- Safety in operations.
- Efficiency in operations to maximise the profitability of the assets.
- Efficiency in construction costs, with a particular emphasis on offshore wind projects.
- Profitable growth in onshore and offshore wind investments in the countries that are strategic for the Group.

Significant risks

- Competitive auction processes in the markets in which it operates.
- Operational and technological risk.
- Risk of access to evacuation networks and limits on production due to technical restrictions of the networks.
- Open market energy prices.
- Cybersecurity risks with an impact on operations centres of the facilities.

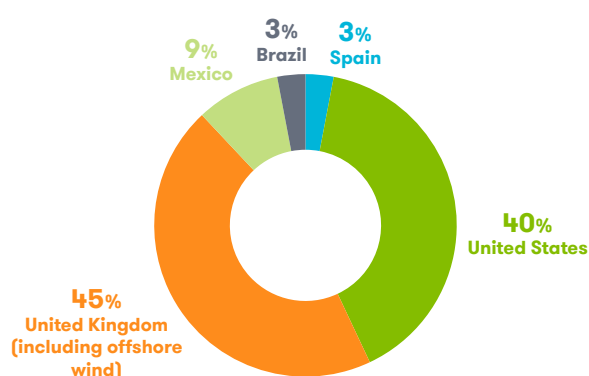
Principal activities 2016

- The year ended with 467 MW of additional capacity: 200 MW in the United States, 183 MW in the United Kingdom, and 84 MW in Brazil.
- There has been a start-up or continued construction of 1,487 MW of onshore wind capacity: 744 MW in the United States, 291 MW in the United Kingdom, 95 MW in Brazil, 32 MW in Spain, and 325 MW in Mexico.
- Construction of photovoltaic solar capacity has commenced in the United States (66 MW) and Mexico (270 MW).
- In offshore wind, there is continued progress on the construction of the 350 MW Wikingen project in the Baltic Sea (Germany). Construction has also commenced on the 714 MW East Anglia I project in the United Kingdom, after being awarded in the 2015 auction.

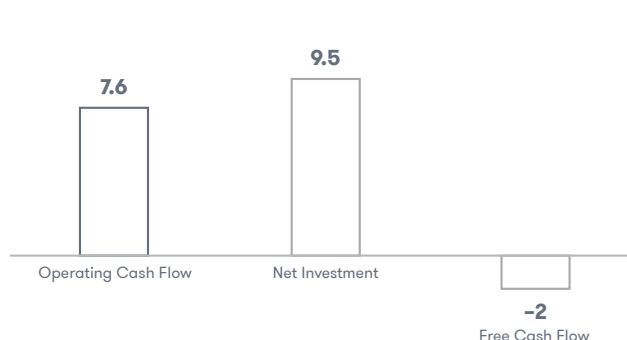
Outlook 2016-2020

- Investments of €9,500 million, mainly to increase installed capacity in the United States, the United Kingdom, and Brazil during the period.
- Start-up of 4,600 MW, of which 467 MW has already been placed into service in 2016 and more than 3,000 MW is already under construction, including two offshore windfarms: Wikingen (350 MW) and East Anglia I (714 MW).
- Continuing operational improvement, with cost savings, optimisation of useful life of the assets, and improvement in the capacity curve.

Investment plan of €9,500 million over the period, of which €8,800 million are for growth



2016-2020 cash flow generation to finance investments (€ thousands of millions)



Key figures of the Renewables Business

		Spain		United Kingdom		United States		Mexico		Brazil		Rest of World		Total	
Item	Unit	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Gross margin	€M	751	764	572	385	822	802	57	69	36	37	123	123	2,361	2,180
Ebitda	€M	473	497	438	267	571	564	43	52	27	25	95	95	1,647	1,500
Installed capacity	MW	5,861	5,859	1,615	1,991	5,534	5,742	367	367	187	187	621	621	14,186	14,768
Output	GWh	11,463	11,554	3,694	3,075	13,868	14,552	738	1,119	441	639	1,371	1,366	31,576	32,305
Load factor	%	22.3	22.4	26.2	21.0	28.8	29.9	31.5	34.7	39.1	38.8	25.2	25.0	25.7	25.8
Investments	€M	9.9	19.8	488.8	950.6	69.6	735.4	124.7	4.9	38.4	4.8	3.4	-57.5	734.8	1,658.0

Notes:

- The figures for the United Kingdom include those of the offshore wind division.
- International Financial Reporting Standard (IFRS) 11 has been applied in the preparation of this table.

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The business will focus on the safety of operations and on sustainable growth, mainly based on onshore and offshore wind investments in the countries most important to the Group. Efficiency is a key factor for business sustainability in the medium and long terms. Iberdrola will take technological advances into account and will act on the supply chain to allow for improvement in the coming years.

Load factor

Maximising the load factor of facilities, while minimising down time through operating and maintenance measures, as well as other external factors.

Operation and maintenance costs

Continuous improvement in efficiency through global standardisation and systematisation processes.

Project Portfolio

Development of the portfolio of onshore wind projects in the United Kingdom, the United States, Mexico, and Brazil, and the East Anglia 3 (United Kingdom) and St Brieuc (France) offshore wind projects.

3.5 The Cost of Supply,

the Main Factor in the Political and Social Agenda

The cost of electricity supply is taking on a greater role in the political and social agenda. The principal challenge is to reconcile safe and environmentally-friendly supply with the use of renewable energy at prices that are competitive and can be afforded by society as a whole.

In the European Union

- The Agency for the Cooperation of Energy Regulators and the European Commission, in studies on electricity prices published in 2016, confirmed that taxes and components associated with energy and environmental policies have grown the most, reaching half of the bill in countries like Spain, due to the significant renewables effort made by the electric sector. A competitive electricity supply requires the elimination of cost components outside of the service itself, and paying for these costs through general taxes or taxes on all polluting energies.
- The strategy of the Energy Union that commenced in 2015 and that was specified in legislative proposals like the *Clean Energy for All Europeans* (2016) “package” responds to the need to comply with the 2030 environmental agenda (40% reduction in GHG⁽¹⁾ emissions, 27% increase in renewables, and 30% improvement in energy efficiency), monitoring the safety of supply and the competitiveness of the European industry, and allowing prices that are accessible for European citizens.

⁽¹⁾ GHGs: Greenhouse gases

In Spain

- The price of electricity supply in Spain is less than the European average. Less than half the costs of supply are directly related to providing the service. The rest derive from the pursuit of energy policy goals (aid for renewable energy and cogeneration) and social goals (subsidies for electricity in non- mainland territories, recovery of tariff deficits from previous years).
- Iberdrola has established a protocol to ensure energy supply for customers in vulnerable situations, defined as those entitled to subsidised rates (*bono social*) due to being pensioners or all members of a family unit being unemployed, as well as disadvantaged persons identified by the social services. Iberdrola has been collaborating with public authorities and with various institutions and NGOs for this purpose since 2015, signing agreements in order to identify these economically disadvantaged persons. 98.8% of the domestic customers of Iberdrola reside in an area protected by an agreement.

In the United Kingdom

- After the CMA⁽¹⁾ investigation, the debate on prices has focused on higher standard variable tariffs (SVTs): reducing the number of people with SVTs and the disadvantages thereof. Iberdrola has the lowest proportion of SVTs amongst the large suppliers.
- Although the government continues to focus on minimising the costs that it controls, it has maintained capacity auctions, the minimum price of CO₂, and has announced the next auction of Contracts for Difference.

In the United States

- Tariff revisions reflect pressure by regulators to limit returns on capital, while maintaining the investments required to improve the network infrastructure.
- The closure of coal plants and the new regulation developed by the Environmental Protection Agency (EPA) may increase pressure on gas and electricity prices. Shale production might limit this impact.
- Restrictions on transporting natural gas by pipeline in the Northeast could lead to volatility in electricity market prices during periods of extreme weather.
- The development of smart grids, the rapid replenishment of supplies in the face of extreme weather conditions, new EPA regulations, and the integration of new energy sources require major investments, which sometimes conflicts with the goal of reducing final tariffs.
- In 2017, President Trump and the Congress want to focus on comprehensive tax reform, including support for infrastructure and repealing environmental regulations. Trump promised to support oil, gas, and coal, questioned climate science, argued for withdrawing from the Paris Agreement, and opposed a carbon tax. This could affect electricity markets and prices.

⁽¹⁾ CMA: Competition and Markets Authority

In Mexico

- Energy reforms were launched in 2014, with one of the key goals being to improve competition and lower electricity prices for end users.
- With the opening of electrical energy generation to private investment, renewable generation objectives and other measures, such as auctions for the purchase of clean energy certificates, the reform is incentivising competition in order to diversify the energy mix and reduce the costs of generation.

In Brazil

- 2016 was marked by a position of energy overcontracting by the distributors, caused by the reduction in consumption deriving from the economic crisis, consumer migration to the free market without distributors being able to reduce the contracts, and assignment of contracts for a higher-than-necessary amount. The regulatory bodies and government have approved a set of measures to resolve this distributor risk.
- The hydrological situation improved in 2016 in comparison with the previous year, allowing a “green tariff band” structure from April to October, which entails the end customer not paying additional costs for the production of energy.

Iberdrola will support frameworks that expand market deregulation and transparency and that provide incentives for required investments and efficient operations, through tariff structures that give efficient signals to consumers and do not penalise them with costs unrelated to the supply of electricity.

Worker at the Marquesado
wind farm, Granada
/ Spain
© Iberdrola





Our Assets

Iberdrola's assets are the basis for the creation of value by the Company, which carries out its activities through the sound management thereof.

In this report, Iberdrola's assets are identified in accordance with the IIRC classification system:

- **Financial capital**
- **Manufactured capital**
- **Intellectual capital**
- **Human capital**
- **Natural capital**
- **Social and relationship capital**

4.1 Financial Capital

	Management approach	Results 2016	Outlook
Balanced growth	<p>The Company has an investment policy consistent with its strategic vision and financial policy. The main goals are:</p> <ul style="list-style-type: none"> • Ensure a return on capital through projects and investments preferably in regulated businesses, renewable assets, or long-term contracts. • Increase geographic diversification, further balancing the contribution of the countries in which it does business. • Tailor investment levels to the actual needs of each market. 	<ul style="list-style-type: none"> • Total investment of €4,264 million, with almost 90% channelled into regulated businesses. • The United Kingdom was the country absorbing the highest volume of investments, with 46% of the total, followed by Spain with 20%, the United States with 16%, and Mexico with 15% of the amount invested. 	<ul style="list-style-type: none"> • Strict investment criteria based on earnings security, project profitability, and strategic fit. • Selection of businesses and countries with predictable and stable regulation and which have an A credit rating. • Net investment of more than €25,000 million over the 2016-2020 period, of which approximately 90% will be dedicated to regulated businesses, renewables, or long-term contracts. • The United States will be the area with the highest volume of investments, with 38% of the total, followed by the United Kingdom with 34%, Spain with 15%, Mexico with 10%, and Brazil with 3%.
Solid financial structure	<ul style="list-style-type: none"> • Iberdrola considers financial strength to be one of the strategic cornerstones that allows it to successfully face potential turbulence in the markets and to be in a position to exploit growth opportunities in the countries in which it does business. • The financial policy seeks stabilisation and subsequent improvement in solvency ratios, balancing an increase in debt with the generation of additional cash flow from new investments. • The debt structure is in line with the profile of the business, which is mostly regulated, and the composition thereof reflects the results obtained in the relevant currencies. 	<ul style="list-style-type: none"> • Gross margin of €12,916 million, growing by 0.6%. • Net profit of €2,705 million, an 11.7% increase over the prior year. Recurring net profit was €2,532 million (+12%), as a result of the favourable performance of the businesses. • Cash flow of €6,311 million (+6.8%). • Net financial debt was €29,414 million, increasing €1,347 million since 2015 as a result of early investments in renewable energy, mainly offshore wind, and various extraordinary events [taxes in Spain, Safe Harbor in United States...] • Liquidity of €8,666 million, which covers more than 24 months of financing needs. 	<ul style="list-style-type: none"> • Average annual Ebitda and net profit growth of approximately 6% and 7.5%, respectively, during the 2016-2020 period. • Average annual net investments of approximately €5,100 million, compared to average annual cash flow generation (FFO) of €7,100 million. • As a result of the investment process, increase in net debt to approximately €32,500 million in 2019 and subsequent decrease to €32,200 million by 2020. • With the current investment plan, solvency ratios in 2017 and 2018 are in line with 2016, and will strengthen in 2019 and 2020. • Optimisation of the liquidity position to cover financing needs for 18 months.
Operational efficiency	<ul style="list-style-type: none"> • The current macroeconomic and regulatory environment requires an additional effort to keep operating costs under control. 	<ul style="list-style-type: none"> • Net operating expenses decrease 4.5% due to cost controls and the closing of the Longannet plant. Excluding the contribution from ULL and the exchange rate effect, the decrease in NOE would have been 6.9%. 	<ul style="list-style-type: none"> • Progressive absorption of the increase in expenses, which will grow less than gross margin during the 2016-2020 period, maintaining an industry-leading position of leadership in cost efficiency.
Sustainable results and dividends	<ul style="list-style-type: none"> • Iberdrola offers its shareholders an industrial enterprise for the long-term creation of value. The confidence of its shareholders enables Iberdrola to secure the resources needed to move its enterprise forward. 	<ul style="list-style-type: none"> • Shareholder remuneration of 0.286 euro per share, equal to a dividend yield of 4.59%. • Flexible dividend offering tax benefits. 	<ul style="list-style-type: none"> • Increase of dividend to 0.31 euro per share, with a charge to 2016 profits. This amount is established as the minimum figure for future financial years. • Maintenance of the flexible dividend programme. • Target of maintaining the number of shares at 6,240 million, neutralising the capital increases associated with implementation of the flexible dividend programme. • Growing shareholder remuneration, in line with the increase in results, converging on a payout ratio of between 65% and 75%. Taking into account results forecasts, the dividend will be between 0.37 and 0.40 euro per share by 2020.

Create value for the shareholder with sustainable growth

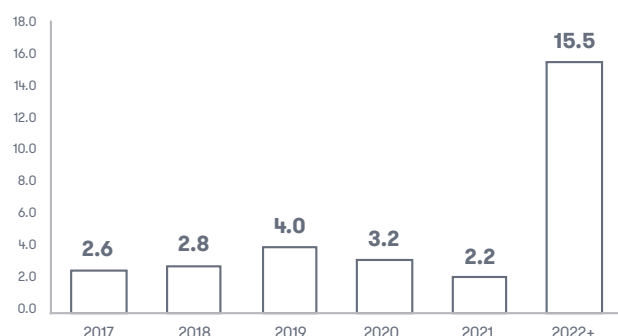
Net Debt (€M)



* Pro-forma including UIL.

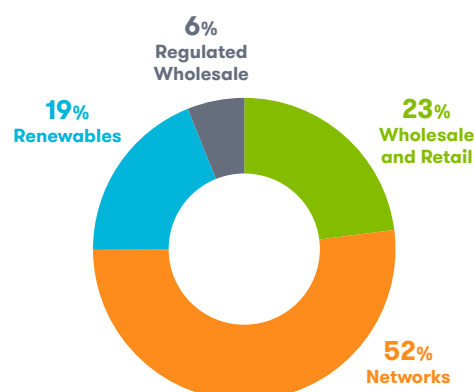
Adjusted net financial debt at 31 December 2016 increased by €1,347 million to €29,414 million, compared to €28,067 million at 31 December 2015, as a result of €720 million of non-recurring taxes in Spain arising from RDL 2/2016 on measures for reducing the public deficit in Spain and other matters, and due to early investments in renewables and the Safe Harbor in the United States (€328 million), among other reasons.

Maturity of financial debt (€M)

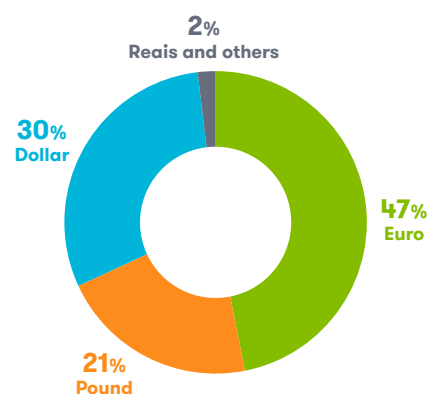


Comfortable maturity profile.

Ebitda by business 2016

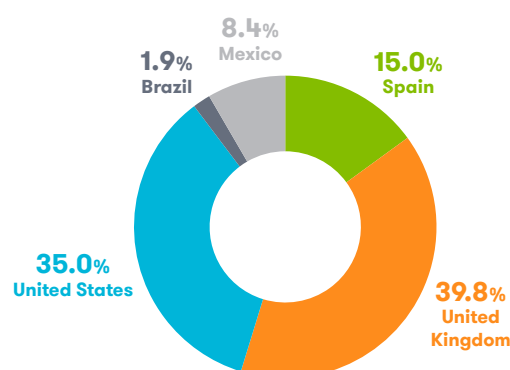


Debt structure by currency in 2016



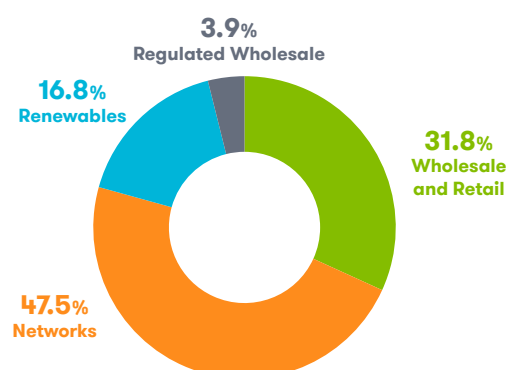
Debt structured by origin of cash flow earned in each currency. Includes derivatives to hedge net investment.

Investment by geographic area 2016



Diversification of investments, with a heavy concentration outside of the euro zone.

Gross margin by business 2016

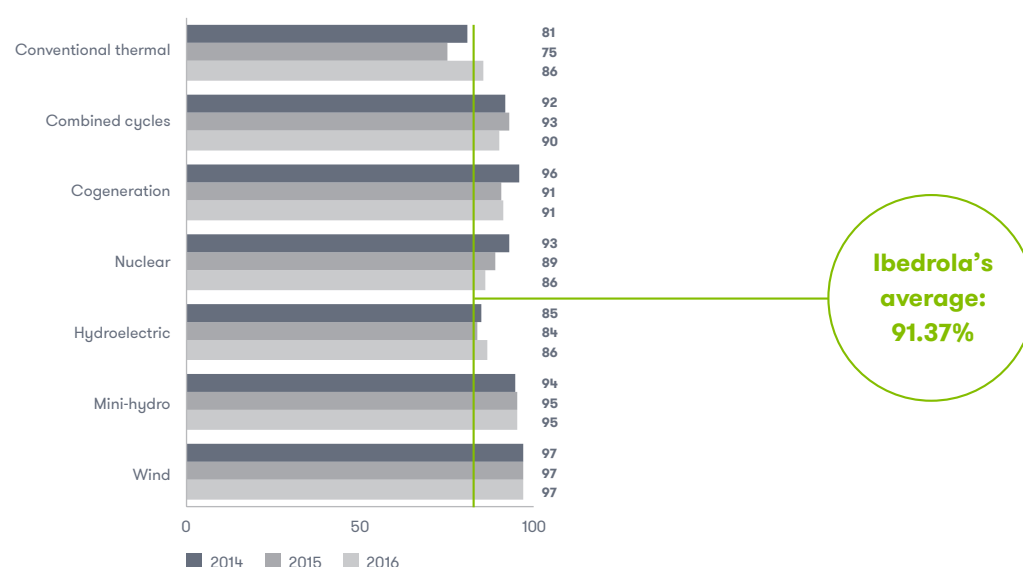


4.2 Manufactured Capital

	Size	Principal activities 2016	Outlook
Electric power generation assets	<ul style="list-style-type: none"> Iberdrola's generation assets comprise nearly 300 windfarms, almost 90 hydroelectric power plants (in addition to the mini- hydro plants), 36 thermal power stations using various technologies, 5 of which are nuclear, and other facilities built and operated according to the best available practices. 	<ul style="list-style-type: none"> ISO 9000 certification has been attained for the operation of windfarms in Spain and the United Kingdom. 	<ul style="list-style-type: none"> Construction continues on almost 1,700 MW of onshore wind, 336 MW of photovoltaic, and 1,064 MW of offshore wind. In Mexico, construction will continue on almost 2,700 MW in combined cycle and 100 MW in cogeneration. In Portugal, there is continued construction of the Tamega hydroelectric complex, with 1,158 MW. In Brazil, work continues on the construction of the Baixo Iguaçu (350 MW total) and Belo Monte (11,233 MW total) hydroelectric plants, through Neoenergia.
Power transmission and distribution assets	<ul style="list-style-type: none"> Iberdrola's electricity transmission and distribution networks comprise over 30,000 km of transmission lines, over 1 million km of distribution lines, roughly 4,000 substations and over 1.4 million transformers, built and operated to supply a high-quality, reliable service. 	<ul style="list-style-type: none"> In Spain, more than 8.8 million smart meters have been installed (83.5%) and 55,500 transformer centres have been digitised (66%). In the United Kingdom, work has advanced on the Western Link project (completion expected in 2017). SPEN received the Customer Care Award for its customer service and the Scottish Green Energy Award for innovation. Elektro was awarded the National Quality and Iberoamerican Quality awards in 2016. In the United States, Avangrid began the Smart Grid Community Project in Ithaca (NY). 	<ul style="list-style-type: none"> Significant proposed transmission projects in Maine and New York to permit the connection of renewable generation projects expected by 2020. Installation of 1.8 million smart meters in New York and automation of the network, putting Avangrid at the forefront of the REV initiative. Investments in the United Kingdom transmission network, to improve the reliability and quality of supply. Progress with the digitisation of the network to lead the transformation towards a Distribution System Operator.
Other assets	<ul style="list-style-type: none"> Iberdrola manages approximately 690,000 m² of offices and work centres throughout the world, with a total of 770 properties, of which 358 are located in Spain, 45 in the United Kingdom, 117 in the United States, 231 in Brazil, and 19 in the rest of the world. These properties, which follow the same corporate criteria in the interior spaces, are designed, built, and operated in accordance with the strictest sustainability and efficiency standards. 	<ul style="list-style-type: none"> ScottishPower's new corporate headquarters in Glasgow. This is a property with more than 20,000 square meters of offices for more than 1,600 employees. Start-up and the first transfer occurred during the month of December. Phase I of the Iberdrola Campus began in the month of September. Located in San Agustín de Guadalix, this infrastructure is intended to become the backbone of knowledge and training for the employees of the Group. 	<ul style="list-style-type: none"> As a culmination to the process of integrating Avangrid, the infrastructure holding its corporate headquarters, located at 180 Marsh Hill Road, Orange, CT, will commence operations during 2017. During the first half of 2017, it is expected that more than 1,600 employees will be transferred to the Glasgow headquarters, as well as the closing of surplus buildings. Construction will begin during 2017 on phase II of the Iberdrola Campus, which will include an expansion of training infrastructures and an office complex. Completion is expected during the first half of 2019.

Offer a secure supply of energy that is competitive in price and quality

Average availability factor of Iberdrola's generation facilities



Quality of electricity supply

Average power outage duration

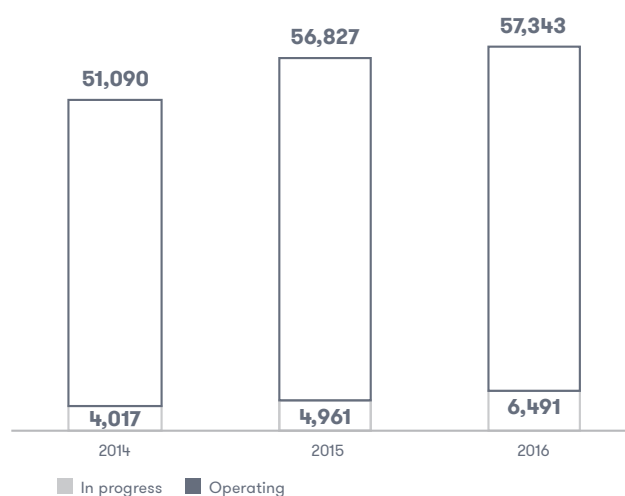
		2015	2016
Spain	TIEPI (m)	61.9	54.0
United Kingdom	CML (m)	34.8	33.5
United States	CAIDI (h)	1.89	1.91
Brazil	DEC (h)	18.81	17.23

Power outage frequency

		2015	2016
Spain	NIEPI (number)	1.20	1.04
United Kingdom	CI (ratio)	40.1	42.6
United States	SAIFI (index)	1.21	1.15
Brazil	FEC (frequency)	7.22	7.46

TIEPI: Installed Capacity Equivalent Interrupt Time.
 CML: Customer Minutes Lost Per Connected Customer.
 CAIDI: Customer Average Interruption Duration Index.
 DEC: Equivalent Duration of Interruption by Consumer Unit.
 NIEPI: Installed Capacity Equivalent Interrupt Number.
 CI: Customer Interruptions Per 100 Connected Customers.
 SAIFI: System Average Interruptions Frequency Index.
 FEC: Equivalent Frequency of Interruption by Consumer Unit.

Property, plant, and equipment (€M)



4.3 Intellectual Capital

	Management Approach	Principal activities 2016	Outlook
Promotion of R&D	<ul style="list-style-type: none"> In anticipation of the energy transition towards a more sustainable model, Iberdrola has made an advance wager on innovative solutions that require greater electrification of the economy: more clean energy, more storage capacity, more and smarter grids, and more digitisation. 	<ul style="list-style-type: none"> Significant increase in R&D investment: More than €211 million in 2016, a 6% increase over 2015. Being recognised as the most innovative utility in Spain and the third most innovative in Europe, according to the European Commission. Launch of “Iberdrola Universitas”, an initiative that will gather together all of Iberdrola’s activities with the academic world. The goals are to promote a university-company transfer of knowledge, the attraction of talent, and contribution to the “social dividend”. 	<ul style="list-style-type: none"> Progress on the R&D Plan 2015-2017. R&D will continue to be a key factor to successfully achieve a new growth phase of our Company, making it the <i>utility of the future</i>, founded on sustainable development, the promotion of renewable energy, and emerging technologies, as engines for the creation of value and social contribution.
Efficiency and new products and services	<ul style="list-style-type: none"> Continuous optimisation of our operations, management of the lifecycle of facilities and equipment, reduction in operating and maintenance costs, and decreasing environmental impact. Development of new and competitive products and services that adapt to an increasingly global market, the main goal of which is to meet the needs of customers. 	<ul style="list-style-type: none"> New initiatives to improve the customer experience: personalisation of content and offers, delivery of proactive real-time communications, online self-service, Optimum Rate, and Energy Advisor. New Smart Home products: Consumption Monitor, an electric meter capable of breaking down the consumption of main domestic appliances, and Smart Lamps, smart LED bulbs that can be controlled from a mobile device. 	<ul style="list-style-type: none"> Our commitment to innovation will continue to be a priority in order to keep Iberdrola at the forefront of developing the new products, services, and business models that are transforming the industry. Finally, we will continue making efforts to offer our customers better and more efficient service and to contribute to sustainable development with our innovative activities.
Disruptive technology and business models	<p>Through the Iberdrola Ventures- Perseo corporate venture capital programme, there has been more than €50 million invested since 2008 in technologies and new disruptive businesses, which ensure the sustainability of the energy model. Lines of activity:</p> <ul style="list-style-type: none"> Customer-focused solutions: energy efficiency, demand management, digital solutions, etc. Distributed energy resources: innovative generation and distributed storage solutions. Renewable energy: technologies related to renewable generation (solar, wind, offshore wind). New technologies applied to the operation and maintenance of energy infrastructures: robots, sensors, software, drones, etc. 	<ul style="list-style-type: none"> Positioning of the company Silicon Valley Stem as the market leader in distributed storage. This start-up offers savings to commercial and industrial customers through a solution behind a meter that includes software (big data and cloud) and batteries. Stem reached 200 installations of distributed storage during 2016. Growth and development of the Salamancan company Arbórea Intellbird, jointly owned by Perseo and CDTI, which sells drone inspection services for all kinds of energy infrastructure. During 2016, it has inspected more than 600 of the Company’s wind turbine blades, preventively detecting anomalies and permitting a reduction in the cost of repairs and improved planning of corrective maintenance. 	<ul style="list-style-type: none"> Ensure Iberdrola’s access to the energy technologies of the future. Foster entrepreneurship and the development of an innovative entrepreneurial fabric within the energy sector: investment in initiatives with a high social and job creation component. Establish alliances with key technology providers for Iberdrola (Open Innovation Ventures).

Highlight the value of the Company's intangible assets

Main R&D research projects

Renewable energy

- Projects to improve the efficiency of assets and models for the design of windfarms. Monitoring of the main equipment for early detection of failures or reduced production using artificial intelligence/big data. The area of energy resources includes the *HPC4E* (High Performance Computing for Energy) project, which plans to use computational fluid dynamics (CFD) models in future exascale supercomputers.
- The area of offshore wind includes the installation of jacket piling and foundations at the Wikingen offshore windfarm, as well as innovative substation design based on a 6-legged jacket foundation design built in two separate blocks to simplify transport to the site.
- Renewable energy integration projects include the exceptional *ESS2Wind* project, which aims to analyse the possible application of battery storage systems associated with windfarms to provide auxiliary services to the system.

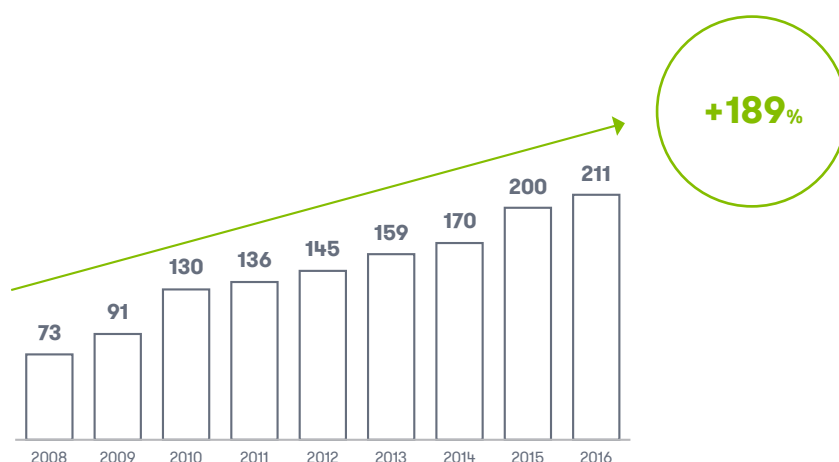
Smart grids

- The *iGreenGrid* project for developing specific methods for integrating renewable energy into the electric distribution grids and the *Discern* project for comparing different smart grid solutions to discover the ideal arrangement of architectures were successfully completed.
- In the United Kingdom, work continues on the *Visor*, *Angle* and *Fitness* projects to improve the transmission and distribution network, strengthening smart grids.

Clean generation

- The *CO₂Formare* project, the goal of which is to avoid macrofouling in a sustainable manner, reducing environmental impact. The first tests for injecting CO₂ into water have been performed, the results have been satisfactory, and the previously developed CO₂ capture modules will soon be installed at the plant.
- The *Prexes* project, which focuses on developing a model for predicting expansion in concrete hydraulic structures.

Investments in R&D (€M)



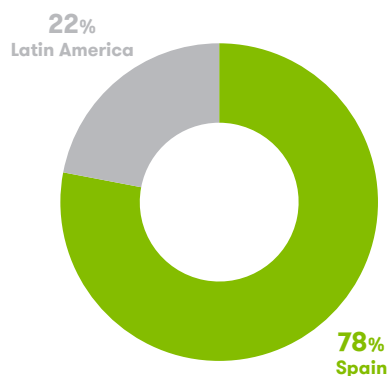
4.4 Human Capital

	Management approach	Principal activities 2016	Outlook
Global human resources management	<ul style="list-style-type: none"> • Achieve the goals of competitiveness and business efficiency in a climate of social peace, fostering stable, high- quality employment. • Harmonise human resources processes and make inroads with implementing the Iberdrola culture in all countries, respecting specific local conditions. 	<ul style="list-style-type: none"> • Finalisation of the project for integration of the Human Resources Model [OneHR project] at Avangrid. • Management of an appropriate labour relations framework that can be adapted to suit business and social requirements. 	<ul style="list-style-type: none"> • Consolidate the Human Resources function at Avangrid, extending and unifying best practices. • Strengthen the commitment to social responsibility, fostering ethical and responsible behaviour. • Maintain team pride, workforce satisfaction, job commitment, and productivity.
Goal of "accident reduction"	<ul style="list-style-type: none"> • Prioritise the safety of individuals at the Group's facilities and within its sphere of influence, fostering a progressive reduction in incident rates and improving health and safety conditions. • Replicate throughout the Group the best practices identified in the area of occupational health and safety, fostering a culture of excellence in management and coordinating global preventive activities. 	<ul style="list-style-type: none"> • Attainment and/or maintenance of the OHSAS 18001 certification, and approval of a system of global prevention standards in accordance with the Group's policy. Assessment of level of conformance to global standards. • Monitoring of proactive and reactive indicators among the Group's companies for the global scorecard. • Establishment of goals for the management of occupational health and safety at subcontractors. • Identification and application of best safety practices. Exchange of lessons learnt. Creation of groups to promote safe behaviour. 	<ul style="list-style-type: none"> • Define the global occupational health and safety strategy for the coming years. • Continue with assessment of level of conformance to global standards and the implementation of improvement groups to promote safe behaviour. • Continue developing certifications of the Group in accordance with OHSAS 18001. • Analysis of accident rate and establishment of goals for Group and subcontractor employees. • Global campaigns to raise awareness on certain types of common accidents.
Talent management	<ul style="list-style-type: none"> • Drive staff qualifications, preparing employees to work in a multicultural environment and making continual efforts to improve their employability. • Develop alternatives to compensate for factors stemming from the ageing of the workforce. • Maintain a team of competent, committed, and motivated professionals, which is key for the sustained success of the business. 	<ul style="list-style-type: none"> • Promotion of job and international mobility within multicultural teams in a global context. • Launch of new Management School programmes. • Expansion of the professional training and development model to all countries. • Identification of the group of high-potential professionals to provide the organisation with professionals will lead the Iberdrola of the future. • Expansion of the process of publishing internal vacancies at the global level. 	<ul style="list-style-type: none"> • Strengthen the talent and leadership development management model at the international level. • Define and implement the Global Development Roadmap for the Iberdrola Group. • Attract the best talent, strengthening excellence in our selection processes. • Integrated talent management of the Company in order to train future leaders, preparing them now to assume larger responsibilities. • Development of the second phase of the Campus project.
Diversity, equal opportunity, and reconciliation	<ul style="list-style-type: none"> • Guarantee a social model committed to professional excellence and the quality of life of our employees. • Development of labour relations based on equal opportunity, non- discrimination, and respect for diversity. • Create a high-quality labour environment by committing to reconciliation, and promote a position of leadership in these areas in the countries in which it does business similar to that enjoyed in Spain. • Align the Corporate Volunteering Programme with the Sustainable Development Goals defined by the United Nations. 	<ul style="list-style-type: none"> • International cultural exchange programmes. • Corporate Volunteerism Activities focused on improving the quality of life and the integration of vulnerable groups, including the <i>International Volunteering Day</i>, the <i>Involve</i> international volunteering programme, and the project for improving the electricity situation of several refugee camps in Ethiopia. • Launch of the volunteer project regarding the fight against climate change. Sustainable Development Goals 4 (Quality education) and 13 (Climate action). 	<ul style="list-style-type: none"> • Continue to foster improvements in the quality of people's lives through social-welfare activities in all of the countries in which the Iberdrola Group has a presence, creating a global volunteer community. • Promote the internationalisation of social programmes and strengthen ties among the employees of the Group at the global level. • Contribute to achieving the Sustainable Development Goals defined by the United Nations for the 2015-2030 horizon.

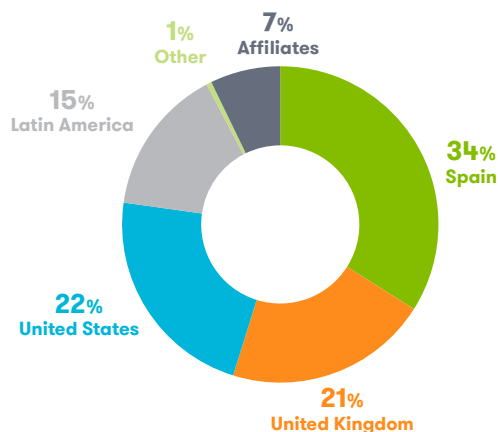
Ensure the availability of a committed, qualified workforce in a safe and stable environment

Growth and geographic diversification of the workforce

2006: 16,155 employees



2016: 30,591 employees



© Key Figures / page 12

Social commitment



© José Ramón Ladra

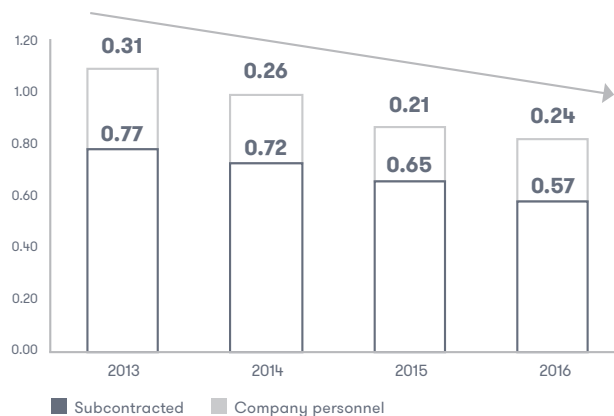
Visit by their Majesties the King and Queen of Spain to Iberdrola's headquarters in Madrid for the tenth anniversary of the international Corporate Volunteering programme and the delivery of the Iberdrola Scholarships 2016.

Iberdrola Campus: Finalisation of first phase



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Accident rate (2013-2016): progressive reduction



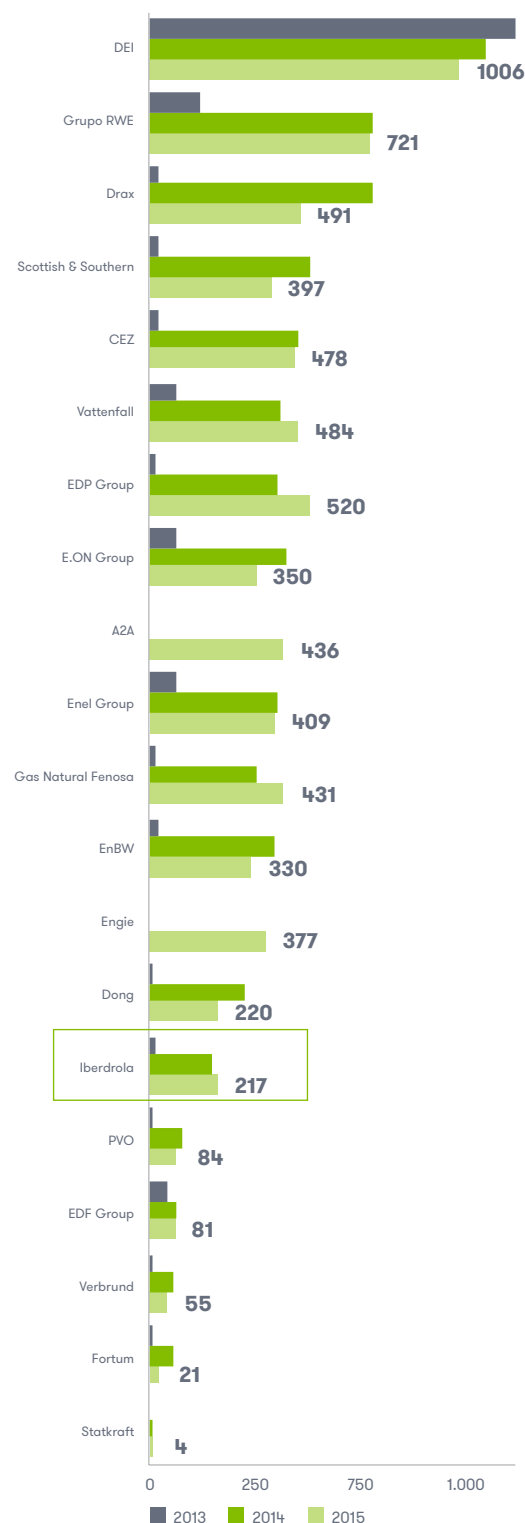
26% in subcontracted personnel and 23% in Company personnel.

4.5 Natural Capital

	Management Approach	Principal activities 2016	Outlook
Environmental management and biodiversity	<ul style="list-style-type: none"> • Integrate standards for conserving biodiversity when engaging in new projects. • Reduce environmental risks in the operation of existing facilities. • Promote the protection of ecosystems in the surroundings of the facilities. • Strengthen transparent dialogue with Stakeholders in seeking solutions to environmental problems. • Manage environmental compliance by suppliers. • Transparently report on environmental results and activities. 	<ul style="list-style-type: none"> • Sustainable General Shareholders' Meeting 2016: <ul style="list-style-type: none"> – ISO 20121 certification. – Erronka Garbia Environmental certification. • ISO-TS 14072 Certificate for Corporate Environmental Footprint (CEF) 2015. • Development of Environmental Product Declaration (EPD) for the Kilgallioch windfarm under construction in Scotland. • Energy efficiency project for the facilities of Iberdrola España (conformance to RD 56-2016). • Climate Change Adaptation Report for activities in Spain. 	<ul style="list-style-type: none"> • Adaptation to ISO 14001 2015 standard. • Development of EDP for an offshore windfarm. • Development of a strategic plan for Climate Change Adaptation. • CEF by region. • Environmental Guidelines linked to impacts of the CEF. • Restoration, recovery, improvement, and maintenance of surroundings and habitats.
Prevention of pollution	<ul style="list-style-type: none"> • Prevent pollution and the emission of greenhouse gases (GHGs) through practices that reduce or eliminate the production of pollutants at source. • Reduce the emissions of non- GHGs into the air. • Gradually replace equipment using substances that reduce the ozone layer. • Promotion of awareness-raising campaigns regarding air quality. • New GHG emissions-free facilities (renewable, wind, hydroelectric, etc.). 	<ul style="list-style-type: none"> • 42% reduction in intensity of CO₂ emissions per kWh produced since 2007. • Thermal emission factor has decreased from 460 g/thermal kWh generated in 2015 to 391 g/kWh generated in 2016. • Increase in emission-free installed capacity to 65.9%. • Closure of Lonnganet coal plant in the United Kingdom. • New commitment to reduce emissions, and active participation in the Marrakesh Climate Conference (Morocco). • Sustainable mobility plan, electric car. 	<ul style="list-style-type: none"> • Achieve a 50% reduction in emissions intensity by the year 2030 in comparison to 2007. • Carbon neutral by 2050. • Develop innovation projects geared towards reducing pollution. • Actively participate in achieving the Sustainable Development Goals approved in September 2015 (goals 6, 7, and 13).
Operating excellence and energy efficiency	<ul style="list-style-type: none"> • Continuous improvement in operational performance, increase in energy efficiency, increase in energy savings, reduction in consumption of natural resources, etc., all while promoting the use of environmentally-friendly resources. 	<ul style="list-style-type: none"> • Innovative activities in environmental management and control. • Assurance of quality in environmental management. • Efficient management of water consumption. 	<ul style="list-style-type: none"> • Development and promotion of ecodesign initiatives. • Life-cycle and <i>green purchasing</i> analysis.
Waste management	<ul style="list-style-type: none"> • Improve control and management of waste (hazardous and non-hazardous) generated. • Minimise the generation of waste at source. • Maximise the reuse, recycling, and recovery of waste. 	<ul style="list-style-type: none"> • Reuse of waste from thermal coal plants. • Carry out waste minimisation plans, recycling plans, and awareness campaigns aimed at employees. 	<ul style="list-style-type: none"> • Make progress in the optimisation of waste management: circular economy. • Draw up economic/financial analyses of the best waste management strategies.

The environmental dimension is a key factor in the concept of sustainability

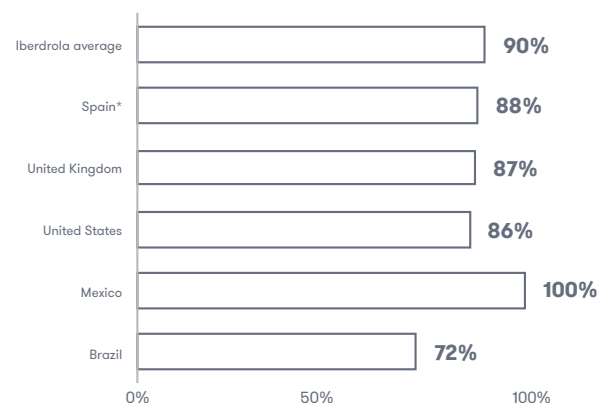
CO₂ emissions at companies in the sector (Carbon factor in kg of CO₂/MWh)



European carbon factor 2015: 311 kg CO₂/MWh.

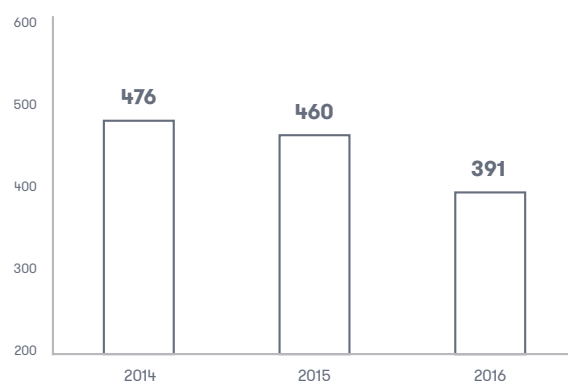
Source: "Facteur carbone européen Comparaison des émissions de CO₂ des principaux électriciens européens" PwC France. Nov 2016.

Production of Iberdrola plants using local energy sources in the countries in which it operates

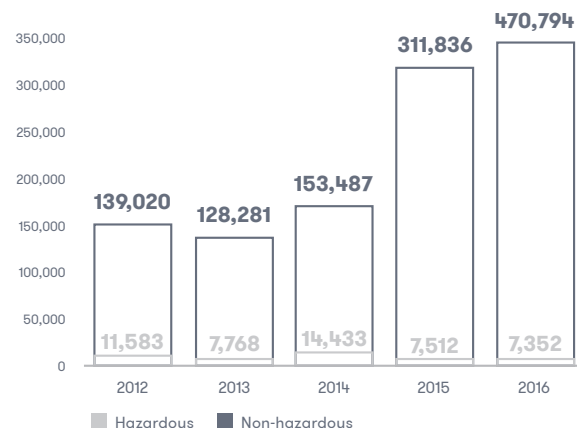


* Nuclear fuel acquired from the Spanish company Enusa is considered a local source.

Intensity of emissions at the thermal plants of the Group (CO₂/MWh)



Volume of recovered, reused, or recycled waste (t)



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4.6 Social and Relationship Capital

Stakeholder relations

Iberdrola wants to engage its Stakeholders in all of its activities and businesses, participating in an ongoing and constructive dialogue with them in order to know their expectations, build strong ties, and thus generate confidence and forge a sense of belonging to an excellent company, of which they feel they are a part.

Management approach

Iberdrola's strategic approach sets great store by its relations with Stakeholders, giving importance to the dual facets of this relationship:

- In terms of social responsibility, meeting their expectations and needs.
- In terms of reputation, managing Stakeholders' perception of the Company.

Principal activities 2016 and Outlook

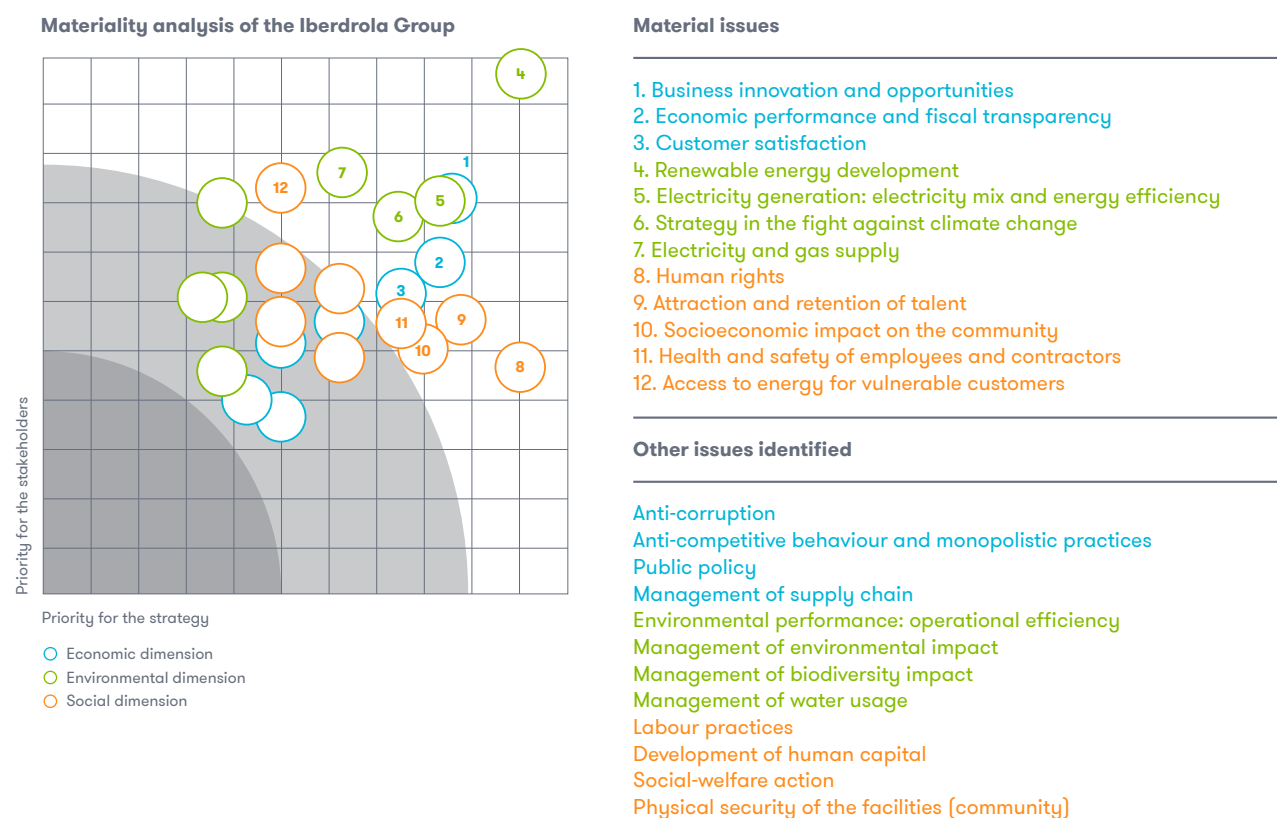
- Approval of a new *Stakeholder Relations Model*, the goals of which are:
 - To further develop the *Stakeholder Relations Policy* approved by the Board of Directors in 2015.
 - To systematise Stakeholder relations throughout the Iberdrola Group.

- To create a business culture with respect to the significance of dialogue with the Stakeholders.
- Monitoring of the AA1000 standard, in accordance with the principles of inclusiveness, materiality, and responsiveness:
 - Update of the channels of communication with the Stakeholders.
 - Identification of the most significant matters.
 - Balanced and reasonable response thereto.
- New microsite on the Employee Portal (Intranet) to internally disseminate the importance of the dialogue and of the relations with Stakeholders.
- In 2017, implementation of the new *Stakeholder Relations Model* throughout the Iberdrola Group.

A materiality analysis allows for prioritisation of the issues most important to the Company's Stakeholders.

Materiality

A Materiality Study allows for prioritisation of the issues most important to the Iberdrola's Stakeholders. In the *Sustainability Report 2016*, Iberdrola explains the management approaches taken by the Company in regard to these significant issues and the results achieved. The following graph summarises the main issues.



Community support and electricity access programmes

Primary programmes

Activities 2016

- Contribution of €44 million to the community in the countries in which Iberdrola operates, measured according to the London Benchmarking Group (LBG) international standard.
- International corporate volunteering programme, offering various volunteering opportunities to employees in Spain, the United Kingdom, the United States, Mexico, and Brazil.
- Entrepreneurial support: over €46 million of procurement from companies in operation for less than 5 years, and €70 million in venture capital for new initiatives with high technological value.
- Programmes and pricing to aid vulnerable groups in Spain, the United Kingdom, the United States, and Brazil.
- Rural electrification programmes in Brazil, to which €18 million has been allocated on a consolidated basis.
- Programmes implemented by the foundations created by Iberdrola in the principal countries in which it operates.
- Development of the *Electricity for All Programme*.

Electricity for Everyone

- The Sustainable Development Goals (SDGs) 2015-2030, approved at the UN Sustainable Development Summit in New York (September 2015), entail the recognition of energy as an engine of sustainable growth.
- The *Electricity for All* programme is Iberdrola's response to this demand to extend universal access to modern forms of energy, with environmentally sustainable, financially affordable, and socially inclusive models. This initiative is focused on sustainable electrification activities in emerging and developing countries.
- Iberdrola has set itself the goal of reaching 4 million beneficiaries of this programme by 2020. At year-end 2016, the programme had reached 2.5 million users.

Economic value distributed (€M)

Item	2015	2016
Procurement from suppliers	5,093	6,415
Payments to providers of capital	1,646	2,692
Payments to government administrations	2,746	2,740
Employee remuneration	2,187	2,260

© Sustainability Report

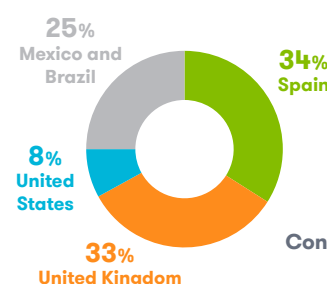
Foundations of the Iberdrola Group

Activities 2016

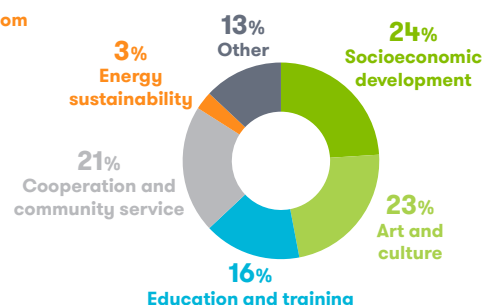
- Iberdrola has strengthened the operation of its foundation activities in Spain, the United Kingdom, the United States, Mexico, and Brazil through the actions of the Foundations Committee, as the body coordinating all of their activities and of the corresponding Boards of Trustees in each country.
- Contributions and amounts dedicated to activities have increased in all countries, including the United States, where the Avangrid Foundation has integrated a large portion of the social welfare actions carried out by UIL and its foundations.
- As regards the activities themselves, the four areas of the Master Plan (Training and Research, Art and Culture, Sustainability and Biodiversity, and Cooperation and Solidarity) have been promoted in all of the countries.
- In the training area, Iberdrola's *Scholarships and Research Assistance Programme* gave a total of 130 scholarships for students in the five aforementioned countries in 2016.
- The area of art and culture includes illumination projects like that for the *Municipality of San Sebastián*, support for exhibitions like the new *Energise Area of the National Museum of Scotland*, and projects supporting music like the *Eastman School of Music* in Rochester.
- In the area of sustainability and biodiversity, there have been multiple collaboration projects with educational and environmental centres in these five countries.
- In the area of cooperation and solidarity, there has been a strengthening of the *Social Assistance* programme in Spain and the many collaborations in the United States and the United Kingdom.

Programme results 2016

Contribution by region (%)



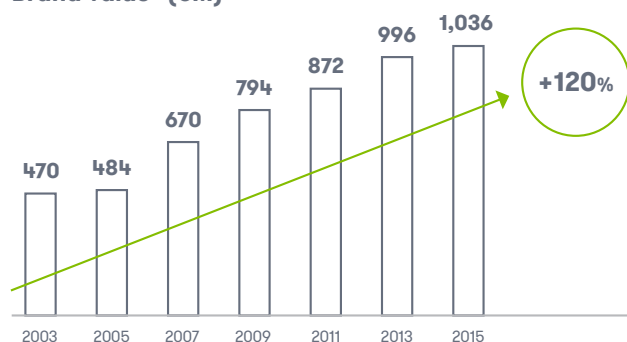
Contribution by programme (%)



Soundness and strength of the brand

- Management of the brand in such a way that it transmits the principles set out in the *Mission, Vision, and Values of the Iberdrola Group* and reflects the Company's strategy of commitment to the environment.
- Consolidation of an international brand, strengthening communication and alignment under a single brand positioning strategy in the countries in which the Company operates.

Brand value* (€M)



Source: Ranking of Best Spanish Brands by Interbrand.

Evolution of the digital ecosystem

- Offer of useful and dynamic information, with messages adapted to each stakeholder.
- Facilitate direct interaction with our stakeholders, overcoming barriers and making use of existing synergies.

Iberdrola on social media and the Internet:



Brand and reputation intelligence

- At Iberdrola, the establishment and attainment of goals allows for the conquering of challenges and sustainable growth. Thanks to the alignment between these goals and the expectations of the Stakeholders, both internal and external recognition is achieved and relations of trust are strengthened, thus increasing reputation.
- In 2016, the creation of a Brand and Reputation Intelligence Unit has allowed for progress down the path of acquiring an awareness and analysis of the brand and management of the corporate reputation as elements to take into account in short-, medium-, and long-term strategic decision-making.
- Good corporate governance is the great driver for identifying and evaluating reputation risks through policies, while the value of the brand and the value of the Company are the major beneficiaries of the implementation of an intelligence system that protects the Company from negative impacts on its reputation and risks. This is reflected in the following chart on the value creation process using brand and reputation analysis and intelligence tools:



Figure 1.
Brand and reputation intelligence value creation process

- Within this context, one of the greatest challenges on which progress has been made this year was the identification of reputational risk factors as well as the implementation of initiatives that raise the Company's awareness to confront and overcome them. Being aware of the opinion of the Stakeholders, their expectations, and what they think of the business is a vital issue for overcoming this challenge and maximising the success of the Company within a competitive marketplace and in the financial markets. Along these lines, a worldwide employee opinion survey was carried out in 2016. This has provided an awareness of the opinion of the employees regarding Iberdrola's reputation and the local brands through which it acts in the following countries: Spain, United Kingdom, United States, Mexico, and Brazil.
- Finally, good reputation shows that good governance is aligned not only with shareholders and the financial community but also with customers, employees, and each and everyone of the Stakeholders, for which reason management plans are being implemented with each of them.

International Volunteer
Day in Scotland
/ UK

© Chris James



Iberdrola Tower, Bilbao
/ Spain

© 2016 Iberdrola, S.A.





A Framework of Trust

5.1 Corporate Governance Model

Foundations of Iberdrola's corporate governance model

A. Corporate Governance System

Iberdrola is a leading multinational Group in the energy industry that seeks to create value in a sustainable manner for society, citizens, customers, and shareholders; which innovates and uses environmentally-friendly energy sources and considers its employees to be a strategic asset; committed to social return through all its business activities, generating employment and wealth in its environment, all within a strategy of social responsibility and compliance with tax regulations.

Iberdrola has adopted a Corporate Governance System made up of the *Mission, Vision, and Values* of the Group, *By-Laws, Corporate Policies, Internal Corporate Governance Rules*, and other internal codes and procedures, all available at www.iberdrola.com.

The content thereof is inspired by and based on a commitment to best corporate governance practices, business ethics, and social responsibility in all of its areas of activity.

Position	Director	Status	Date of last appointment	Ending date
Chairman & CEO	José Ignacio Sánchez Galán [Salamanca, Spain, 1950]	Executive	27-03-2015	27-03-2019
Director	Íñigo Víctor de Oriol Ibarra [Madrid, Spain, 1962]	Other external	08-04-2016	08-04-2020
Director	Inés Macho Stadler ⁽¹⁾ [Bilbao, Spain, 1959]	Independent	08-04-2016	08-04-2020
Director	Braulio Medel Cámara [Marchena, Seville, Spain, 1947]	Independent	08-04-2016	08-04-2020
Director	Samantha Barber [Dunfermline, Fife, Scotland, United Kingdom, 1969]	Independent	08-04-2016	08-04-2020
Director	María Helena Antolín Raybaud [Toulon, France, 1966]	Independent	27-03-2015	27-03-2019
Director	Santiago Martínez Lage [Betanzos, A Coruña, Spain, 1946]	Independent	27-03-2015	27-03-2019
Director	José Luis San Pedro Guerenabarrena [Bilbao, Spain, 1946]	Other external	27-03-2015	27-03-2019
Director	Ángel Acebes Paniagua [Ávila, Spain, 1958]	Independent	27-03-2015	27-03-2019
Director	Georgina Kessel Martínez [Mexico City, Mexico, 1950]	Independent	28-03-2014	28-03-2018
Director	Denise Mary Holt [Vienna, Austria, 1949]	Independent	27-03-2015	27-03-2019
Director	José W. Fernández [Cienfuegos, Cuba, 1955]	Independent	27-03-2015	27-03-2019
Director	Manuel Moreu Munaiz [Pontevedra, Spain, 1953]	Independent	27-03-2015	27-03-2019
Director	Xabier Sagredo Ormaza [Portugalete, Spain, 1972]	Other external	08-04-2016	08-04-2020

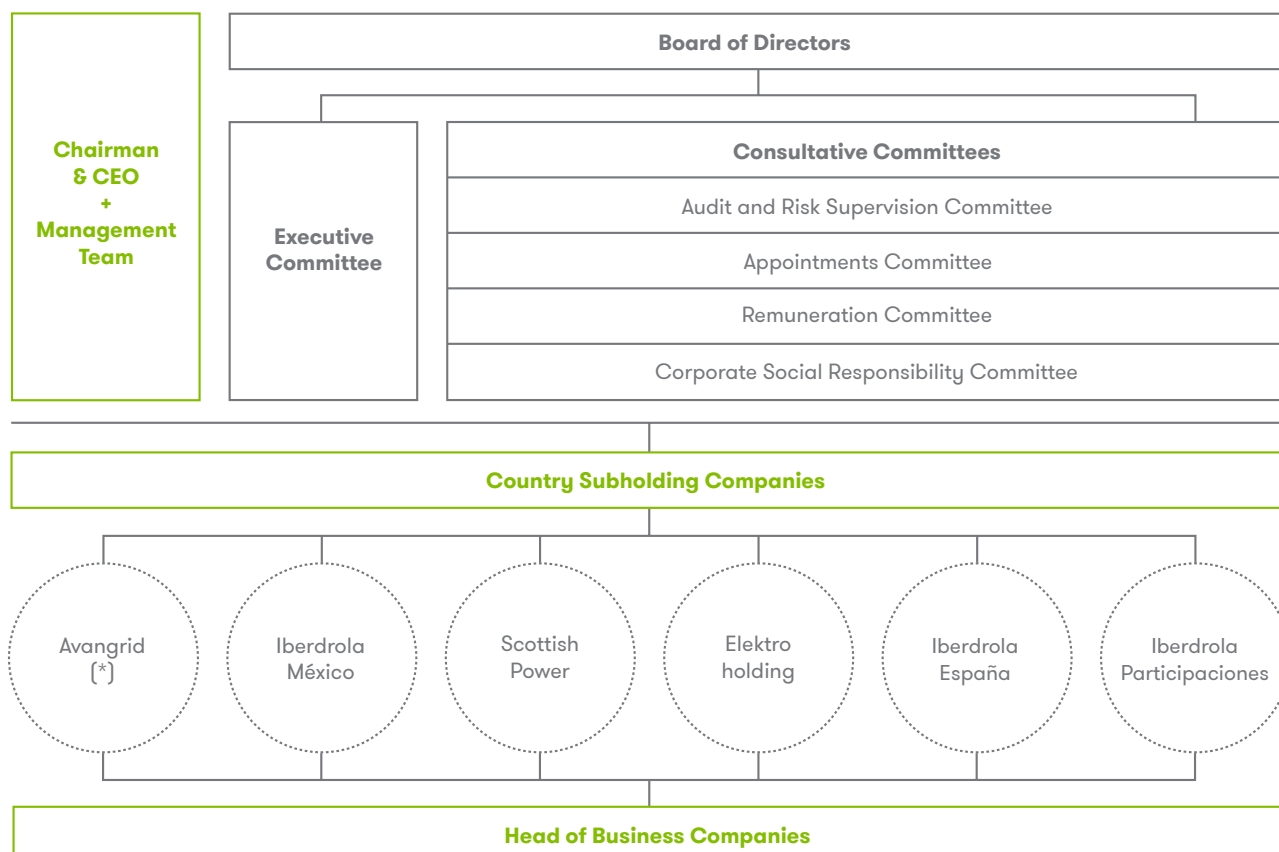
⁽¹⁾ Inés Macho Stadler is the lead independent director (*consejera coordinadora*).

B. Governance model

Appropriate differentiation between the duties of strategy and supervision and those of guidance and management:

- The Board of Directors of Iberdrola, S.A., made up of a large majority of independent directors, focuses its activity on the determination, supervision, and monitoring of the strategies and general guidelines that must be followed by the Group.
- The chairman of the Board of Directors & chief executive officer and the rest of the management team are responsible for the organisation and strategic coordination of the Group, through the dissemination, implementation, and monitoring of the overall strategy and basic guidelines.
- In all of the countries in which the Group operates, organisation and strategic coordination is implemented through country subholding companies, which group together equity stakes in the energy head of business companies carrying out their activities in the respective country and centralise the provision of services common to such companies. In addition, the Group has a country subholding company that groups together the non-energy businesses. Country subholding companies have Boards of Directors, including independent directors and their own Audit and Compliance Committees, Internal Audit divisions or units, or Compliance divisions.
- The head of business companies are in charge of the day-to-day administration and effective management of each business. They also have Boards of Directors, which include independent directors and specific management teams. This structure, which operates together with the Group's Business Model, allows for an overall integration of the businesses (Networks, Wholesale and Retail, and Renewables) and focuses on maximising the operational efficiency thereof through the implementation of best market practices.

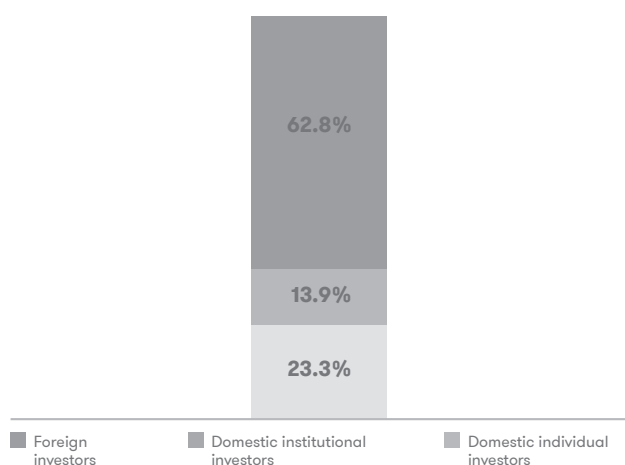
Corporate and governance structure of Iberdrola, S.A



(*) Company listed on the New York Stock Exchange.

C. Equity structure

Iberdrola has more than 600,000 shareholders throughout the world, and none of them has a controlling interest.



Foreign institutional shareholders account for 62.8% of the capital.

© External corporate governance awards / page 39

With Shareholder Week, which culminates with the holding of the General Shareholders' Meeting, Iberdrola brings the Company closer to and promotes interaction with its shareholders to give form to its corporate governance and social responsibility strategy, sharing events and initiatives regarding social-welfare, cultural, technological innovation, and digital transformation actions.

Iberdrola's response to the corporate governance challenge

A. Continuous Improvement of its corporate governance rules and practices

On corporate governance matters, the Company looks to the Good Governance Code of Listed Companies published by the CNMV and generally accepted recommendations in the international markets.

71.4% of the directors are independent.

Remuneration policy	Executive directors' variable remuneration tied to objectives.
	Transparency.
	Provision for revision and reimbursement of deferred variable remuneration.
Operation of the Board	71.4% of directors are independent.
	System of checks and balances, including a lead independent director (<i>consejera coordinadora</i>).
	All consultative committees have 100% or a majority of independent directors.
	Gender diversity: 5 women on the Board. All consultative committees are chaired by women.
	Cultural diversity: directors from 6 countries of origin.
	Rationale for proposed appointments.
Social responsibility and corporate reputation	External evaluation of governance bodies.
	Specific Corporate Social Responsibility Committee.
	Social Responsibility Policies.
	Company social action strategy through foundations related to the Iberdrola Group in Spain, United Kingdom, Brazil, United States, and Mexico.

© Ethics and Social Responsibility / page 90

B. Commitment to shareholders and investors

- The strength of the Group's industrial and financial model will us to continue on a path of increased profits and shareholder remuneration thanks to balanced growth focused on the regulated networks businesses, renewables, and long-term contracted assets.
- Engagement: shareholders are the key players within the Corporate Governance System, which includes good governance practices beyond those required by applicable law. The *Shareholder Engagement Policy* is implemented through various channels of participation intended to build a continuous dialogue beyond the General Shareholders' Meeting.
- Boost shareholders' participation at the General Shareholders' Meeting through the payment of an attendance bonus. Since its implementation in 2007, the quorum in attendance at the General Shareholders' Meeting has exceeded 75%, and has exceeded 77% during the last three years.

The quorum in attendance at the 2016 General Shareholders' Meeting was 77.91%.



C. Alignment between corporate governance and strategy

- Director remuneration aligned with strategic objectives and shareholder return. The remuneration model for directors is based primarily on three components:

Remuneration model for the Board

Type of remuneration	External (non- executive) directors	Executive directors
Fixed	According to their duties	On market terms.
Short-term variable	Not applicable	Tied to annual targets.
Long-term variable	Not applicable	Tied to multi-annual targets and paid in shares (3-year accrual period and payment deferred over 3 years following accrual).

There were only 2.16% votes against the *Annual Director Remuneration Report 2015*.

Parameters to which the annual variable remuneration of executive directors is tied in 2017

Financial	Results. Shareholder return.
Social responsibility	Presence on international indices. Level of consensus received for the proposals of the Board at the General Shareholders' Meeting. Growing female presence in management positions. Labour climate. Professional training.

Parameters to which the multi-annual variable remuneration of executive directors is tied (2017-2019)

Net profit.
Total shareholder return.
Financial strength.
Reduction in CO ₂ emissions.

Principal activities of the Board of Directors

Key issues in 2016

Iberdrola's Board of Directors has focused its activities on approving the strategic goals of the Group, on defining its organisational model, and on supervising the implementation and further development thereof.

Strategy		
Growth	The Board of Directors approves the strategic goals and determines the focus of the Group's most significant investments, ensuring that they are made in the businesses identified as priority, regulated, and renewable businesses, as well as in countries with a high credit rating.	<p>Approval and update of the Outlook 2016-2020 and of the strategic pillars.</p> <p>Approval of the strategy and budgets for financial year 2017.</p>
Financial strength	The Board of Directors determines the financial strategy during a growth phase of the Company.	Approval of a set of diversified financing sources .
Sustainable remuneration	The Board of Directors ensures that shareholder remuneration is aligned with growth in the Group's results.	<p>Validation of the objective of growth in shareholder remuneration in line with the increase in results.</p> <p>Approval of an approximately 11% increase in shareholder remuneration with a charge to 2016.</p>

Noteworthy milestones: Outlook 2016-2020.

Increase of close to 11% in shareholder remuneration with a charge to 2016.

Supervision		
Supervision	The Board of Directors, with the support of the Executive Committee, supervises on an ongoing basis the implementation of the Group's strategy and the development of the Group's organisational model.	<p>Detailed study of priority markets.</p> <p>Analysis of the performance and expectations for the future of the Businesses.</p> <p>Monitoring the integration of Avangrid.</p> <p>Regular supervision of key financial indicators.</p> <p>Monitoring of the impact that the merger between Siemens and Gamesa will have on Iberdrola.</p>

Noteworthy milestone: Monitoring the integration of Avangrid and the merger between Siemens and Gamesa

Iberdrola's Board of Directors has also devoted a significant portion of its time to dealing with other strategic issues relating to the management of the Group:

Risk supervision and control

The Board of Directors is deeply involved in the supervision of the Group's risks: it monitors the level of risk by means of periodic tracking of the most significant threats.

Identification and analysis of the main risks facing the Group.

Ongoing monitoring of risks with a possible impact on financial year 2016.

Annual revision of the Risk Policies.

Update of the guidelines on risk limits.

Approval of the *Report on Risk Control and Management Systems*.

Noteworthy milestone: Risk Analysis 2016-2020

Director and senior officer remuneration

The Board of Directors has supervised the remuneration model in order to verify that it is consistent with the Company's performance and with shareholder return, thus ensuring the maximisation of long-term value.

Comparative analysis of director remuneration.

Freezing of non-executive director remuneration since 2008.

Establishment of the limit on variable remuneration as well as the targets to which it is linked.

Approval of the fixed and variable remuneration of senior officers for financial year 2016.

Noteworthy milestone: Comparative analysis of director remuneration and supervision of the consistency of the Group's remuneration model.

Corporate governance

Ongoing efforts to identify and implement best corporate governance practices are key pillars for the creation of sustainable value.

Formalisation of the *Mission, Vision, and Values* of the Iberdrola Group as an integral norm of the Corporate Governance System.

Making various improvements designed to encourage shareholder participation in the General Shareholders' Meeting.

Successive amendments to the Corporate Governance System and approval of an *Anti-Corruption and Anti-Fraud Policy*.

Coordination and supervision of the process of evaluation of the Board of Directors.

Review of contacts made by the chairman and the management team with key market players.

Noteworthy milestone: Ongoing improvement of the Corporate Governance System and inclusion of the *Mission, Vision, and Values* of the Iberdrola Group within the Company's set of rules

Social responsibility and sustainability

The Board is committed to maintaining leadership in the fight against climate change, the development of clean energy, and respect for the environment, as well as in the maximisation of the social dividend.

Amendment of various social responsibility and sustainability policies and formalisation of the commitment adopted by Iberdrola in the fight against climate change.

Introduction of new measures to promote gender equality and the reconciliation between professional and personal life.

Approval of incentives to strengthen the Group's commitment to innovation and to a healthier and more egalitarian and just society.

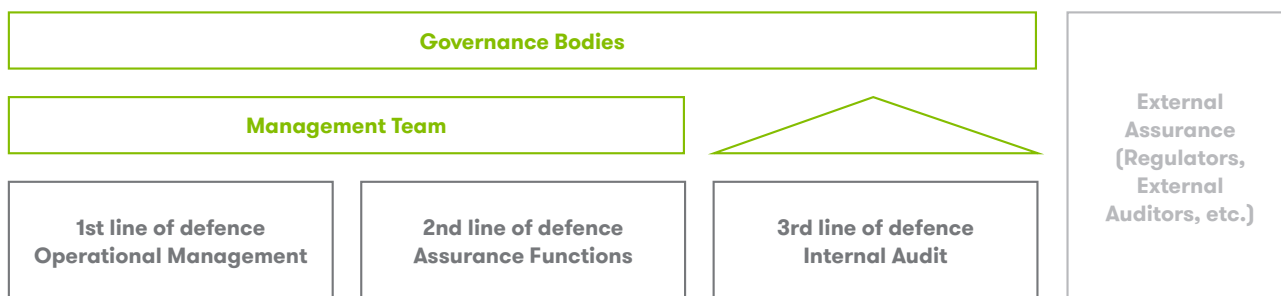
Monitoring the Group's activities in the area of sustainability and the alignment thereof with the main reference bodies.

Noteworthy milestone: Formalisation of commitments relating to the fight against climate change.

5.2 Three Lines of Defence

Three lines of defence model

The Internal Control System of Iberdrola and the companies of its Group is configured by reference to international best practices. It is based on a guarantee combined around three lines of defence, providing a comprehensive view of how the different parts of the organisation interact in an effective and coordinated manner, increasing the efficiency of the processes for management and internal control of the entity's significant risks.



Based on the document "Guidance on the 8th EU Company Law Directive, article 41" ECIIA/FERMA, September 2010.

1st line of defence Operational Management

As the first line of defence, the management team and the professionals of Iberdrola and its Group are the direct managers of the risks of the entity. Thus, the Management of the Company is responsible for maintaining effective control and implementing procedures to control risks on a continuous basis.

Internal Control Objectives (COSO. May 2013)

Operations objectives- Pertain to the effectiveness and efficiency of the entity's operations, including operational and financial performance goals, and safeguarding assets against loss.

Reporting objectives- Pertain to internal and external financial and non-financial reporting and may encompass reliability, timeliness, transparency, or other terms as set forth by regulators, recognised standard setters, or the entity's policies.

Compliance objectives- Pertain to adherence to laws and regulations to which the entity is subject.

© Significant Risks Facing Iberdrola's Primary Businesses
/ pages 48, 52, 56

2nd line of defence Assurance Functions

As the second line of defence, certain functions provide the foundation for the entity's internal control system, proposing guidelines to the Board of Directors and monitoring how the first line of defence implements them.

The primary assurance functions within Iberdrola, within their respective areas of responsibility, are: (i) the Group's Risk Division, within the framework of its functions within the Comprehensive Risk Control and Management System; (ii) the Compliance Unit, which is responsible for the Compliance System; and (iii) the Internal Control Division, which is part of the Administration and Control Division, within its duties relating to the internal control and risk management systems in relation to the preparation of financial information (ICFRS).

Iberdrola adopts the three lines of defence model to ensure effective and integrated management of its Internal Control System.

© Comprehensive Risk Control and Management System
/ page 86

© Compliance Unit
/ page 90

3rd line of defence

Internal Audit

The Internal Audit function, as the third line of defence, proactively ensures the proper functioning of the internal control, risk management, and governance systems, systematically auditing the first and second lines in the performance of their respective duties of management and control.

To ensure its independence, the director of the Internal Audit Area reports hierarchically to the chairman of the Board of Directors and functionally to the Audit and Risk Supervision Committee. The Internal Audit divisions of the various country subholding companies have this same positioning, and are coordinated under the framework of the *Basic Internal Audit Regulations of Iberdrola, S.A. and its Group*.

The 2016 annual activities plans of the Internal Audit Area Division of Iberdrola, S.A. and of the Internal Audit divisions of the Group, with a risk-based focus looking to support the achievement of the Company's goals, responded to the requirements established by the Audit and Risk Supervision Committee of Iberdrola, S.A. and the respective Audit and Compliance Committees of the country subholding companies, and included work for the senior management and the rest of the organisation, including:

- Annual audits of compliance with the *Code of Ethics* at Iberdrola, S.A. and at each of the country subholding companies.
- Audits of the process for determining and monitoring the limits and indicators of the Risk Policies of the Group's businesses.
- Half-yearly reviews of the operation of the most critical controls of the Internal Control Over Financial Reporting (ICFR) System, as well as reviews of the various cycles of preparation of the financial information of Iberdrola, S.A. and the various companies of the Group, within the framework of the general goal of reviewing the entire ICFR over a period of 3 years.

Continuing with the commitment made in 2005, Internal Audit submits to an exhaustive review every five years of compliance with professional internal audit rules (called a Quality Assurance Review) by the Global Institute of Internal Auditors. During the last review in 2015, the certification of Iberdrola, S.A. and of ScottishPower was renewed and the scope of the certification was expanded to include Iberdrola España and Avangrid.

Furthermore, since Internal Audit obtained ISO 9001 certification in 1999, it has continued to renew it through the current version ISO 9001-2008, which is expected to be updated to version ISO 9001-2015 in 2017. This ensures that all of the Group's internal auditors perform duties under the same framework and that such framework is aligned with the international professional rules of the function.

Basic Internal Audit Regulations of Iberdrola, S.A. and its Group

Approved by the Board of Directors of Iberdrola, S.A. upon a proposal of its Audit and Risk Supervision Committee (updated on 15-Dec-2015).

Defines the nature, as an independent internal unit, and establishes the regulation, competencies, powers, and duties of Internal Audit, among other things.

Establishes the framework of relations with: i) the Board of Directors, its Chairman and Committees; ii) the Internal Audit divisions of the other companies of the Group; and iii) the rest of the organisation.

Disseminates the knowledge of the Internal Audit function among the professionals of the Group.

Serves as a reference for the management model and the quality system of the Internal Audit Area of the Company and the Internal Audit divisions of the other companies of the Group.

External assurance

Regulatory bodies and other entities external to the organisation play a significant role in the general structure of governance, internal control, and risks of Iberdrola, especially in the regulated businesses. The regulators establish requirements intended to strengthen the controls of an organisation and perform a function of independent and separate monitoring, and the auditors provide assurance regarding the true and fair view of the entity's financial information. In this regard, the powers of the Audit and Risk Supervision Committee of Iberdrola, S.A. and the Audit and Compliance Committees of the country subholding companies include ensuring the preservation of the independence of the auditors in the performance of their duties.

© Regulatory Environment
/ page 44

© Audit Report on the Consolidated
Financial Statements

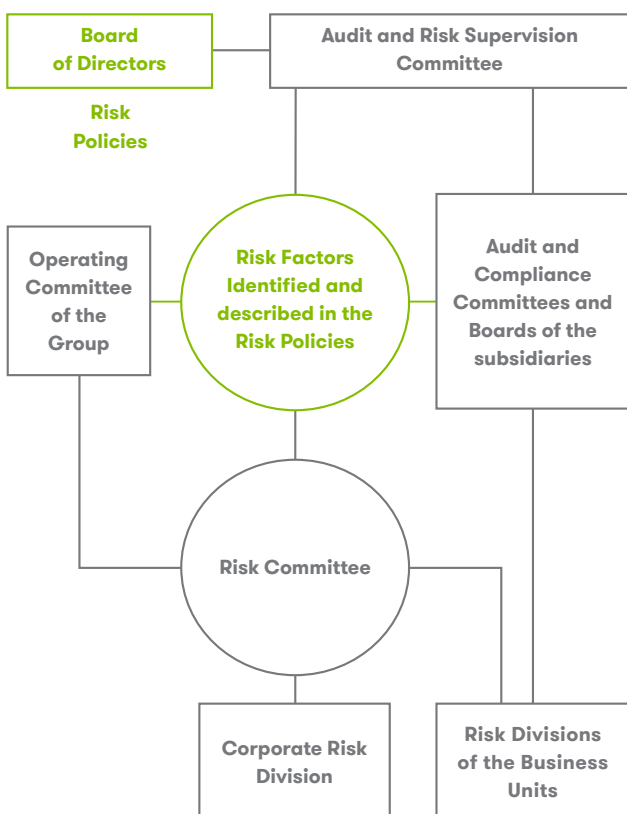
5.3 Risks

The essential elements of proper risk management are foresight, independence, and commitment to the business objectives of the Group.

Commitment of the Board of Directors and of senior management

Iberdrola's Board of Directors and senior management is strongly committed to and engaged in the management of the Group's risks:

- **Ex-ante:** acceptable levels of risk tolerance are reviewed and approved on an annual basis through risk policies and limits that establish the qualitative and quantitative risk appetite at the Group level and at each of the main businesses.
- **Ex-post:** periodic monitoring of significant risks and threats and the various exposures of the Group, as well as of compliance with the approved risk policies, limits, and indicators.



Comprehensive Risk Control and Management System

The *General Risk Control and Management Policy* of the Group approved by the Board of Directors establishes the mechanisms and basic principles for appropriate management of the risk/opportunity ratio, at a risk level that makes it possible to:

- Attain strategic goals with controlled volatility.
- Provide the maximum level of assurance.
- Protect the results and reputation of the Group.
- Defend the interests of the Stakeholders and guarantee the business stability and financial strength of the Group.

At the operational level, the Comprehensive Risk Control and Management System is structured around a Risk Committee and an independent specialised Risk Division that analyses and quantifies the risks within the main businesses of the Group.

Duties of the Risk Division

Centralised Approach – Active Management

Credit risk. Approval of counterparties and limits and/or establishment of admission criteria in order to minimise credit losses within the Group.

Market risk. Approval of detailed limits in order to delimit the effects of volatility in the markets in which the Group operates.

ERM* Approach – Integrated Vision

Ensure that the Group's significant risks are adequately identified, measured, managed, and controlled and that they are periodically reported to the various committees.

Instruments and reports:

- Risk policies and risk limits and indicators.
- Quarterly report on key risks.

Operational risk is managed through insurance and participation in the Group's information technology governance and cybersecurity committees.

(*) ERM: Enterprise Risk Management.

Risk policies and limits of the Iberdrola Group

The Group's Risk Policies are approved by the Board of Directors on an annual basis.

The country subholding companies of the various countries develop and approve their own policies through their Boards of Directors.

General Risk Control and Management Policy.

Specific risk policies for the various businesses of the Group:

- Risk Policy for the Liberalised Businesses of the Iberdrola Group.
- Risk Policy for the Renewable Energy Businesses of the Iberdrola Group.
- Risk Policy for the Networks Businesses of the Iberdrola Group.
- Risk Policies for the Engineering and Construction Businesses.
- Risk Policies for the Real Estate Businesses.

Corporate risk policies:

- Corporate Credit Risk Policy.
- Corporate Market Risk Policy.
- Operational Risk in Market Transactions Policy.
- Insurance Policy.
- Investment Policy.
- Financing and Financial Risk Policy.
- Treasury Share Policy.
- Risk Policy for Equity Interests in Listed Companies.
- Reputational Risk Framework Policy.
- Procurement Policy.
- Information Technologies Policy.
- Cybersecurity Risk Policy.



ERM management system

- Strategic positioning towards risk.
- Responsibilities to manage risk.
- Proactive and preventive actions.
- Quantitative and qualitative limits.
- Quarterly report on risk limits.

Principal risk factors of the Iberdrola Group

The Group is exposed to various risks inherent in the different countries, industries, and markets in which it operates, and which may prevent it from achieving its objectives and implementing its strategies. These risks, which are set out in the risk policies, are:

Credit risks: possibility of contractual breach by a counterparty, causing economic or financial losses.

Market risks: exposure to volatility in variables like prices of electricity and other energy commodities, exchange rate, interest rate, etc.

Business risks: deriving from the uncertainty of the behaviour of variables intrinsic to the business, characteristics of demand, climatology, etc.

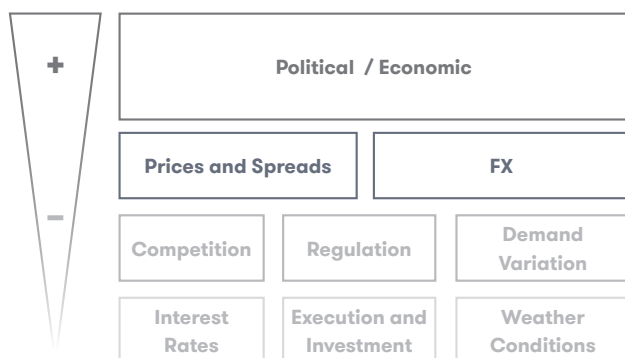
Operational, Technological, Environmental, Social, and Legal Risks: economic losses resulting from inadequate internal procedures, technical failures, human errors, etc.

Political and regulatory risks: coming from regulatory changes made by the regulators that can affect remuneration of the regulated businesses, environmental or tax provisions, etc.

Reputational risks: potential negative impacts on the Company arising from performance below the expectations of its Stakeholders.

Corporate governance risks: those that endanger the corporate interest and strategy of the Company.

Integrated Risk Analysis - Plan 2016-2020



Main sources of risk

The political/economic uncertainty of the countries in which the Iberdrola Group maintains a presence, which is difficult to quantify, represents the main source of risk due to its impact on key variables such as exchange rate, interest rate, regulatory changes, etc.

The prices of commodities and their impact on electricity prices represent the second source of risk for the Group.

Impact on Ebitda by business

Average annual EBITDA share '17-'20	Risk as % of annual EBITDA '17-'20
20%	Wholesale and Retail Business 4.5% - 5.5%
23%	Renewables Business 1.0% - 1.5%
57%	Regulated Business* 1.0% - 1.5%

(*) Networks & Mexico

Due to its intrinsic nature, despite representing only 20% of Ebitda, the Wholesale and Retail Business holds the greatest proportion of at-risk Ebitda for the period 2017 – 2020, amounting to between 4.5 and 5.5%. The various risk profiles of the businesses are as follows:

Wholesale and Retail Business: The main variable that affects the Group's results is the price of electricity, which is closely correlated to the price of the fuel used to produce it. These risks are mitigated by offsetting at-risk positions between wholesale and retail activities, by diversifying purchase/sale agreements and the specific clauses thereof, and by trading in derivatives.

Renewables Business: Risks deriving from the Renewables Business, mainly the uncertainty of wind resources and the established remuneration systems, are mitigated via:

- The wide geographical spread of the large number of available windfarms.
- The various regulatory frameworks aimed at fostering the development of renewable energy, based on formulas that can include premiums, green certificates, tax deductions, or regulatory tariffs that allow investors to obtain an appropriate and reasonable return.

Regulated Businesses: The regulation applicable to the Networks Businesses of each of the countries in which the Group operates establishes periodically updated frameworks that ensure a reasonable and predictable return. These frameworks provide incentives and penalties for efficiency, quality of service, and potentially for management of bad debts, with a minor and insignificant overall impact.

In Mexico, the Iberdrola Group sells most of its electricity production through long-term, fixed-price contracts to the Federal Electricity Commission (*Comisión Federal de Electricidad*) (CFE), and the rest of its production to private customers at prices indexed to the CFE rate.

Risk factors and mitigation measures

Greater detail is offered below regarding the main risk factors for the income statement of a specific financial year and the main measures of mitigation to address them.

The activities carried out by the Group are subject to various market, business, credit, operational and regulatory risks, arising out of the uncertainty of the main variables that affect them, including: changes in the price of commodities; changes in hydroelectric and wind production (both internal and external); change in demand for electricity and gas; and availability of the plants.

Changes in the price of electricity	The main variable affecting the results of the Group's Wholesale and Retail Businesses and Renewables Businesses as regards market prices is the price of electricity, which bears a close correlation to the price of fuel and applicable emission rights, required to produce such electricity.		
Changes in the prices of energy commodities	Offsetting at-risk positions between wholesale and retail activities allows for a large reduction in the Group's market risk; the remaining risk is mitigated via diversification of purchase/sale agreements and the specific clauses thereof, and by trading in derivatives.		
Profit margin	The Group's Renewables Businesses preferentially sell their energy at: i) regulated tariff; or ii) fixed price via long-term power purchase agreements (PPAs). The remaining market exposure of the Spain and United Kingdom Renewables Businesses is transferred to the Wholesale and Retail Business of such countries.		
	Possible impact of a 5% change in the price of electricity and/or of energy commodities and CO ₂	Wholesale and Retail Business - Spain - United Kingdom - Mexico United States Renewables Business	● Includes the exposure of the Spain Renewables Business (windfarms prior to 2014) ● Includes the exposure of United Kingdom Renewables Business (component of energy farms subject to ROCs). ● Long-term agreements with the CFE(1) have no market risk ● Includes 33% risk for windfarms without long-term sales agreements
Change in hydroelectric resources Spain	In the long term, wet years compensate for dry years. In the short-to-medium term, the storage capacity of hyperannual reservoirs and the Group's portfolio of power plants mitigate the level of volatility of the annual results.	Possible impact of lower hydroelectric production(*) (*) Corresponding to dry year, followed by two dry or semi-dry years.	● Spain Wholesale and Retail Business
Change in wind resources of the Group	The geographical spread of the Iberdrola Group's windfarms mitigates the annual volatility of wind production at the Group level and its possible impact on results for a specific year.	Possible impact of lower wind production	● Group Renewables Business
Change in demand	Higher or lower growth in annual demand has a moderate short-term impact on the Group's results, given the characteristics of the Group's generation facilities and the structure of the long-term power purchase agreements (PPAs).	Possible impact of 1% reduction in demand	● Spain Wholesale and Retail Business ● United Kingdom Wholesale and Retail Business
Change in interest rate	In order to mitigate this risk, the Iberdrola Group maintains a fixed-rate and variable-rate debt structure, based on the structure of its revenues and the sensitivity thereof to changes in interest rates.	Possible impact on financial cost of +25 basis point increase	● Group financial cost
Change in exchange rate	The Group mitigates this risk by taking on debt and carrying out all its financial flows in the functional currency corresponding to each company, whenever possible and economically efficient, managing its open positions with financial derivatives. The risk associated with the translation of expected results from subsidiaries in a currency other than the euro is closed out annually.	Possible impact on financial cost of 5% increase in currency	● Group financial cost
Credit risk	This risk is appropriately managed and limited based on the type of transaction and the credit standing of the counterparties. As regards credit risk corresponding to accounts receivable for retail activity, late payments/defaults have been kept to moderate levels, close to 1% of the total invoicing for this activity.		
Operational risk	These risks are mitigated by making the necessary investments, applying operation and maintenance procedures and programmes (supported by quality systems), planning appropriate training and skills development for staff, and finally by obtaining appropriate casualty and civil liability insurance.		
Regulatory and political risk	The Group is subject to laws and regulations on tariffs and other regulatory aspects of its activities in the countries in which it does business. The introduction of new laws/regulations or amendments to existing ones could adversely affect operations, annual results and the financial value of the businesses of the Group.		

(1) CFE: Federal Electricity Commission (Comisión Federal de Electricidad)

● <15 M€ ● 15-50 M€ ● >50M€

5.4 Ethics and Social Responsibility

Compliance Unit

Iberdrola has a Compliance Unit, as a collective, internal, and permanent body linked to the Corporate Social Responsibility Committee of the Board of Directors.

There are also Audit and Compliance Committees at the level of each country subholding company and/or head of business company. Their duties including promoting a culture of ethical behaviour and zero tolerance for the commission of unlawful acts or fraud. Iberdrola's Compliance System is made up of the substantive rules, formal procedures, and major activities within the Group to encourage the organisation to act in accordance with applicable ethical principles and legal provisions, through a set of procedures and actions designed to prevent, detect, and react to irregular actions, fraud, or actions contrary to the Iberdrola Group's Code of Ethics or applicable laws and regulations.

Main activities in the area of ethics and compliance

Various programmes and control mechanisms for different regulatory environments are implemented at the Group within the framework of the Compliance System.

These include the crime prevention programmes, which are implemented within the framework of the process of reviewing and adapting the duties imposed by the Spanish Criminal Code, without prejudice to the legal provisions applicable in any other jurisdiction in which the Company does business, as well as the programme for compliance with the *Code of Ethics*, which includes specific training and communication plans for all professionals of the Group, among other things.

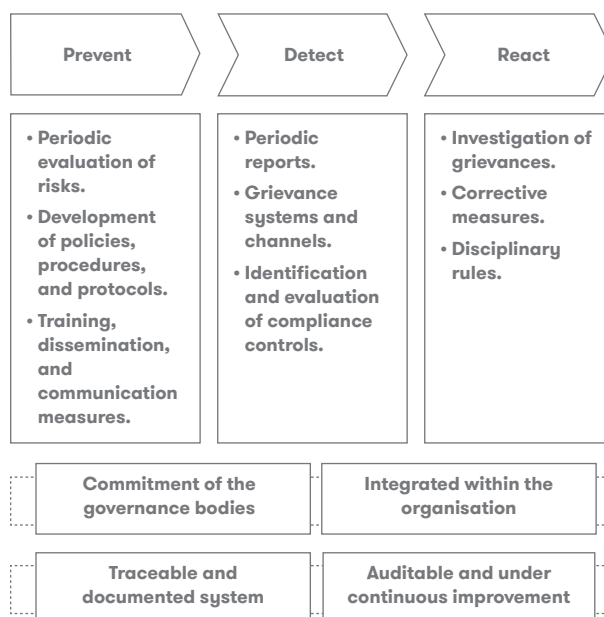
Iberdrola also has a Compliance Unit Office (the "Office"), managed by the Compliance Director and made up of members representing the various areas that form the

Compliance System. All functions that are entrusted with powers relating to compliance are coordinated through the Office, which ensures the effective functioning of the Compliance System as a whole.

Powers of the Unit

The Compliance Unit has powers related to the *Code of Ethics*, the *Anti-Corruption and Anti-Fraud Policy*, the *Crime Prevention Policy*, the *Internal Regulations for Conduct in the Securities Markets*, legal provisions regarding the separation of activities, and all other powers that may be entrusted thereto by the Corporate Social Responsibility Committee or the Board of Directors of the Company or that are established in Iberdrola's Corporate Governance System.

The Iberdrola Group's compliance system



Principal awards

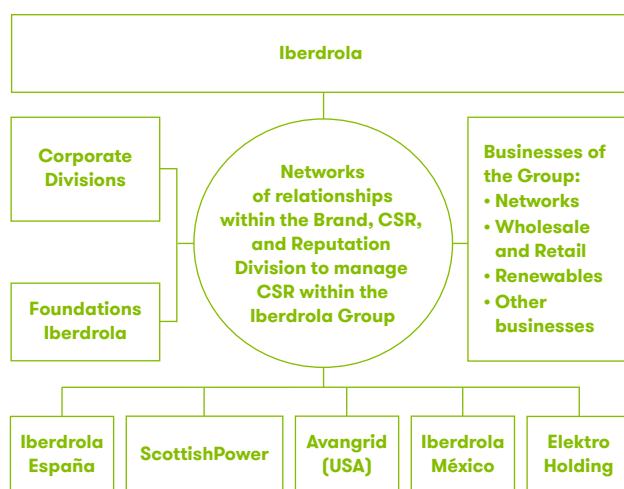
Iberdrola has been chosen for the fourth consecutive year as one of the most ethical companies in the world, according to the *World's Most Ethical Companies* ranking prepared by the *Ethisphere Institute*. This

Iberdrola considers its corporate values to include ethical principles, good corporate governance and transparency, and social commitment.

ranking recognises organisations that are committed to ethical leadership and behaviour at the corporate level.

NYSE Governance Services, together with the Ethisphere Institute, also awarded the “Compliance leader verification” certification to Iberdrola in 2015.

Organisation of social responsibility within the Group



The Iberdrola Group has an organisational structure designed to promote and manage responsible actions with its Stakeholders. The Corporate Social Responsibility and Reputation Committee and the CSR and Reputation Committees of the country subholding companies coordinate the balanced development of social responsibility within the Iberdrola Group. The CSR Committee of the Board of Directors performs the duties of supervision within its purview.

CSR plans of the Group

2015 saw the approval of the *CSR 2015-2017 Plan* for the Iberdrola Group, covering five areas of activity (dialogue with local communities, measurement tools, etc.), with a focus based on the various Stakeholders.

The CSR Plan is made up of various programmes, projects, and monitoring indicators, both cross-sectional for all involved organisations of Iberdrola as well as specific

for each business or corporate area of the Company.

Monitoring of the Plan is analysed on a half-yearly basis by the Corporate CSR and Reputation Committee and by the CSR Committee of the Board of Directors.

External awards

2016 world leader in utilities sector, with 91 points. Selected in all prior years.



Selected in 2017. Only Spanish electric company among the 100 most sustainable companies in the world.



First utility with nuclear assets to meet standards, selected for 6 years in a row.



A-List, the highest category.



Iberdrola a sponsor.



Iberdrola selected AAA.



Iberdrola selected.



Qualified as “Gold Class” in the electricity sector.



First Spanish utility and fifth worldwide.



Leader among Spanish utilities: electricity, gas, and water.



Iberdrola selected



Iberdrola among top 25 scoring companies.



Iberdrola shareholders during a virtual reality demonstration at Iberdrola Tower

© Antonio Triviño





About this Report

This report, which Iberdrola directs to both its shareholders and investors and all of its Stakeholders, has been prepared under the innovative “integrated report” concept, and constitutes one more example of the Group’s desire to be innovative in the area of transparency.

6.1 About this Report

Integrated report

- This report has been prepared in accordance with the reporting framework published by the International Integrated Reporting Council (IIRC) and in accordance with the recommendations thereof, taking into consideration the individual and consolidated financial statements of the Company formulated by the Board of Directors, audited and pending approval by the shareholders at the General Shareholders' Meeting of Iberdrola.
- A multi-disciplinary team made up of corporate businesses and areas of the Group was created in order to provide a complete view of the Company, its business model, the challenges and risks it faces, and its social, environmental, financial, and governance performance. The participating organisations guarantee the completeness of the information included.
- This content of this document has been reviewed by the Company's Operating Committee. It has also been reported on favourably by the Corporate Social Responsibility Committee, which has submitted the report to the Board of Directors for its final consideration. Based on all of the foregoing, the Board of Directors has approved this *Integrated Report February 2017* at its meeting of 21 February 2017.

Information boundaries

- The information submitted covers Iberdrola and its subsidiaries and affiliates. The information boundaries are defined in the Group's consolidated annual financial statements and *Sustainability Report*.
- The Group's performance in recent years is connected to external corporate transactions and internal management decisions, which the reader should take into account in order to properly interpret this report. These transactions and activities are described in the Group's public information, the following being particularly noteworthy:
 - The application of IFRS 11 to the 2013 to 2016 figures, which mainly affects Brazil.
 - The integration of UIL Holdings Corporation into Iberdrola USA (December 2015), which is now called Avangrid, a company listed on the New York Stock Exchange and the country subholding company of the Group in the United States.

This report has been prepared in accordance with the reporting framework published by the International Integrated Reporting Council (IIRC).

Material aspects identified

- Iberdrola has channels of communication and dialogue with its Stakeholders, developed in accordance with the principles of the AA1000 Assurance Standard, as described in detail in the *Stakeholder Relations Policy* and in the *Sustainability Report*.
- The Company also performs materiality analyses that help identify matters of significance to its Stakeholders, bringing to light particularly sensitive financial, environmental, or social issues related to the business in the various communities and geographic areas in which the Group operates.
- The contents of this report have been selected by taking into account the existing channels for dialogue as well as the materiality analyses and the framework defined by the IIRC for this kind of information.

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Internal and external verification

- This report has been subject to a process of internal verification, by means of a limited review performed by the Management of the Internal Audit Division of Iberdrola.
- Although it has not been subject to a process of independent external verification, a significant portion of the information contained herein relating to financial year 2016 and to previous years comes from annual financial reports and sustainability reports, all of which have been the subject of an external audit or verification for which the respective certificates are available. The remaining information comes mainly from other reports or public presentations made by the Company.



VINEYARD WIND

ATTACHMENT TO:
SECTION 3 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.15-1
REDACTED



VINEYARD WIND

ATTACHMENT TO:
SECTION 3 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.15-2
REDACTED



ATTACHMENT TO:

**SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL**

ATTACHMENT 5.15-3 Avangrid Renewables Affiliate Companies

AVANGRID, Inc. and subsidiaries

1. Aeolus Wind Power II, LLC
2. Aeolus Wind Power III, LLC
3. Aeolus Wind Power IV, LLC
4. Atlantic Renewable Energy Corporation
5. Atlantic Renewable Projects II, LLC
6. Atlantic Renewable Projects, LLC
7. Atlantic Wind, LLC
8. Aurora Solar, LLC
9. Avangrid Arizona Renewables, LLC
10. Avangrid Enterprises, Inc.
11. Avangrid, Inc.
12. Avangrid Logistic Services, LLC
13. Avangrid Management Company, LLC
14. Avangrid Networks, Inc.
15. Avangrid Networks New York Transco, LLC
16. Avangrid Renewables Holdings, Inc.
17. Avangrid Renewables, LLC
18. Avangrid Service Company
19. Avangrid Solutions, Inc.
20. Avangrid Texas Renewables, LLC
21. Avangrid Vineyard Wind, LLC
22. Bakeoven Solar LLC
23. Barton Windpower, LLC
24. Berkshire Energy Resources, Inc.
25. Big Horn II Wind Project, LLC
26. Big Horn Wind Project, LLC
27. Blue Creek Wind Farm, LLC
28. Buffalo Ridge I, LLC
29. Buffalo Ridge II, LLC
30. Casselman Windpower, LLC
31. Cayuga Energy, Inc.
32. Central Maine Power Company
33. Chester SVC Partnership
34. CMP Group, Inc.
35. CNE Energy Services Group, LLC
36. CNE Peaking, L LC
37. Colorado Green Holdings, LLC
38. Colorado Wind Ventures, LLC
39. Connecticut Energy Corporation
40. Coyote Ridge Wind, LLC

41. Connecticut Natural Gas Corporation
42. Connecticut Yankee Atomic Power Company
43. CTG Resources, Inc.
44. Deerfield Wind, LLC
45. Desert Wind Farm, LLC
46. Dillon Wind, LLC
47. El Cabo Wind Holdings, LLC
48. El Cabo Wind, LLC
49. El Cabo Partners, LLC
50. Elk River Windfarm, LLC
51. Elm Creek Wind II, LLC
52. Elm Creek Wind, LLC
53. Farmers City Wind, LLC
54. Flat Rock Windpower II, LLC
55. Flat Rock Windpower, LLC
56. Flying Cloud Power Partners, LLC
57. GCE Holding, LLC
58. GenCon Devon, LLC
59. GenConn Energy, LLC
60. GenConn Middletown, LLC
61. Golden Hills Wind Farm, LLC
62. Goodland Wind, LLC
63. Groton Wind, LLC
64. Hardscrabble Wind Power, LLC
65. Hay Canyon Wind, LLC
66. Heartland Wind, LLC
67. Helix Wind Power Facility, LLC
68. Kitty Hawk Wind, LLC
69. Juniper Canyon Wind Power II, LLC
70. Juniper Canyon Wind Power, LLC
71. Karankawa Wind, LLC
72. Klamath Energy, LLC
73. Klamath Generation, LLC

74. Klondike Wind Power II, LLC
75. Klondike Wind Power III, LLC
76. Klondike Wind Power, LLC
77. Lakeview Cogeneration LLC
78. LaJoya Wind LLC
79. Leaning Juniper Wind Power II, LLC
80. Leipsic Wind, LLC
81. Lempster Wind, LLC
82. Locust Ridge II, LLC
83. Locust Ridge Wind Farm, LLC
84. Loowit battery Storage LLC
85. Loma Vista, LLC
86. Lund Hill Solar LLC
87. Maine Electric Power Company, Inc.
88. Maine Natural Gas Corporation
89. Maine Yankee Atomic Power Company
90. MaineCom Services
91. Manzana Power Services, Inc.
92. Manzana Wind, LLC
93. Midland Wind, LLC
94. Minndakota Wind LLC
95. Mohawk Solar, LLC
96. Montague Wind Power Facility, LLC
97. Moraine Wind II, LLC
98. Moraine Wind, LLC
99. Mount Pleasant Wind, LLC
100. Mountain View Power Partners III, LLC
101. New England Wind, LLC
102. New York State Electric & Gas Corporation
103. New Harvest Wind Project, LLC
104. New York Transco, LLC
105. Northern Iowa Windpower II, LLC
106. NORVARCO
107. Nth Power Technologies Fund I, L.P.
108. Otter Creek Wind Farm, LLC
109. Pacific Harbor Capital, Inc.
110. Pacific Wind Development, LLC
111. Pebble Springs Wind, LLC
112. Phoenix Wind Power, LLC
113. PPM Colorado Wind Ventures, Inc.
114. PPM Roaring Brook, LLC
115. PPM Technical Services, Inc.
116. PPM Wind Energy, LLC
117. Providence Heights Wind, LLC
118. RGS Energy Group, Inc.
119. Rochester Gas and Electric Corporation
120. Rugby Wind, LLC
121. San Luis Solar, LLC
122. Scottishpower Hazelwood Ptw, Ltd.

123. Scottish Power Financial Services, Inc. (in process of liquidation)
124. Scottish Power Group Holdings Company
125. Shiloh I Wind Project, LLC
126. Solar Star Oregon II, LLC
127. South Chestnut, LLC
128. South Glens Falls Energy, LLC
129. Star Point Wind Project, LLC
130. Streator-Cayuga Ridge Wind Power, LLC
131. TEN Transmission Company
132. The Berkshire Gas Company
133. The Southern Connecticut Gas Company
134. The Union Water-Power Company
135. The United Illuminating Company
136. Thermal Energies, Inc.
137. Total Peaking Services, LLC
138. Trimont Wind I, LLC
139. Tule Wind, LLC
140. Twin Buttes Wind II, LLC
141. Twin Buttes Wind, LLC
142. UIL Distributed Resources, LLC
143. UIL Group, LLC
144. UIL Holdings Corporation
145. United Capital Investments, Inc.
146. United Resources, Inc.
147. Vineyard Wind, LLC
148. Wy'East Solar, LLC
149. West Valley Leasing Company, LLC
150. WGP Acquisition, LLC
151. Winnebago Windpower II, LLC
152. Winnebago Windpower, LLC
153. Xcel Services, Inc.
154. Xcelcom, Inc.
155. Yankee Atomic Electric Company



ATTACHMENT TO:
SECTION 5 OF APPENDIX A TO THE RFP
FINANCIAL/LEGAL

ATTACHMENT 5.15-4 Iberdrola S.A.'s Subsidiary Companies

Iberdrola, S.A. group companies, jointly controlled companies and associated companies of the Iberdrola, S.A. group (not including AVANGRID, Inc. and its subsidiaries)

DEREGULATED BUSINESS

Spain and Portugal

ADE Capital Sodical Sociedad Capital Riesgo de Regimen Comun
Ciudad real Aeropuertos, S.L.

Cobane, A.I.E. Spain
Cogeneración Gequisa, S.A. Spain
Enercrisa, S.A. Spain
Energía Portátil Cogeneración, S.A. Spain
Energyworks Aranda, S.L. Spain
Energyworks Carballo, S.L. Spain
Energyworks Cartagena, S.L. Spain
Energyworks Fonz, S.L. Spain
Energyworks Milagros, S.L. Spain
Energyworks Monzón, S.L. Spain
Energyworks San Millán, S.L. Spain
Energyworks Villarrobledo, S.L. Spain
Energyworks Vit-Vall, S.L. Spain
Fudepor, S.L. Spain
Fuerzas Eléctricas de Navarra, S.A. Spain
Hidroeléctrica Ibérica, S.L.U. Spain
Iberdrola Clientes, S.A.U. Spain
Iberdrola Cogeneración, S.L.U. Spain
Iberdrola Comercialización de Último Recurso, S.A.U. Spain
Iberdrola Generación España, S.A.U. Spain
Iberdrola Generación Nuclear, S.A.U. Spain
Iberdrola Generación, S.A.U. Spain
Iberdrola Operación y Mantenimiento, S.A.U. Spain
Iberdrola Servicios Energéticos, S.A.U. Spain
Iberduero, S.L.U. Spain
Intermalta Energía, S.A. Spain
Nuclenor, S.A. Spain Oficina de Coordinacion de Obras de Valencia A.I.E. (OCOVAL)
OMIP SGPS, S.A.
Operator Mercado Iberico Polo Espanol, S.A. (OMEL)
Otras Inversiones Peninsular Cogeneración, S.A. Spain
Productos y Servicios de Confort, S.A. Spain
Tarragona Power, S.L.U. Spain
Tecnatom, S.A. Spain

Iberdrola Clientes Portugal, Unipessoal Ltda. Portugal

United Kingdom

Aviation Investment Fund Company Ltd

E Ecoprensa, S.A.

East Anglia One North Ltd

East Anglia Two Ltd

Echoworx Corporation

Scottish Power Generation Holdings Ltd. United Kingdom

ScottishPower (DCL), Ltd. United Kingdom

ScottishPower (SCPL), Ltd. United Kingdom

ScottishPower Energy Management (Agency), Ltd. United Kingdom

ScottishPower Energy Management, Ltd. United Kingdom

ScottishPower Energy Retail, Ltd. United Kingdom

ScottishPower Generation, Ltd. United Kingdom

Seed capital Bizkaia Bi, F.C.R.

Seed capital Bizkaia, F.C.R.

Seed Capital Bizkaia, S.A.

Selectusonline Ltd

SMW, Ltd. United Kingdom

SP Dataserve, Ltd. United Kingdom

SP Gas Transportation Cockenzie, Ltd. United Kingdom

SP Gas Transportation Hatfield, Ltd. United Kingdom

SP Smart Meter Assets, Ltd. United Kingdom

Rest of Europe

Iberdrola Energie Deutschland, GmbH. Germany

Iberdrola Energie France, S.A.S. France

Iberdrola Clienti Italia, S.R.L. (previously Iberdrola Energía Italia, S.R.L.) Italy

Mexico

Hidrola I, S.L.U. Spain

Cinergy, S.R.L. de C.V. Mexico

Iberdrola Soporte a Proyectos liberalizado, S.A. de C.V. Mexico

Enertek, S.A. de C.V. Mexico

Iberdrola Clientes, S.A. de C.V. Mexico

Iberdrola Cogeneración Altamira, S.A. de C.V. Mexico

Iberdrola Cogeneración Bajío, S.A. de C.V. Mexico

Iberdrola Cogeneración Ramos, S.A. de C.V. Mexico

Iberdrola Energía Altamira de Mexico

Servicios, S.A. de C.V.

Iberdrola Energía Altamira, S.A. de C.V. Mexico

Iberdrola Energía Baja California, S.A. de C.V. Mexico

Iberdrola Energía del Golfo, S.A. de C.V. Mexico

Iberdrola Energía Escobedo, S.A. de C.V. Mexico
Iberdrola Energía La Laguna, S.A. de C.V. Mexico
Iberdrola Energía Monterrey, S.A. de C.V. Mexico
Iberdrola Soporte a Proyectos Liberalizado S.A. DE C.V. Mexico
Iberdrola Energía Noroeste, S.A. de C.V. Mexico
Iberdrola Energía Tamazunchale, S.A. de C.V. Mexico
Iberdrola Generación, S.A. de C.V. Mexico
Iberdrola Generación Mexico, S.A. de C.V. Mexico
Iberdrola Mexico, S.A. de C.V. Mexico
Iberdrola Servicios Corporativos, S.A. de C.V. Mexico
Servicios Administrativos Tamazunchale, S.A. de C.V. Mexico
Servicios de Operación La Laguna, S.A. de C.V. Mexico
Servicios Industriales y Administrativos del Noreste, S.R.L. de C.V. Mexico
Iberdrola Energia Topolobampo, S.A. de C.V. Mexico

United States and Canada

Iberdrola Canadá Energy Services, Ltd. Canada

RENEWABLEBUSINESS

Spain

Anselmo León Hidráulica, S.L. Spain
Biocantaber, S.L.Spain
Bionor Eólica, S.A. Spain
Biovent Energía, S.A. Spain
Cantaber Generación Eólica, S.L.Spain
Ciener, S.A.U. Spain
Desarrollo de Energías Renovables de La Rioja, S.A. Spain
Ecobarcial, S.A. Spain
Electra de Malvana, S.A. Spain
Electra Sierra de los Castillos, S.L. Spain
Electra Sierra de San Pedro, S.A. Spain
Eléctricas de la Alcarria, S.L. Spain
Eme Hueneja Cuatro, S.L. Spain
Energía de Castilla y León, S.A. Spain
Energías Ecológicas de Tenerife, S.A. Spain
Energías Eólicas de Cuenca, S.A.U. Spain
Energías Renovables de la Región de Murcia, S.A.U.Spain
Eólica Campollano, S.A. Spain
Eólica 2000, S.L. Spain
Eólicas de Euskadi, S.A.U. Spain
Iberdrola Energía Solar de Puertollano, S.A. Spain
Iberdrola Renewables Solutions, S.A.U. Spain
Iberdrola Renovables Galicia, S.A.U. Spain

Iberdrola Renovables Andalucía, S.A.U. Spain
Iberdrola Renovables Aragón, S.A.U. Spain
Iberdrola Renovables Canarias, S.A.U. Spain
Iberdrola Renovables Castilla – La Mancha, S.A.U. Spain
Iberdrola Renovables Castilla y León, S.A. Spain
Iberdrola Renovables Energía, S.A.U. Spain
Iberdrola Renovables La Rioja, S.A. Spain
Ibernova Promociones, S.A.U. Spain
Iberjalón, S.A. Spain
Minicentrales del Tajo, S.A. Spain
Molinos de La Rioja, S.A. Spain
Molinos del Cidacos, S.A. Spain
Parque Eólico Cruz del Carrutero, S.L. Spain
Peaché Energías Renovables, S.A. Spain
Producciones Energéticas Asturianas, S.L. Spain
Producciones Energéticas de Castilla y León, S.A. Spain
Renovables de la Ribera, S.L. Spain
Sistemas Energéticos Altamira, S.A.U. Spain
Sistemas Energéticos Chandrexa, S.A. Spain
Sistemas Energéticos La Gomera, S.A.U. Spain
Sistemas Energéticos La Higuera, S.A. Spain
Sistemas Energéticos de la Linera, S.A.U. Spain
Sistemas Energéticos La Muela, S.A. Spain
Sistemas Energéticos Mas Garullo, S.A. Spain
Sistemas Energéticos Nacimiento, S.A.U. Spain
Sistemas Energéticos Tacica de Plata, S.A.U. Spain
Sistemas Energéticos Torralba, S.A. Spain
Sistemas Energetics Savalla del Comtat, S.A.U. Spain
Sotavento Galicia, S.A. Spain

United Kingdom

Celtpower, Ltd. United Kingdom
Coldham Windfarm, Ltd. United Kingdom
East Anglia Offshore Wind, Ltd. United Kingdom
East Anglia One, Ltd. United Kingdom
East Anglia Three, Ltd. United Kingdom
Morecambe Wind, Ltd. United Kingdom
ScottishPower Renewable Energy, Ltd. United Kingdom
ScottishPower Renewables (WODS), Ltd. United Kingdom
ScottishPower Renewables UK, Ltd. United Kingdom

Rest of the World

Iberdrola Renovables Offshore Deutschland, GmbH. Germany

Iberdrola Renovables Deutschland, GmbH. Germany
Baltic Eagle, GmbH. Germany
Iberdrola Renewables Bulgaria, EOOD. Bulgaria
Iberdrola Renewables Canadá, Ltd. Canada
Rokas Aeoliki Cyprus, Ltd. Cyprus
Ailes Marine, S.A.S. France
Iberdrola Renovables France, S.A.S. France
C. Rokas Industrial Commercial Company, S.A. Greece
PPC Renewables Rokas, S.A. Greece
Rokas Aeoliki Peloponnisos II, S.A. Greece
Rokas Aeoliki Thraki III, S.A. Greece
Rokas Construction, S.A. Greece
Rokas Hydroelectric, S.A. Greece
Iberdrola Renovables Magyarorszag, KFT. Hungary
Iberdrola Renovables Italia, S.p.A. Italy
Societa Energie Rinnovabili 2, S.p.A. Italy
Iberdrola Renewables Portugal, S.A. Portugal
Parque Eólico da Serra do Alvao, S.A. Portugal
Eolica Dobrogea One, S.R.L. Romania
Iberdrola Renewables Romania, S.R.L. Romania

Mexico

BII NEE Stipa Energía Eólica, S.A. de C.V. Mexico
Corporativo Iberdrola Renovables Mexico, S.A. de C.V. Mexico
Energías Renovables Venta III, S.A. de C.V. Mexico
Eólica Dos Arbolitos S.A.P.I. de C.V. Mexico
Iberdrola Renovables Centro, S.A. de C.V. Mexico
Iberdrola Renovables del Bajío, S.A. de C.V. Mexico
Impulsora de Generacion Fotovoltaica de Mexico, S.A. de C.V. (formerly, Mexico Iberdrola Renovables del Irapuato, S. A. de C. V.)
Infraestructuras de Generacion Electrica, S.A. de C.V. (formerly, Iberdrola Mexico Renovables del Zacatecas, S.A. de C.V.)
Iberdrola Renovables Mexico, S.A. de C.V. Mexico
Iberdrola Renovables Noroeste, S.A. de C.V. Mexico
Iberdrola Renovables Norte, S.A. de C.V. Mexico
Parque Industrial de Energía Renovables, S.A. de C.V. Mexico
Parques Ecológicos de Mexico, S.A. de C.V. Mexico
Parque Industrial de Energia Renovables Pier II Quecholac Felipe Ángeles, S.A. de C.V. Mexico
Parque Industrial de Energia Renovables Quecholac Felipe Angeles Pier IV, S.A. de C.V. Mexico
Proyecto Alternativa Energética de Mexico, S.A. de C.V. Mexico
Servicios de Operación Eoloeléctrica de Mexico, S.A. de C.V. Mexico

Brazil

Arizona 1 Energia Renovável, S.A. Brazil

Caetité 1 Energia Renovável, S.A. Brazil
Caetité 2 Energia Renovável, S.A. Brazil
Caetité 3 Energia Renovável, S.A. Brazil
Calango 1 Energia Renovável, S.A. Brazil
Calango 2 Energia Renovável, S.A. Brazil
Calango 3 Energia Renovável, S.A. Brazil
Calango 4 Energia Renovável, S.A. Brazil
Calango 5 Energia Renovável, S.A. Brazil
Calango 6 Energia Renovável, S.A. Brazil
Canoas Energia Renovável, S.A. Brazil
Elektro Renováveis do Brasil, S.A. (previously Iberdrola Renováveis do Brasil Brasil, S.A.)
Enerbrasil Energias Renováveis do Brasil, S.A. Brazil
FE Participações, S.A. Brazil
Força Eolica do Brasil 1, S.A. Brazil
Força Eolica do Brasil 2, S.A. Brazil
Força Eolica do Brasil, S.A. Brazil
Lagoa I, S.A. Brazil
Lagoa II, S.A. Brazil
Mel 2 Energia Renovável, S.A. Brazil
Santana 1, Energia Renovável, S.A. Brazil
Santana 2, Energia Renovável, S.A. Brazil

Innovation

Algaenergy, S.A. Spain
Arborea Intellbird, S.L. Spain
Atten2 Advanced Monitoring Technologies, S.L. Spain
GDES Technology for services, S.L. Spain
Iberdrola Servicios de Innovación, S.L. Spain
Inversiones Financieras Perseo, S.L. Spain
Oceantec Energías Marinas, S.L. Spain
Iberdrola QSTP, LLC Qatar

NETWORK BUSINESS

Spain

Anselmo León Distribución, S.L Spain
Anselmo León, S.A.U. Spain
Distribuidora de Energía Eléctrica Spain
Enrique García Serrano, S.L.
Distribuidora Eléctrica Navasfrías, S.L. Spain
Eléctrica Conquense Distribución, S.A. Spain
Eléctrica Conquense, S.A. Spain
Electro-Distribuidora Castellano-Leonesa, S.A. Spain
Empresa Eléctrica del Cabriel, S.L. Spain
Herederos María Alonso Calzada, Spain

Venta de Baños, S.L.

San Cipriano de Rueda Distribución, S.L. (previously Hidroeléctrica de Spain San Cipriano de Rueda, S.L.)

Iberdrola Distribución Eléctrica, S.A.U. Spain

Iberdrola Infraestructuras y Servicios Spain de Redes, S.A.

Iberdrola Redes España, S.A.U. Spain

Sociedad Distribuidora de Electricidad de Spain Elorrio, S.A.

United Kingdom

Manweb Services, Ltd. United Kingdom

NGET/SPT Upgrades, Ltd. United Kingdom

Scottish Power Energy Networks Holdings, Ltd. United Kingdom

SP Distribution, Plc. United Kingdom

SP Gas, Ltd. United Kingdom

SP Manweb, Plc. United Kingdom

SP Network Connections, Ltd. United Kingdom

SP Power Systems, Ltd. United Kingdom

SP Transmission, Plc. United Kingdom

Brazil

Afluentes Transmissão de Energia Elétrica, S.A. Brazil

Baguari Geração de Energia Elétrica, S.A. Brazil

Bahia PCH II, S.A. Bahia Pequena C. Hidroeléctrica Brazil

Bahia PCH III, S.A. Bahia Geração de Energia Brazil

Belo Monte Participações, S.A. Brazil

Companhia Hidrelétrica Teles Pires, S.A. Brazil

EKTT 12-A Serviços de Transmissão de Energia Elétrica SPE S/A Brazil

EKTT 13-A Serviços de Transmissão de Energia Elétrica SPE S/A Brazil

EKTT 14-A Serviços de Transmissão de Energia Elétrica SPE S/A Brazil

EKTT 15-A Serviços de Transmissão de Energia Elétrica SPE S/A Brazil

Elektro Comercializadora de Energia Ltda. Brazil

Elektro Operação e Manutenção, Ltda. (previously Iberdrola Operação e Manutenção, Ltda.)

Elektro Redes, S.A. (previously Elektro Electricidade e Serviços, S.A.) Brazil

Energetica Aguas da Pedra, S.A. Brazil

Energética Corumba III, S.A. Brazil

Geração Ceu Azul, S.A. Brazil

Geração CIII, S.A. Brazil

Itapebí Geração de Energia, S.A. Brazil

Lanmóvil Amara Celular da Bahia Ltd. (Lanmara) Brazil

Chafariz 1 Energia Renovável S.A. Brazil

Chafariz 2 Energia Renovável S.A. Brazil

Chafariz 3 Energia Renovável S.A. Brazil

Chafariz 6 Energia Renovável S.A. Brazil

Chafariz 7 Energia Renovável S.A. Brazil

Lagoa 3 Energia Renovavel S.A. Brazil
NC Energia, S.A. Brazil
Neoenergia Investimentos, S.A. Brazil
Neoenergia Operação e Manutenção, S.A. Brazil
Neoenergia Servicios, Ltd. Brazil
Neoenergia, S.A. Brazil
Norte Energia, S.A. Brazil
PCH Alto do Rio Grande, S.A. Brazil
Potiguar Sul Transmissao de Energia, S.A. Brazil
S.E. Narandiba, S.A. Brazil
Sever RJ Participacoes S.A. Brazil
Lagoa 4 Energia Renovavel S/A Brazil
Canoas 2 Energia Renovavel S/A Brazil
Canoas 4 Energia Renovavel S/A Brazil
Teles Pires Participações, S.A. Brazil
Termopernambuco, S.A. Brazil
British Virgin Garter Properties, Inc. Islands

OTHER BUSINESSES

Engineering

Adícora Servicios de Ingeniería, S.L.U. Spain
Empresarios Agrupados Internacional, S.A. Spain
Empresarios Agrupados, A.I.E. Spain
Ghesa Ingeniería y Tecnología, S.A. Spain
Iberdrola Ingeniería de Explotación, S.A.U. Spain
Iberdrola Ingeniería y Construcción, S.A.U. Spain
Ingeniería, Estudios y Construcciones, S.A. Spain
Iberdrola Engineering and Construction Saudi Arabia, LLC Saudi Arabia
Iberdrola Construção e Serviços, Ltd. Brazil
Iberdrola Energy Projects Canada Corporation Canada
Iberdrola Ingeniería y Construcción Costa Rica, S.A. Costa Rica
Iberdrola Energy Project, Inc. United States
Iberinco Hellas Techniki kai Kataskevastiki EPE Greece
Enermón S.A. de C.V. Mexico
Iberdrola Ingeniería y Construcción Mexico, S.A. de C.V. Mexico
Iberservicios, S.A. de C.V. Mexico
Iberdrola Engineering and Construction Poland, SP. Z.O.O. Poland
Iberdrola Engineering and Construction Networks, Ltd. United Kingdom
Iberdrola Engineering and Construction UK, Ltd. United Kingdom
Iberdrola Engineering and Construction Ro, SRL. Romania
berdrola Engineering and Construction South Africa South Africa

Real Estate

Arrendamiento de Viviendas Protegidas Siglo XXI, S.L. Spain

Camarate Golf, S.A. Spain
Fiuna, S.A. Spain
Iberdrola Inmobiliaria Patrimonio, S.A.U. Spain
Iberdrola Inmobiliaria, S.A. Spain
Iberdrola Inmobiliaria Real State Investment, EOOD Bulgaria
Desarrollos Inmobiliarias Laguna del Mar, S.A. de C.V. Mexico
Promociones La Malinche, S.A. de C.V. Mexico

Other Businesses

Corporación IBV Participaciones Empresariales Spain
Semans Gamesa Renewable Energy S.A. Spain
Iberdrola Inversiones 2010, S.A.U. Spain
Iberdrola Participaciones, S.A.U. (previously Iberdrola Redes, S.A.) Spain
Investigación y Desarrollo de Equipos Avanzados, S.A.U. Spain
Keytech Sistemas Integrales, S.A. Spain

CORPORATION

CarteraPark, S.A.U. Spain
Iberdrola Corporación, S.A. Spain
Iberdrola España, S.A.U. Spain
Iberdrola Energía, S.A.U. Spain
Iberdrola Financiación, S.A.U. Spain
Iberdrola Finanzas, S.A.U. Spain
Iberdrola International, B.V. Netherlands
Iberdrola Finance Ireland, DAC Ireland
Iberdrola Re, S.A. Luxemburg
Manweb Share Scheme Trustees, Ltd. United Kingdom
Scottish Power UK Holdings, Ltd. United Kingdom
Scottish Power UK, Plc United Kingdom
Scottish Power, Ltd. United Kingdom
SPW Investments Ltd. United Kingdom

Joint operations of Iberdrola, S.A. group companies structured through an independent vehicle (not including subsidiaries of AVANGRID, Inc.)

DEREGULATED BUSINESS

Asociación Nuclear Ascó – Vandellós, A.I.E. Spain
Centrales Nucleares Almaraz – Trillo, A.I.E. Spain

RENEWABLE BUSINESS

Infraestructuras de Medinaceli, S.L. Spain
Sistema Eléctrico de Conexión Hueneja, S.L. Spain

OTHER BUSINESSES

Torre Iberdrola, A.I.E.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

6.1 Provide a site plan (or plans) including a map (or maps) that clearly identifies the location of the proposed project site, Offshore Delivery Facilities project locations, the assumed right-of-way width, the total acreage for Eligible Facilities, the anticipated interconnection point (or, if applicable, multiple points for Offshore Delivery Facilities), deployment facilities, and the relationship of the site to other local infrastructure, including transmission facilities, roadways, federal and state waters, and waterways. In addition to providing the required map(s), provide a site layout plan which illustrates the location of all major equipment and facilities on the site.

Site plan included? Yes ☒ No ☐ If not, please explain:

SITE PLANS

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Site plans identifying each element of the Project and their location are included below and provided as **Attachment 6.1-1**. These site plans are preliminary and pending final design, permitting, and stakeholder consultation, which is typical at this stage of development. **Figure 6.1-1** illustrates the Project's Eligible Facility site.



Figure 6.1-1 *Eligible Facility Site*

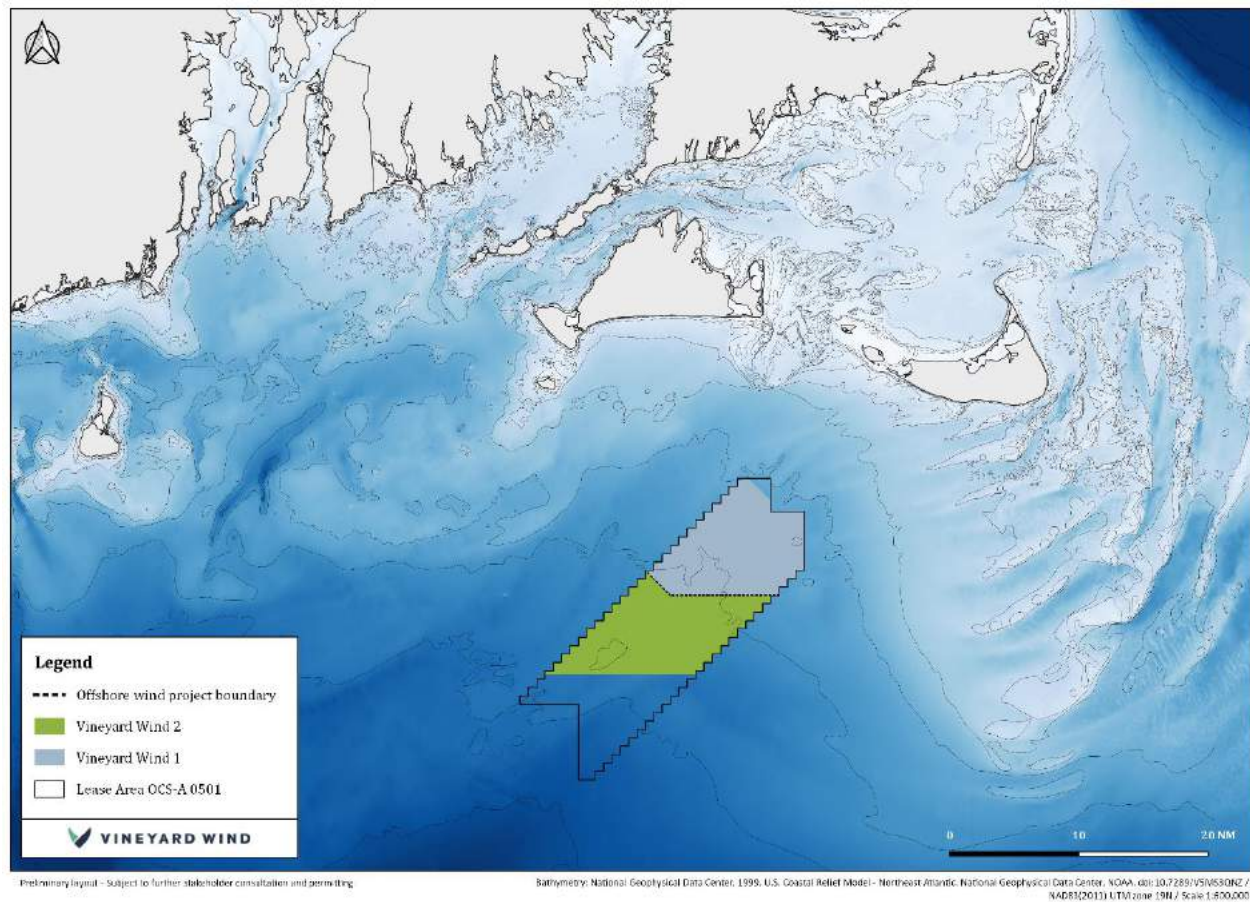


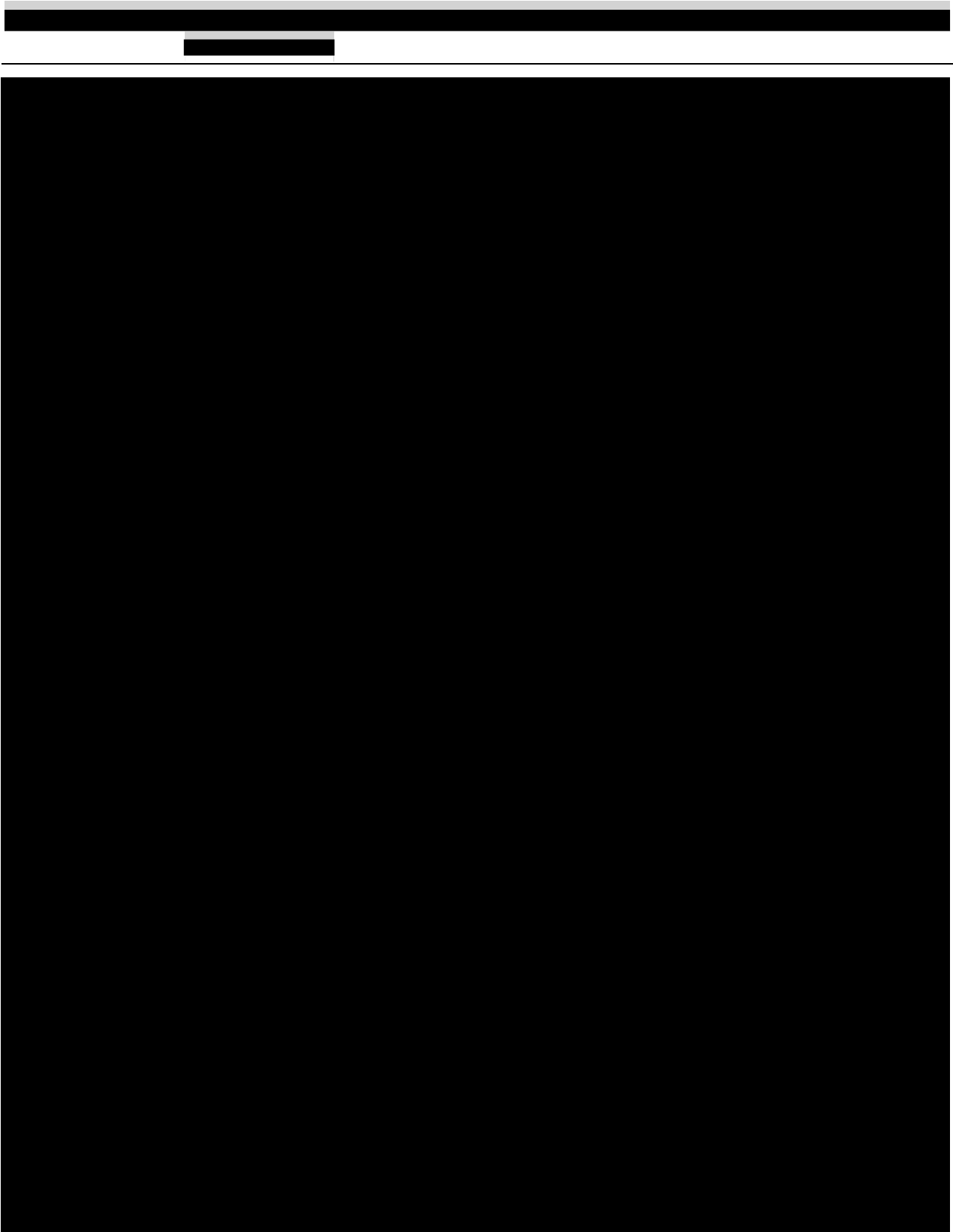
Figure 6.1-2 depicts the Project's site plan for the Offshore Wind Energy Generation facilities located in Lease Area OCS-A 0501; the wind turbine generators (WTGs) and electrical service platform (ESP) are in the middle portion of Lease Area OCS-A 0501, immediately south of Vineyard Wind 1. Final WTG layout and configuration are subject to further stakeholder consultation and permitting.



[Redacted]

[Redacted]

[Redacted]

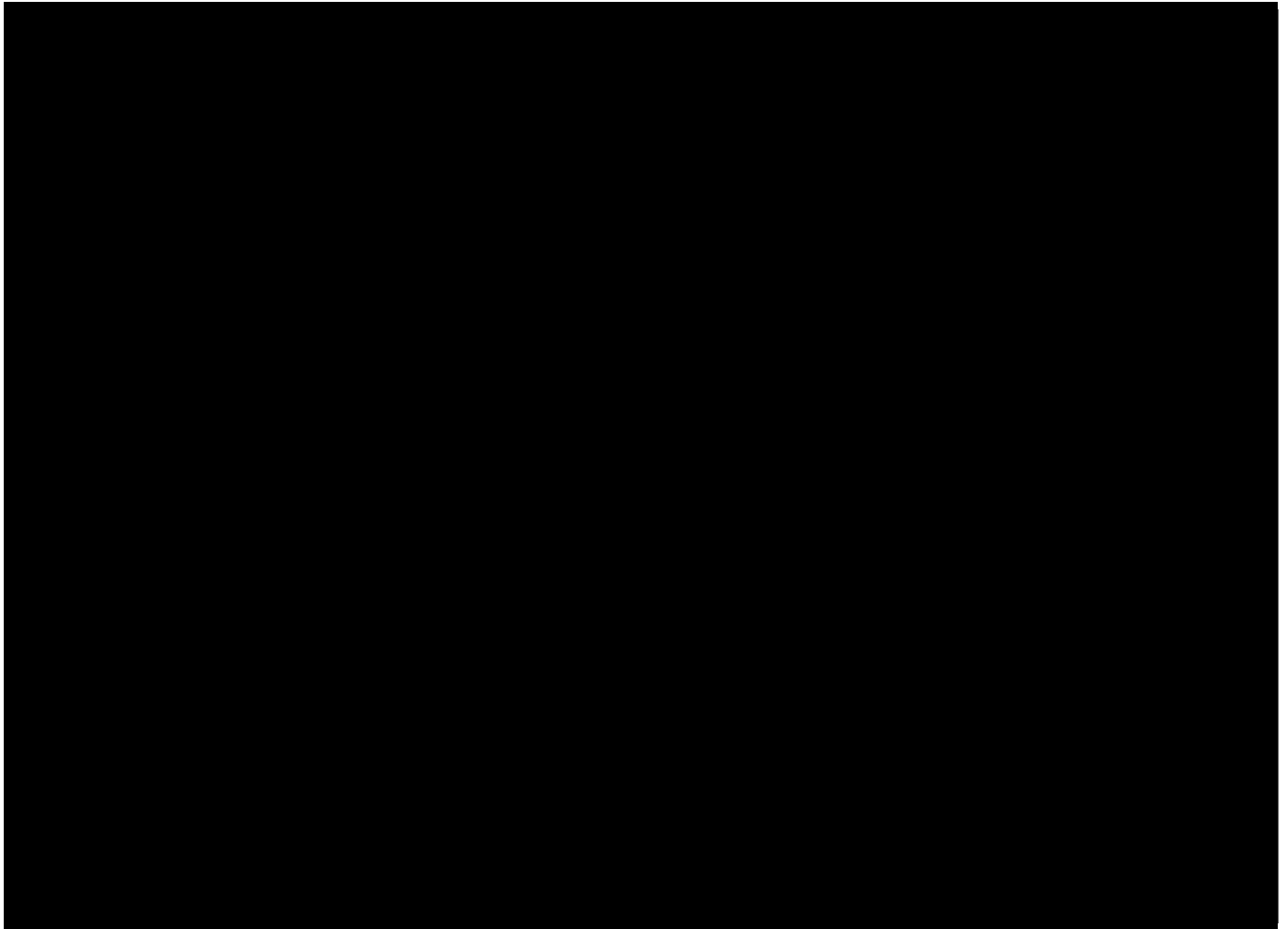




The Project's landfall location, cable route, and onshore substation site are depicted in **Figure 6.1-4**. [REDACTED] as further described in response to **Question 6.4**. [REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

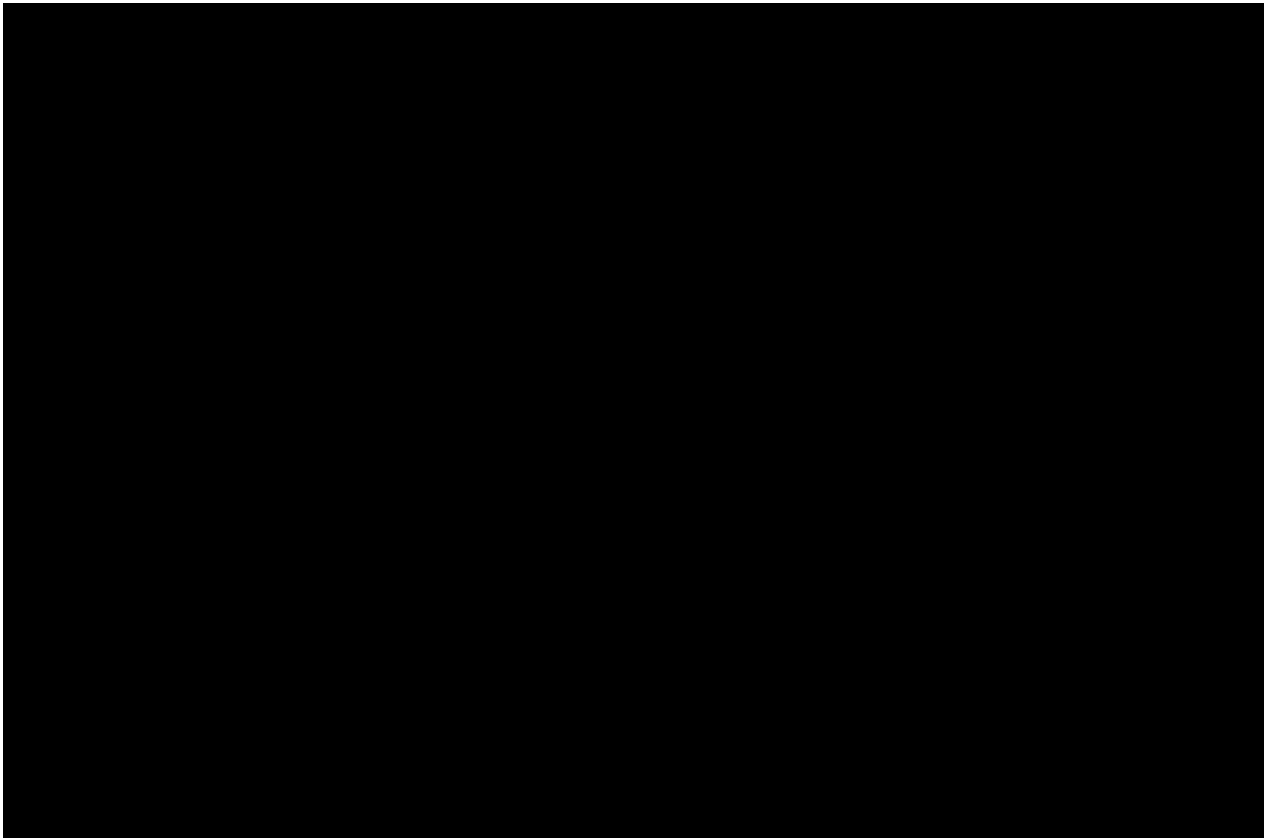
[REDACTED]



[Redacted]

[Redacted]

[Redacted]



6.2 Identify any real property rights (e.g., fee-owned parcels, rights-of-way, development rights or easements or leases) that provide the right to use the Eligible Facility site and Offshore Delivery Facilities locations including for Eligible Facilities and any rights of way needed for interconnection.

- i. Does the project have a right to use the Eligible Facility site and/or Offshore Delivery Facilities locations for the entire proposed term of the PPA or tariff (e.g., by virtue of ownership or land development rights obtained from the owner)?

Yes ☒ No ☐ If not, please explain:

REAL PROPERTY RIGHTS

Identification

The Project has the right to use the Eligible Facility site and portions of the Offshore Delivery Facilities location (i.e., onshore substation site and onshore cable route) for the entire proposed term of the Power Purchase Agreement (PPA). These rights are primarily secured through and governed by the following:

- Lease Agreement with BOEM for Lease Area OCS-A 0501;



[REDACTED]

Lease Agreement

Vineyard Wind has executed a lease agreement for Lease Area OCS-A 0501 with BOEM for the purpose of offshore wind energy generation on the Outer Continental Shelf. A copy of the Lease Agreement is provided as **Attachment 6.2-1**, and a letter of good standing from BOEM is provided as **Attachment 6.2-2**.

The lease agreement provides Vineyard Wind the mechanism to build and operate offshore wind projects within the Eligible Facility site and to install the related necessary grid connection system within federal waters. It also allows for commercial operation of the Project for a period of at least 25 years.

[REDACTED]

[REDACTED]

-
- ii. *If so, please detail the Bidder's rights to control the Eligible Facility site and/or Offshore Delivery Facilities locations.*
-

Rights to Control

Eligible Facility Site

As described above, Vineyard Wind has the exclusive right to construct Offshore Wind Generation Facilities in Lease Area OCS-A 0501 pursuant to a lease agreement with BOEM. To exercise this right, Vineyard Wind is required to obtain approval for the Project through the federal permitting process, which is further described in **Section 7**. This process includes submission of a Construction and Operations Plan (COP) to BOEM, along with submission of a Facilities Design Report (FDR) and

Fabrication & Installation Report (FIR). [REDACTED]

[REDACTED] As required by BOEM’s regulations, the FDR and FIR will be submitted following approval of the COP and final design of the Project.

Offshore Delivery Facilities

Vineyard Wind’s lease agreement with BOEM for Lease Area OCS-A 0501 also provides Vineyard Wind with the right to obtain one or more easements in federal waters for the purpose of installing and using offshore export cables. As described above, to exercise this right, Vineyard Wind must obtain approval through the federal permitting process described in **Section 7**.

The portion of the OECC that passes through state waters is subject to review and permitting at the state, regional, and local level, as detailed in **Section 7**. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

-
- iii. *Describe the status of acquisition of real property rights, any options in place for the exercise of these rights and describe the plan for securing the necessary real property rights, including the proposed timeline. Include these plans and the timeline in the overall project timeline.*
-

Acquisition

As already noted, Vineyard Wind has already secured most of the real property rights, or instruments to obtain real property rights, that are required for the Project. Any remaining real property rights will be acquired in line with the Project schedule provided in **Section 9**. **Table 6.2-1** provides an overview of the status of the key real property rights required to construct and operate the Project.

[REDACTED]

[REDACTED]		
[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]		

	</	

Offshore Interconnection Route in Federal Waters

Per U.S.C. § 585.200(b), Vineyard Wind is entitled to one or more easements in which to locate the offshore export cables in federal waters as needed to enable grid connection for Offshore Wind Generation Facilities located in the Lease Area. This easement(s) will be issued upon approval of the COP and will be recorded as an addendum to the lease agreement for Lease Area OCS-A 0501. [REDACTED]

[REDACTED]

[REDACTED]

Offshore Interconnection Route in State Waters

For the portion of the offshore interconnection route occurring in state waters [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Onshore Interconnection Route

[REDACTED]

Onshore Substation

[REDACTED]

-
- iv. *Identify any joint use of existing or proposed real property rights*
-

Joint Use

[REDACTED]

6.3 *Provide evidence that the Eligible Facility site and Offshore Delivery Facilities locations are properly zoned or permitted. If the Eligible Facility site and Offshore Delivery Facilities locations are not currently zoned or permitted properly, identify present and required zoning and/or land use designations and permits and provide a permitting plan and timeline to secure the necessary approvals.*

Detail the zoning and permitting issues:

ZONING AND PERMITTING

[REDACTED]

[REDACTED] Vineyard Wind's permitting team continues to maintain an active permitting effort on all fronts, which should further facilitate the successful and timely permitting of the Project.

Zoning

Eligible Facility Site

The Lease Area is entirely in federal waters and is subject only to federal jurisdiction. Thus, there are no zoning requirements for the Eligible Facility site.

Offshore Interconnection Route

Similar to the Eligible Facility site, the Project's offshore export cables are not subject to zoning requirements.

Onshore Interconnection Route

[REDACTED]

Onshore Substation

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Permitting

Eligible Facility Site

As noted in response to **Question 6.1**, the Eligible Facility site is governed by Vineyard Wind’s lease agreement with BOEM for Lease Area OCS-A 501. This lease provides Vineyard Wind the mechanism to build and operate an offshore wind farm within the Lease Area and to install the related necessary grid connection system within federal waters. As discussed in **Section 7**, the federal permitting and approval process under BOEM includes submission of a COP, along with submission of an FDR and FIR. [REDACTED] The FDR and FIR will be submitted following approval of the COP and final design of the Project.

Offshore and Onshore Interconnection Route

The interconnection route for the Project, which includes both offshore and onshore elements, is described in response to **Question 6.4**. The offshore portions of the interconnection route occurring in federal waters are subject to Project approval in line with the federal permitting process described immediately above. Massachusetts, regional, and local approvals are required for the portions of the offshore interconnection route occurring in state waters and onshore cable route, as described in **Section 7**.

Onshore Substation

[REDACTED]

[REDACTED] Vineyard Wind will initiate the permitting process for the onshore substation according to the timeline provided in **Table 6.3-1**.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] if needed.

Permitting plan and timeline:

Start Date: [REDACTED] *End Date:* [REDACTED]

Permitting Plan and Timeline

Table 6.3-1 below provides a summary overview of the Project’s permitting timeline. A detailed permitting plan and timeline is provided in **Section 7** and is included as part of the Project’s overall schedule in **Section 9**.



[REDACTED]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

6.4 Provide a description of the area surrounding the Eligible Facility site and Offshore Delivery Facilities locations (including landfall), including a description of the local zoning, flood plain information, existing land or waterway use, and setting.

PROJECT DESCRIPTIONS

Eligible Facility Site Location

The Eligible Facility site is located in Lease Area OCS-A 0501 in federal waters in the Atlantic Ocean. The Lease Area comprises more than 260 square miles (sq mi) and is approximately 10 mi wide and 31 mi long. At its nearest point, Lease Area OCS-A 0501 is just over 14 mi from the southeast corner of Martha's Vineyard and a similar distance from Nantucket. [REDACTED]

[REDACTED]

The Lease Area is located entirely within the Massachusetts Wind Energy Area (MA WEA), which was identified by BOEM, after a multi-year public process and environmental review, as suitable for wind energy development. The MA WEA is located approximately 13.6 mi south of Martha's Vineyard and 15 mi southwest of Nantucket. It occupies approximately 1,161 sq mi in total and extends 38 mi southward to the 197-foot depth contour and has an east/west extent of approximately 54 mi.

As the Eligible Facility site is located beyond state territorial waters, there are no local zoning, flood plain, or existing land use details to provide.

Offshore Delivery Facilities Locations

The Offshore Delivery Facilities locations include the following:

- The OECC from the Eligible Facility site through federal and state waters,

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

Offshore Interconnection Route

[REDACTED]

Landfall Location

[REDACTED]

[REDACTED]

Onshore Interconnection Route

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Onshore Substation

[REDACTED]

[REDACTED]

[REDACTED]

6.5 Describe how the bidder plans to gain interconnection path site control and describe the status of the plan.

INTERCONNECTION SITE CONTROL PLAN

The Project's proposed offshore and onshore interconnection path from Lease Area OCS-A 0501 to the ISO-NE PTF node is illustrated in the site plans provided in response to **Question 6.1**. As detailed in response to **Question 6.2**, the interconnection path site control plan is currently being implemented, with several critical permissions already granted or obtained, and the remaining having clear and highly likely paths to securing.

6.6 Please provide documentation to show evidence of the interconnection request to ISO-NE, the applicable New England Transmission Owner, or any neighboring control areas, to interconnect at the Capacity Capability Interconnection Standard. Please describe the status of any planned interconnection to the grid. Additionally, any studies undertaken by ISO-NE or the bidder must be provided.

INTERCONNECTION REQUESTS

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

STATUS OF INTERCONNECTION REQUESTS AND STUDIES

[REDACTED]

[REDACTED] The status of the interconnection requests and studies are summarized in **Table 6.6-1**.

[illegible]

Table 6.6-2 details the system interconnection studies carried out by Vineyard Wind to-date.

[illegible]



[REDACTED]		
[REDACTED]		

[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]
		[REDACTED]
		[REDACTED]
		[REDACTED]
		[REDACTED]
		[REDACTED]
		[REDACTED]

6.7 The studies should describe the Project's electrical system performance, its impact to the reliability of the New England Transmission system, how the project would satisfy ISO NE's I.3.9 requirements, and how the project will meet the Capacity Capability Interconnection Standard. Projects that do not have I.3.9 approval from ISO-NE must include technical reports or system impact studies that approximate the ISO-NE interconnection process, including but not limited to clear documentation of study technical and cost assumptions, reasoning, and justification of such assumptions. All projects must also provide analysis that approximates the ISO-NE CCIS interconnection analysis as defined in Planning Procedure 10. Please also provide the status of any additional interconnection studies already underway with ISO-NE and/or the transmission owner. All studies must follow the current ISO-NE interconnection procedures and detail any assumptions regarding resources ahead of the Project in the ISO-NE interconnection queue. All network upgrades identified in these studies must be clearly documented and included in the bid price. Provide a copy of an interconnection agreement, if any, executed by the bidder with respect to the proposed project. If an interconnection agreement has not been executed, please provide the steps that need to be completed before an interconnection agreement can be executed and the associated timeline.

Performance and its impact:

PROJECT PERFORMANCE AND IMPACT

The studies completed or in progress by ISO-NE in **Table 6.6-1** and those completed by Vineyard Wind in **Table 6.6-2** describe the Project's electrical system performance, its impact to the reliability of the New England Transmission system, and how the Project will meet the Network Capability Interconnection Standard (NCIS) and the Capacity Capability Interconnection Standard (CCIS).

[REDACTED]		
[REDACTED]		
[REDACTED]		
[REDACTED]		
[REDACTED]		
[REDACTED]		
[REDACTED]		

[REDACTED]

[REDACTED]

Improving System Reliability

ISO-NE's Operational Fuel-Security Analysis, released in 2018, demonstrates that overall electricity system reliability is and will increasingly become challenged during the winter peak demand periods considering the trends driving the evolution of New England's power system:

- The region's demand for natural gas is growing and natural gas infrastructure capacity is not always adequate to deliver all of the gas needed during the winter months for both heating and power generation.
- A substantial amount of coal, oil, and nuclear fueled capacity, which has been essential for maintaining reliability when natural gas is in short supply, has retired or announced plans to retire by 2022.
- A large proportion of the proposed new power plants will be powered by natural gas, which further exacerbates the region's dependency on this fuel source.

The Project will help alleviate these negative trends by increasing the fuel diversity of New England's PTF system and adding local, high capacity generation built at a substantial scale; the Project is large enough to make a significant contribution to replacing the capacity and energy output that is being lost by the retirement of traditional so-called baseload power plants.

Offshore wind enjoys one of the highest capacity factors of intermittent resources with a favorable production profile, relative to the system's winter peak demand. As a result, the Project will help reduce the over-dependency on natural gas in peak demand seasons and improve overall system reliability by ensuring that sufficient capacity is available to meet demand at all times of the year.



[REDACTED]

[REDACTED]

Attachments:

- *Copy of completed I.3.9 approval or I.3.9-equivalent study attached: ☐*
- *If none, please explain:*

[REDACTED]

[REDACTED]

Attachments:

- *Copy of completed CCIS-equivalent study attached: *X**
- *If none, please explain:*

CCIS

[REDACTED]

[REDACTED]

- *Copy of Interconnection Agreement attached:* ☐ *If none, please explain:*

ACTIVE INTERCONNECTION REQUESTS

ESTIMATED INTERCONNECTION COSTS

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

6.10 To the extent that you provide an alternative interconnection scenario based on ISO-proposed interconnection process changes, you must also include studies using the proposed ISO-NE-proposed process. Any such studies must be accompanied with clear documentation of study technical and cost assumptions, reasoning, and justification of such assumptions.

ALTERNATIVE INTERCONNECTION SCENARIOS

Vineyard Wind is not considering any alternative interconnection scenarios for the Project at this time, given the advanced state of the interconnect process, related land-right acquisition, and high probability to successfully permit the planned interconnection.

6.11 Provide the electrical models of all energy resources supporting the proposed project in accordance with the filing requirements of the ISO-NE Tariff Schedule 22 and 23.

Electrical models attached: ☐ If none, please explain:

ELECTRICAL MODELS

[REDACTED]

[REDACTED]

INCREMENTAL DATA REQUIREMENTS

-
-
- ii. *If the Bidder does not use PSSE, provide in text format necessary modeling data as follows:*

- Line Data:

Voltage Thermal Ratings

Impedances (r, X and B)

*Line Length: from to
(bus numbers and names)*

Please refer to Appendix A-2 in **Attachment 6.6-4**.

- Transformer data (including Phase shifting transformers if applicable):

Terminal Voltages Thermal Ratings

Impedance

*From To
(bus numbers and names)*

Please refer to Appendix A-2 in **Attachment 6.6-4**.

- Reactive compensation models as necessary

Please refer to Appendix A-2 in **Attachment 6.6-4**.

- Other changes to the model that would occur due to a Project such as terminal changes for lines/transformer/generator leads/loads etc.

Please refer to Appendix A-2 in **Attachment 6.6-4**.



6.15 Please detail with supporting information and studies (as available) that the delivery profile contemplated in your proposal reflects any constraints or curtailments, if any, after the upgrades that are expected to take place pursuant to the CCIS standards. If you are planning to make voluntary upgrades beyond those associated with the CCIS standard, as more fully described in the RFP, please describe the transmission network upgrades necessary, their estimated cost (for which the bidder would have cost responsibility, and the impact on the proposed generation schedule by reducing remaining constraints or curtailments.

[REDACTED]

[REDACTED]

6.16 Please provide sufficient information and documentation to demonstrate that the proposed point of delivery into ISO-NE, along with their proposed interconnection and transmission upgrades including any transmission upgrades beyond the point of interconnection, is sufficient to ensure the scheduled delivery profile of the proposal's Offshore Wind Energy Generation.

[REDACTED]

[REDACTED]



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.1-1

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.2-1 BOEM Lease for Lease Area OCS-A 0501

<p align="center">UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF OCEAN ENERGY MANAGEMENT</p> <p align="center">COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF</p> <p><i>Paperwork Reduction Act of 1995 statement: This form does not constitute an information collection as defined by 44 U.S.C. § 3501 et seq. and therefore does not require approval by the Office of Management and Budget.</i></p>	Office	Renewable Energy Lease Number
	Herndon, VA	OCS-A 0501
	Cash Bonus and/or Acquisition Fee \$150,197	Resource Type Wind
	Effective Date April 1, 2015	Block Number(s) See Addendum A

This lease, which includes any addenda hereto, is hereby entered into by and between the United States of America, ("Lessor"), acting through the Bureau of Ocean Energy Management ("BOEM"), its authorized officer, and

Lessee	Interest Held
Offshore MW LLC	100%

("Lessee"). This lease is effective on the date written above ("Effective Date") and will continue in effect until the lease terminates as set forth in Addendum "B." In consideration of any cash payment heretofore made by the Lessee to the Lessor and in consideration of the promises, terms, conditions, covenants, and stipulations contained herein and attached hereto, the Lessee and the Lessor agree as follows:

Section 1: Statutes and Regulations.

This lease is issued pursuant to subsection 8(p) of the Outer Continental Shelf Lands Act ("the Act"), 43 U.S.C. §§ 1331 *et seq.* This lease is subject to the Act and regulations promulgated pursuant to the Act, including but not limited to, offshore renewable energy and alternate use regulations at 30 CFR Part 585 as well as other applicable statutes and regulations in existence on the Effective Date of this lease. This lease is also subject to those statutes enacted (including amendments to the Act or other statutes) and regulations promulgated thereafter, except to the extent that they explicitly conflict with an express provision of this lease. It is expressly understood that amendments to existing statutes, including but not limited to the Act, and regulations may be made, and/or new statutes may be enacted or new regulations promulgated, which do not explicitly conflict with an express provision of this lease, and that the Lessee bears the risk that such amendments, regulations, and statutes may increase or decrease the Lessee's obligations under the lease.

Section 2: Rights of the Lessee.

- (a) The Lessor hereby grants and leases to the Lessee the exclusive right and privilege, subject to the terms and conditions of this lease and applicable regulations, to: (1) submit to the Lessor for approval a Site Assessment Plan (SAP) and Construction and Operations Plan (COP) for the project identified in Addendum "A" of this lease; and (2) conduct activities in the area identified in Addendum "A" of this lease ("leased area") that are described in a SAP or COP that has been approved by the Lessor. This lease does not, by itself, authorize any activity within the leased area.
- (b) The rights granted to the Lessee herein are limited to those activities described in any SAP or COP approved by the Lessor. The rights granted to the Lessee are limited by the lease-specific terms, conditions, and stipulations required by the Lessor per Addendum "C."
- (c) This lease does not authorize the Lessee to conduct activities on the Outer Continental Shelf (OCS) relating to or associated with the exploration for, or development or production of: oil, gas, other seabed minerals, or renewable energy resources other than those renewable energy resources identified in Addendum "A."

Section 3: Reservations to the Lessor.

- (a) All rights in the leased area not expressly granted to the Lessee by the Act, applicable regulations, this lease, or any approved SAP or COP, are hereby reserved to the Lessor.
- (b) The Lessor will decide whether to approve a SAP or COP in accordance with the applicable regulations in 30 CFR Part 585. The Lessor retains the right to disapprove a SAP or COP based on the Lessor's determination that the proposed activities would have unacceptable environmental consequences, would conflict with one or more of the requirements set forth in subsection 8(p)(4) of the Act (43 U.S.C. § 1337(p)(4)), or for other reasons provided by the Lessor pursuant to 30 CFR 585.613(e)(2) or 30 CFR 585.628(f)(2). Disapproval of plans will not subject the Lessor to liability. The Lessor also retains the right to approve with modifications a SAP or COP, as provided in applicable regulations.
- (c) The Lessor reserves the right to suspend the Lessee's operations in accordance with the national security and defense provisions of section 12 of the Act and applicable regulations.
- (d) The Lessor reserves the right to authorize other uses within the leased area that will not unreasonably interfere with activities described in Addendum "A."

Section 4: Payments.

- (a) The Lessee must make all rent payments to the Lessor in accordance with applicable regulations in 30 CFR Part 585, unless otherwise specified in Addendum "B."
- (b) The Lessee must make all operating fee payments to the Lessor in accordance with applicable regulations in 30 CFR Part 585, as specified in Addendum "B."

Section 5: Plans.

The Lessee may conduct those activities described in Addendum "A" only in accordance with a SAP or COP approved by the Lessor. The Lessee may not deviate from an approved SAP or COP except as provided in applicable regulations in 30 CFR Part 585.

Section 6: Associated Project Easements.

Pursuant to 30 CFR 585.200(b), the Lessee has the right to one or more project easements, without further competition, for the purpose of installing gathering, transmission, and distribution cables, pipelines, and appurtenances on the OCS, as necessary for the full enjoyment of the lease, and under applicable regulations in 30 CFR Part 585. As part of submitting a COP for approval, the Lessee may request that one or more easement(s) be granted by the Lessor. If the Lessee requests that one or more easement(s) be granted when submitting a COP for approval, such project easements will be granted by the Lessor in accordance with the Act and applicable regulations in 30 CFR Part 585 upon approval of the COP in which the Lessee has demonstrated a need for such easements. Such easements must be in a location acceptable to the Lessor, and will be subject to such conditions as the Lessor may require. The project easement(s) that would be issued in conjunction with an approved COP under this lease will be described in Addendum "D" to this lease, which will be updated as necessary.

Section 7: Conduct of Activities.

The Lessee must conduct, and agrees to conduct, all activities in the leased area in accordance with an approved SAP or COP, and with all applicable laws and regulations.

The Lessee further agrees that no activities authorized by this lease will be carried out in a manner that:

- (a) could unreasonably interfere with or endanger activities or operations carried out under any lease or grant issued or maintained pursuant to the Act, or under any other license or approval from any Federal agency;
- (b) could cause any undue harm or damage to the environment;
- (c) could create hazardous or unsafe conditions; or
- (d) could adversely affect sites, structures, or objects of historical, cultural, or archaeological significance, without notice to and direction from the Lessor on how to proceed.

Section 8: Violations, Suspensions, Cancellations, and Remedies.

If the Lessee fails to comply with (1) any of the applicable provisions of the Act or regulations, (2) the approved SAP or COP, or (3) the terms of this lease, including associated Addenda, the Lessor may exercise any of the remedies that are provided under

the Act and applicable regulations, including, without limitation, issuance of cessation of operations orders, suspension or cancellation of the lease, and/or the imposition of penalties, in accordance with the Act and applicable regulations.

The Lessor may also cancel this lease for reasons set forth in subsection 5(a)(2) of the Act (43 U.S.C. § 1334(a)(2)), or for other reasons provided by the Lessor pursuant to 30 CFR 585.437.

Non-enforcement by the Lessor of a remedy for any particular violation of the applicable provisions of the Act or regulations, or the terms of this lease, will not prevent the Lessor from exercising any remedy, including cancellation of this lease, for any other violation or for the same violation occurring at any other time.

Section 9: Indemnification.

The Lessee hereby agrees to indemnify the Lessor for, and hold the Lessor harmless from, any claim caused by or resulting from any of the Lessee's operations or activities on the leased area or project easements or arising out of any activities conducted by or on behalf of the Lessee or its employees, contractors (including Operator, if applicable), subcontractors, or their employees, under this lease, including claims for:

- a. loss or damage to natural resources,
- b. the release of any petroleum or any Hazardous Materials,
- c. other environmental injury of any kind,
- d. damage to property,
- e. injury to persons, and/or
- f. costs or expenses incurred by the Lessor.

Except as provided in any addenda to this lease, the Lessee will not be liable for any losses or damages proximately caused by the activities of the Lessor or the Lessor's employees, contractors, subcontractors, or their employees. The Lessee must pay the Lessor for damage, cost, or expense due and pursuant to this section within 90 days after written demand by the Lessor. Nothing in this lease will be construed to waive any liability or relieve the Lessee from any penalties, sanctions, or claims that would otherwise apply by statute, regulation, operation of law, or could be imposed by the Lessor or other government agency acting under such laws.

"Hazardous Material" means

1. Any substance or material defined as hazardous, a pollutant, or a contaminant under the *Comprehensive Environmental Response, Compensation, and Liability Act* at 42 U.S.C. §§ 9601(14) and (33);
2. Any regulated substance as defined by the Resource Conservation and Recovery Act ("RCRA") at 42 U.S.C. § 6991 (7), whether or not contained in or released from underground storage tanks, and any hazardous waste regulated under RCRA pursuant to 42 U.S.C. §§ 6921 *et seq.*;

3. Oil, as defined by the Clean Water Act at 33 U.S.C. § 1321(a)(1) and the Oil Pollution Act at 33 U.S.C. § 2701(23); or
4. Other substances that applicable Federal, state, tribal, or local laws define and regulate as "hazardous."

Section 10: Financial Assurance.

The Lessee must provide and maintain at all times a surety bond(s) or other form(s) of financial assurance approved by the Lessor in the amount specified in Addendum "B." As required by the applicable regulations in 30 CFR Part 585, if, at any time during the term of this lease, the Lessor requires additional financial assurance, then the Lessee must furnish the additional financial assurance required by the Lessor in a form acceptable to the Lessor within 90 days after receipt of the Lessor's notice of such adjustment.

Section 11: Assignment or Transfer of Lease.

This lease may not be assigned or transferred in whole or in part without written approval of the Lessor. The Lessor reserves the right, in its sole discretion, to deny approval of the Lessee's application to transfer or assign all or part of this lease. Any assignment will be effective on the date the Lessor approves the Lessee's application. Any assignment made in contravention of this section is void.

Section 12: Relinquishment of Lease.

The Lessee may relinquish this entire lease or any officially designated subdivision thereof by filing with the appropriate office of the Lessor a written relinquishment application, in accordance with applicable regulations in 30 CFR Part 585. No relinquishment of this lease or any portion thereof will relieve the Lessee or its surety of the obligations accrued hereunder, including but not limited to, the responsibility to remove property and restore the leased area pursuant to section 13 of this lease and applicable regulations.

Section 13: Removal of Property and Restoration of the Leased Area on Termination of Lease.

Unless otherwise authorized by the Lessor, pursuant to the applicable regulations in 30 CFR Part 585, the Lessee must remove or decommission all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by activities on the leased area, including any project easements within two years following lease termination, whether by expiration, cancellation, contraction, or relinquishment, in accordance with any approved SAP, COP, or approved Decommissioning Application, and applicable regulations in 30 CFR Part 585.

Section 14: Safety Requirements.

The Lessee must:

- a. maintain all places of employment for activities authorized under this lease in compliance with occupational safety and health standards and, in addition, free from recognized hazards to employees of the Lessee or of any contractor or subcontractor operating under this lease;
- b. maintain all operations within the leased area in compliance with regulations in 30 CFR Part 585 and orders from the Lessor and other Federal agencies with jurisdiction, intended to protect persons, property and the environment on the OCS; and
- c. provide any requested documents and records, which are pertinent to occupational or public health, safety, or environmental protection, and allow prompt access, at the site of any operation or activity conducted under this lease, to any inspector authorized by the Lessor or other Federal agency with jurisdiction.

Section 15: Debarment Compliance.

The Lessee must comply with the Department of the Interior's non-procurement debarment and suspension regulations set forth in 2 CFR Parts 180 and 1400 and must communicate the requirement to comply with these regulations to persons with whom it does business related to this lease by including this requirement in all relevant contracts and transactions.

Section 16: Equal Opportunity Clause.

During the performance of this lease, the Lessee must fully comply with paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended (reprinted in 41 CFR 60-1.4(a)), and the implementing regulations, which are for the purpose of preventing employment discrimination against persons on the basis of race, color, religion, sex, or national origin. Paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended, are incorporated in this lease by reference.

Section 17: Certification of Nonsegregated Facilities.

By entering into this lease, the Lessee certifies, as specified in 41 CFR 60-1.8, that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. As used in this certification, the term "facilities" means, but is not limited to, any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees. Segregated facilities include those that are segregated by explicit directive or those that are in fact segregated on the basis of race, color, religion, sex, or

national origin, because of habit, local custom, or otherwise; provided, that separate or single-user restrooms and necessary dressing or sleeping areas must be provided to assure privacy as appropriate. The Lessee further agrees that it will obtain identical certifications from proposed contractors and subcontractors prior to awarding contracts or subcontracts unless they are exempt under 41CFR 60-1.5.

Section 18: Notices.

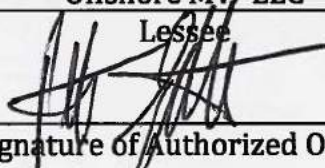
All notices or reports provided from one party to the other under the terms of this lease must be in writing, except as provided herein and in the applicable regulations in 30 CFR Part 585. Written notices must be delivered to the party's Lease Representative, as specifically listed in Addendum "A," either electronically, by hand, by facsimile, or by United States first class mail, adequate postage prepaid. Either party may notify the other of a change of address by doing so in writing. Until notice of any change of address is delivered as provided in this section, the last recorded address of either party will be deemed the address for all notices required under this lease. For all operational matters, notices must be provided to the party's Operations Representative, as specifically listed in Addendum "A," as well as the Lease Representative.

Section 19: Severability Clause.

If any provision of this lease is held unenforceable, all remaining provisions of this lease will remain in full force and effect.

Section 20: Modification.

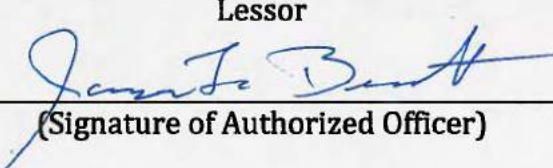
Unless otherwise authorized by the applicable regulations in 30 CFR Part 585, this lease may be modified or amended only by mutual agreement of the Lessor and the Lessee. No such modification or amendment will be binding unless it is in writing and signed by the Lease Representatives of both the Lessor and the Lessee.

Offshore MW LLC
Lessee

(Signature of Authorized Officer)

Peter Giller
(Name of Signatory)

Chief Executive Officer
(Title)

March 5, 2015
(Date)

The United States of America
Lessor

(Signature of Authorized Officer)

James F. Bennett
(Name of Signatory)

Program Manager, Office of Renewable
Energy Programs
(Title)

March 23, 2015
(Date)

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

ADDENDUM "A"

DESCRIPTION OF LEASED AREA AND LEASE ACTIVITIES

Lease Number OCS-A 0501

I. Lessor and Lessee Contact Information

Lessee Company Number: 15010

(a) Lessor's Contact Information

	Lease Representative	Operations Representative
Name		Same as Lease Representative.
Title	Program Manager	
Address	U.S. Department of the Interior Bureau of Ocean Energy Management 381 Elden Street, HM1328 Herndon, Virginia 20170	
Phone	(703) 787-1300	
Fax	(703) 787-1708	
Email	renewableenergy@boem.gov	

(b) Lessee's Contact Information

	Lease Representative	Operations Representative
Name	Erich Stephens	Same as Lease Representative
Title	Executive Vice President	
Address	11 Sout Angell Street # 195 Providence, R.I 02906	
Phone	401 487 3320	
Fax	401 861 1113	
Email	estephens@offshoreenergyllc.com	

II. Description of Leased Area

The total acreage of the lease area is approximately 166,886 acres.

This area is subject to later adjustment, in accordance with applicable regulations (e.g., contraction, relinquishment, etc.).



United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

Mr. Peter Giller
Chief Executive Officer
Offshore MW LLC
367 Herrontown Road
Princeton, New Jersey 08540

MAR 23 2015

Federal Express Tracking No.: 8060-6102-1401

Dear Mr. Giller:

Please find enclosed one fully executed copy of Offshore MW LLC's commercial lease OCS-A 0501. The lease comprises 166,886 acres, more or less, lying within the Massachusetts Wind Energy Area and will become effective April 1, 2015.

The Bureau of Ocean Energy Management congratulates you on this achievement and looks forward to working with you.

Please do not hesitate to contact me at our main office number (703) 787-1300 if you have any questions.

Sincerely,

James F. Bennett
Program Manager
Office of Renewable Energy Programs

Enclosure

Lease OCS-A 0501

The following Blocks or portions of Blocks lying within Official Protraction Diagram Providence NK19-07, are depicted on the map below and comprise 77,216 acres, more or less.

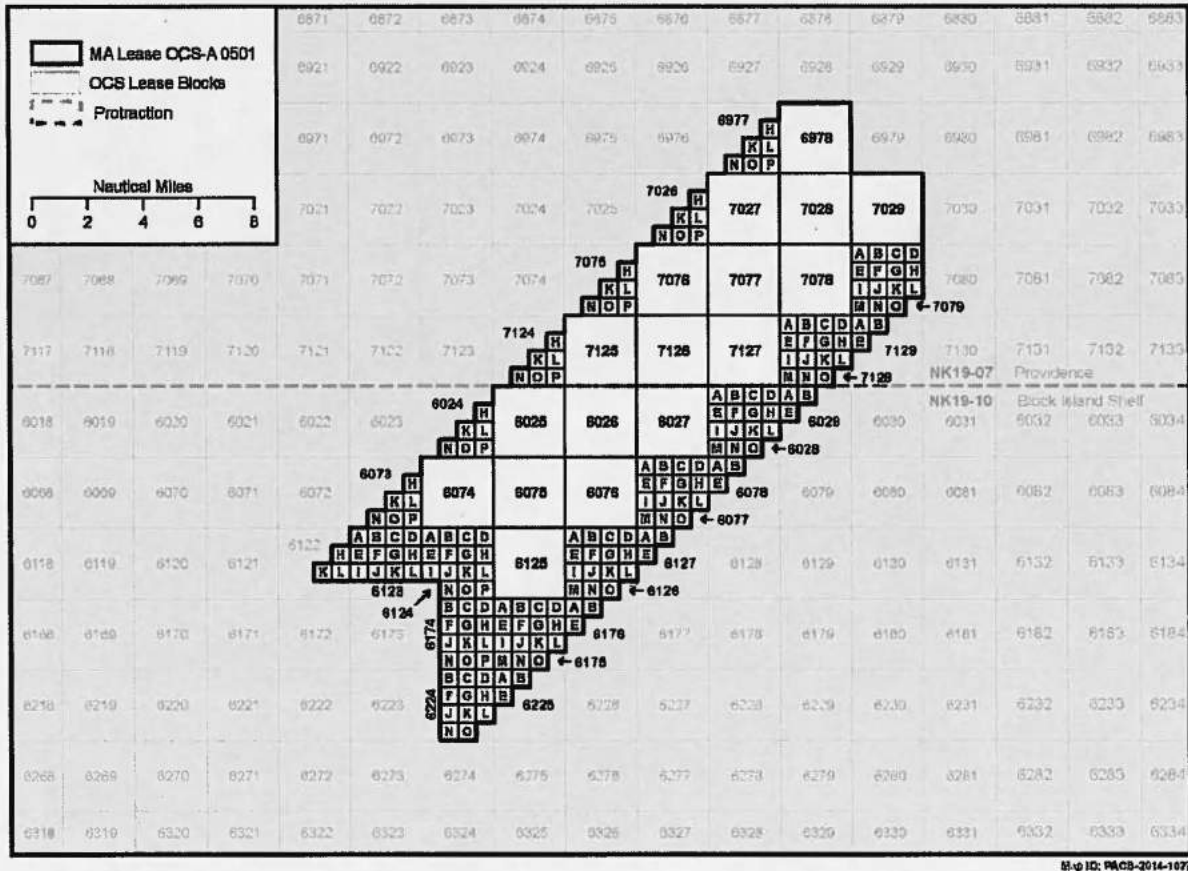
- 1) Block 6977, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 2) Block 6978, All of Block
- 3) Block 7026, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 4) Block 7027, All of Block
- 5) Block 7028, All of Block
- 6) Block 7029, All of Block
- 7) Block 7075, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 8) Block 7076, All of Block
- 9) Block 7077, All of Block
- 10) Block 7078, All of Block
- 11) Block 7079, N1/2, N1/2 of S1/2, S1/2 of SW1/4, SW1/4 of SE1/4
- 12) Block 7124, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 13) Block 7125, All of Block
- 14) Block 7126, All of Block
- 15) Block 7127, All of Block
- 16) Block 7128, N1/2, N1/2 of S1/2, S1/2 of SW1/4, SW1/4 of SE1/4
- 17) Block 7129, N1/2 of NW1/4, SW1/4 of NW1/4

The following Blocks or portions of Blocks lying within Official Protraction Diagram Block Island Shelf NK19-10, are depicted on the map below and comprise 89,670 acres, more or less.

- 1) Block 6024, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 2) Block 6025, All of Block
- 3) Block 6026, All of Block
- 4) Block 6027, All of Block
- 5) Block 6028, N1/2, N1/2 of S1/2, S1/2 of SW1/4, SW1/4 of SE1/4
- 6) Block 6029, N1/2 of NW1/4, SW1/4 of NW1/4
- 7) Block 6073, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 8) Block 6074, All of Block
- 9) Block 6075, All of Block
- 10) Block 6076, All of Block
- 11) Block 6077, N1/2, N1/2 of S1/2, S1/2 of SW1/4, SW1/4 of SE1/4
- 12) Block 6078, N1/2 of NW1/4, SW1/4 of NW1/4
- 13) Block 6122, SE1/4 of NE1/4, N1/2 of SE1/4
- 14) Block 6123, N1/2, N1/2 of S1/2
- 15) Block 6124, N1/2, N1/2 of S1/2, SE1/4 of SW1/4, S1/2 of SE1/4
- 16) Block 6125, All of Block
- 17) Block 6126, N1/2, N1/2 of S1/2, S1/2 of SW1/4, SW1/4 of SE1/4
- 18) Block 6127, N1/2 of NW1/4, SW1/4 of NW1/4

- 19) Block 6174, E1/2, E1/2 of W1/2
- 20) Block 6175, N1/2, N1/2 of S1/2, S1/2 of SW1/4, SW1/4 of SE1/4
- 21) Block 6176, N1/2 of NW1/4, SW1/4 of NW1/4
- 22) Block 6224, NE1/4, E1/2 of W1/2, N1/2 of SE1/4, SW1/4 of SE1/4
- 23) Block 6225, N1/2 of NW1/4, SW1/4 of NW1/4

For the purposes of these calculations, a full Block is 2,304 hectares. The acreage of a hectare is 2.471043930.



III. Renewable Energy Resource

Wind

IV. Description of the Project

A project to generate energy using wind turbine generators and any associated resource assessment activities, located on the OCS in the leased area, as well as associated offshore substation platforms, inner array cables, and subsea export cables.

V. Description of Project Easement(s)

Once approved, the Lessor will incorporate Lessee's project easement(s) in this lease as Addendum "D."

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

ADDENDUM "B"

LEASE TERM AND FINANCIAL SCHEDULE

Lease Number OCS-A 0501

I. Lease Term

The duration of each term of the lease is described below. The terms may be extended or otherwise modified in accordance with applicable regulations in 30 C.F.R. Part 585.

Lease Term	Duration
Preliminary Term	1 year
Site Assessment Term	5 years
Operations Term	25 years

Schedule: Addendum "C" includes a schedule and reporting requirements for conducting site characterization activities.

Renewal: The Lessee may request renewal of the operations term of this lease, in accordance with applicable regulations in 30 CFR Part 585. The Lessor, at its discretion, may approve a renewal request to conduct substantially similar activities as were originally authorized under this lease or in an approved plan. The Lessor will not approve a renewal request that involves development of a type of renewable energy not originally authorized in the lease. The Lessor may revise or adjust payment terms of the original lease as a condition of lease renewal.

Unless otherwise described below, the Preliminary Term begins on the Effective Date of this lease for leases issued competitively. Unless otherwise described below, for noncompetitively issued leases, the Site Assessment Term begins on the Effective Date of this lease. The Operations Term begins on the date that the Lessor approves the Lessee's Construction and Operations Plan (COP).

II. Definitions

"Lease Issuance Date" refers to the date on which this lease has been signed by *both* the Lessee and the Lessor.

"Effective Date" has the same meaning as "effective date" in BOEM regulations provided in 30 CFR 585.237.

"Lease Anniversary" refers to the anniversary of the Effective Date of the lease.

"End Date" refers to the earlier of a) the last calendar day of the last month of the Operations Term; or b) the date on which the lease terminates in the event of a lease termination.

"Commercial Operations" means the generation of electricity or other energy product for commercial use, sale, or distribution.

"Commercial Operation Date," or "COD," refers to the date on which the Lessee first begins Commercial Operations on the lease.

"Delivery Point" is the meter identified in the COP where the Lessee's facility interconnects with the electric grid to deliver electricity for sale.

An individual wind generation turbine is said to be "available for Commercial Operations" on or after the first day that it engages in Commercial Operations on the lease; and to be no longer available for Commercial Operations on or after the day when it is permanently decommissioned. These dates are determined by the COP.

III. Payments

Unless otherwise authorized by the Lessor in accordance with the applicable regulations in 30 CFR Part 585, the Lessee must make payments as described below.

(a) **Rent.** The Lessee must pay rent as described below:

Rent payments prior to the COD, or prior to the lease End Date in the event that the lease terminates prior to the COD, are calculated by multiplying the acres in the leased area times the rental rate per acre as follows:

Lease OCS-A 0501

- Acres in Project Area: 166,886
- Annual Rental Rate: \$3.00 per acre or fraction thereof
- Rental Fee for Entire Project Area: $\$3.00 \times 166,886 = \$500,658$

The first year's rent payment of \$500,658 is due within 45 days of the date that the lease is received by the Lessee for execution. Rent for the entire leased area for the next year and for each subsequent year is due on or before each Lease Anniversary through the year in which the COD occurs. The rent for each year subsequent to the COD on the imputed portion of the lease not authorized for Commercial Operations is due on or before each Lease Anniversary. The imputed portion of the lease that is not authorized for Commercial Operations at each Lease Anniversary in year t , S_t , and the corresponding Adjusted Annual Rent Payment will be determined as follows:

$$(A) S_t = \left(1 - \frac{M'_t}{\text{MAX}(M'_t: \text{for all } t \geq 2)}\right)$$

(B) *Adjusted Annual Rent Payment* = S_t * *Rental Fee for Entire Leased Area*

Where:

S_t = Portion of the lease not authorized for Commercial Operations in year t based on the definition of t in Section III (b) (4) below.

M'_t = Actual Nameplate capacity expressed in megawatts (MW) rounded to the nearest second decimal in year t of Commercial Operations on the lease as defined in Section III (b) (4) below, prior to any adjustments as specified in the most recent approved COP for turbine maintenance, replacements, repowering, or decommissioning. For our purposes nameplate capacity is the maximum rated electric output the turbines of the wind farm facility under commercial operations can produce at their rated wind speed designated by the turbine's manufacturer.

$\text{MAX}(M'_t)$ = Highest value of M'_t projected in the most recent approved version of the COP to be achieved in any year of Commercial Operations on the lease.

The Adjusted Annual Rent Payment calculated in Equation (A) herein, will be rounded up to the nearest dollar. The annual rent payments will be set forth in Addendum "E" when the COP is initially approved or subsequently revised.

Consider an example of a 1,000 MW project on a lease with an Effective Date of January 1, 2014, and a COD of January 1, 2022, on a lease area consisting of 100,000 acres as follows:

Payment (Jan. 1 st)	M'_t (MW)	$\text{MAX}(M'_t)$ (MW)	$\left(1 - \frac{M'_t}{\text{MAX}(M'_t)}\right)$	Rental Fee for Entire Area	Payment Amount
2014	0	1,000	1.0	\$300,000	\$300,000
...
2021	0		1.0		\$300,000
2022	500		0.5		\$150,000
2023	500		0.5		\$150,000
2024	500		0.5		\$150,000
2025	800		0.2		\$60,000
2026	800		0.2		\$60,000
2027	800		0.2		\$60,000
2028	1,000		0.0		\$0

In the event a revised COP is approved by BOEM that identifies an alternative installation schedule that differs from the previously-approved COP, the Lessee must make subsequent payments based on the revised installation schedule. In addition, the Lessee must make a payment equal to the sum of any incremental annual rent payments that would have been due at the Lease Anniversary of prior years based on the differences between the Initial Installation Schedules specified in the previously-approved COP and the revised COP, plus interest on the annual balances, in accordance with 30 CFR 1218.54.

Consider an example whereby the initial COP specified an installation schedule with all 1,000 MW online at the COD, i.e., M'_t is 1,000 MW at COD. The following table demonstrates

how the back rent payments would be calculated if the project was initially scheduled as a single phase, but then later determined to be the three-phase project as shown in the previous example in a revised COP approved prior to the payment due on January 1, 2023.

Payment (Jan. 1 st)	Initial M_i (MW)	Revised M_i (MW)	Single-Phase Payment Amount	Three-Phase Payment Amount	Back Rent Payment Amount	Subsequent Rent Payment Amount
2014	0	0	\$300,000	\$300,000	\$0	\$0
...
2021	0	0	\$300,000	\$300,000	\$0	\$0
2022	1,000	500	\$0	\$150,000	\$150,000	\$0
2023	1,000	500	\$0	\$150,000	\$0	\$150,000
2024	1,000	500	\$0	\$150,000	\$0	\$150,000
2025	1,000	800	\$0	\$60,000	\$0	\$60,000
2026	1,000	800	\$0	\$60,000	\$0	\$60,000
2027	1,000	800	\$0	\$60,000	\$0	\$60,000
2028	1,000	1,000	\$0	0	\$0	\$0

The last rent payment prior to Commercial Operations being authorized on the entire lease area, i.e., the year in which the value of S_t is equal to zero, or prior to the lease End Date, in the event that the lease terminates prior to Commercial Operations being authorized on the entire lease area, will represent the final rent payment, unless a revised COP identifying an alternative maximum initial capacity is approved by BOEM. All rent payments, including the last rent payment, are payable for the full year and will not be prorated to the COD or other installation milestones. The COD is equivalent to the authorization date for the first phase of development on the lease, to be updated based on the initial or revised approved COP documentation. The schedule of rent payments on the lease is defined in Addendum "E". All rent payments, except for the first rent payment, must be made as required in 30 CFR 1218.51. Late rent payments will be charged interest in accordance with 30 CFR 1218.54.

(1) Project Easement.

Rent for any project easement(s) is described in Addendum "D".

(2) Relinquishment.

If the Lessee submits an application for relinquishment of a portion of the leased area within the first 45 calendar days following the date that the lease is received by the Lessee for execution, and the Lessor approves that application, no rent payment will be due on that relinquished portion of the leased area. Later relinquishments of any leased area will reduce the Lessee's rent payments due the year following the Lessor's approval of the relinquishment, through a reduction in the Acres in Leased Area and the corresponding Rental Fee for the Entire Leased Area and any related Adjusted Annual Rent Payments.

(b) **Operating Fee.** The Lessee must pay an operating fee as described below:

(1) Initial Operating Fee Payment.

The Lessee must pay an initial prorated operating fee within 45 calendar days after the COD. The initial operating fee payment covers the first year of Commercial Operations on the lease and will be calculated in accordance with subsection (4) below, using an operating fee rate of 0.02 and a capacity factor of 0.4.

(2) Annual Operating Fee Payments.

The Lessee must pay the operating fee for each subsequent year of Commercial Operations on or before each Lease Anniversary following the formula in subsection (4) below. The Lessee must calculate each operating fee annually subsequent to the initial operating fee payment using an operating fee rate of 0.02 through the twenty-five year operations term of the lease. The capacity factor of 0.4 will remain in effect until the Lease Anniversary of the year in which the Lessor adjusts the capacity factor.

(3) Final Operating Fee Payment.

The final operating fee payment is due on the Lease Anniversary prior to the End Date. The final operating fee payment covers the last year of Commercial Operations on the lease and will be calculated in accordance with the formula in subsection (4) below.

(4) The formula for calculating the operating fee in year t .

F_t	=	M_t	*	H	*	C_p	*	P_t	*	r_t
(annual operating fee)		(nameplate capacity)		(hours per year)		(capacity factor)		(power price)		(operating fee rate)

Where:

t =	the year of Commercial Operations on the lease starting from each Lease Anniversary, where t equals 1 represents the year beginning on the Lease Anniversary prior to, or on, the COD.
F_t =	the dollar amount of the annual operating fee in year t .
M_t =	<p>the nameplate capacity expressed in megawatts (MW) rounded to the nearest second decimal place in year t of Commercial Operations on the lease.</p> <p>The value of M_t reflecting the availability of turbines, will be determined based on the COP. This value will be adjusted to reflect any modifications to the COP approved by BOEM as of the date each operating fee payment is due, in accordance with the calculation in Equation 1, for each year of Commercial Operations on the lease.</p>

$$(1) M_t = \sum_{w=1}^{W_t} \left(N_w * \left[\frac{\left(\sum_{d=1}^D E_{w,t,d} \right)}{D} \right] \right)$$

Where:

W_t = Number of individual wind generation turbines, w , that will be available for Commercial Operations during any day of the year, t , per the COP.

N_w = Nameplate capacity of individual wind generation turbine, w , per the COP expressed in MW.

$E_{w,t,d}$ = Indicates whether individual wind generation turbine, w , will be available for Commercial Operations on day d of year t . The value is set to 1 for any day in year t for which the condition is true, i.e., the wind turbine will be available for Commercial Operations, and zero for any day in year t for which the condition is false, i.e., the wind turbine will not be available for Commercial Operations. The month of February is always assumed to have 28 days for purposes of this calculation, where March 1st will be counted as the first day of Commercial Operations if Commercial Operations commence on February 29th of a leap year.

D = Days in the year set equal to 365 in all years for purposes of this calculation.

M_t may be reduced only in the event that installed capacity is permanently decommissioned per the COP. M_t will not be changed in response to routine or unplanned maintenance of units, including the temporary removal of a nacelle for off-site repair or replacement with a similar unit.

EXAMPLE: Assume that the Lease Anniversary is January 1st, the COD is July 1, 2018, that the facility will ultimately have 100 individual wind generation turbines with a nameplate capacity of 5.0 MW each, and that the COP specifies the following, cumulative installation schedule for wind turbines to become available for Commercial Operations:

- July 1, 2018 (COD): 20 turbines (20 new units);
- October 1, 2018: 45 turbines (25 new units);
- January 1, 2019: 50 turbines (5 new units);
- July 1, 2019: 65 turbines (15 new units);
- January 1, 2020: 95 turbines (30 new units);
- February 29, 2020: 100 turbines (5 new units).

Further assume that the COP calls for 50 of the turbines to be decommissioned after September 30, 2039 ($t = 22$), and that the remaining turbines are decommissioned at the End Date of March 15, 2040 ($t = 23$).

The value of M_t would be estimated as demonstrated in Table 1a for each year of Commercial Operations on the lease in this example.

Table 1a: Example of M_t Calculations for Installation and Decommissioning

t	Turbines	MW	Commercial Operations Period	Comm. Ops. Days	Days in Year	Share of Days	MW	M_t
1	20	100	Jul. 1 st to Dec. 31 st	184	365	50.41%	50.41	81.92
	25	125	Oct. 1 st to Dec. 31 st	92		25.21%	31.51	
2	50	250	Jan. 1 st to Dec. 31 st	365		100.00%	250.00	287.81
	15	75	Jul. 1 st to Dec. 31 st	184		50.41%	37.81	
3	95	475	Jan. 1 st to Dec. 31 st	365		100.00%	475.00	495.96
	5	25	Mar. 1 st to Dec. 31 st	306		83.84%	20.96	
4	100	500	Jan. 1 st to Dec. 31 st	365		100.00%	500.00	500.00
...
21	100	500	Jan. 1 st to Dec. 31 st	365		100.00%	500.00	500.00
22	50	250	Jan. 1 st to Dec. 31 st	365		100.00%	250.00	436.98
	50	250	Jan. 1 st to Sep. 30 th	273		74.79%	186.98	
23	50	250	Jan. 1 st to Mar. 15 th	74		20.27%	50.68	50.68

To illustrate the impact of decommissioning a portion of the individual wind generation turbines and replacing them with units of greater capacity on the calculation of M_t , assume that at the end of March 31, 2022, 10 units are to be made unavailable due to decommissioning, and that the incremental units have a capacity of 7.0 MW and are expected to be made available for Commercial Operations on September 15, 2022. The impact on M_t in 2022 and in subsequent years starting in 2023 and continuing until decommissioning is illustrated in Table 1b.

Table 1b: Example of M_t Calculations for Repowering

t	Turbines	MW	Commercial Operations Period	Comm. Ops. Days	Days in Year	Share of Days	MW	M_t
5	90 (5.0)	450	Jan. 1 st to Dec. 31 st	365	365	100.00%	450.00	483.04
	10 (5.0)	50	Jan. 1 st to Mar. 31 st	90		24.66%	12.33	
	10 (7.0)	70	Sep. 15 th to Dec. 31 st	108		29.59%	20.71	
6	90 (5.0)	450	Jan. 1 st to Dec. 31 st	365		100.00%	450.00	520.00
	10 (7.0)	70	Jan. 1 st to Dec. 31 st	365		100.00%	70.00	

$H =$ the number of hours in the year for billing purposes which is equal to 8,760 for all years of Commercial Operations on the lease.

$C_p =$ the "Capacity Factor" in Performance Period p , which represents the share of anticipated generation of the facility that is delivered to where the Lessee's facility interconnects with the electric grid (i.e. the Delivery Point) relative to its generation at continuous full power operation at the nameplate capacity, expressed as a decimal between zero and one.

The initial Capacity Factor (C_0) will be set to 0.4.

The Capacity Factor will be subject to adjustment at the end of each Performance Period. After the sixth year of Commercial Operations on the lease has concluded, the Lessee will utilize data gathered from years two through six of Commercial Operations on the lease and propose a revised Capacity Factor to be used to calculate subsequent annual payments, as provided for in Table 2 below. A similar process will be conducted at the conclusion of each five-year Performance Period, thereafter.

Table 2: Definition of Performance Periods

Performance Period (<i>p</i>)	Commercial Operation Years (<i>t</i>)	Payments Affected by Adjustment	Capacity Factor (<i>c</i>)	Date End Year (<i>n</i>)
0 (COD)	Not Applicable	Payments 1 to 7	$c_0=0.4$	--
1	$t = 2$ to 6	Payments 8 to 12	c_1	$n_1=6$
2	$t = 7$ to 11	Payments 13 to 17	c_2	$n_2=11$
3	$t = 12$ to 16	Payments 18 to 22	c_3	$n_3=16$
4	$t = 17$ to 21	Payments 23 to End Date	c_4	$n_4=21$

Adjustments to the Capacity Factor

The Actual 5-year Average Capacity Factor (X_p) is calculated for each Performance Period after COD ($p > 0$) per Equation 2 below. X_p represents the sum of actual, metered electricity generation in megawatt-hours (MWh) at the Delivery Point to the electric grid (A_t) divided by the amount of electricity generation in MWh that would have been produced if the facility operated continuously at its full, stated capacity (M_t) in all of the hours (h_t) in each year, t , of the corresponding five-year period.

$$(2) \quad X_p = \frac{\sum_{t=n-4}^n A_t}{\left(\sum_{t=n-4}^n M_t * h_t \right)}$$

Where:

M_t = Nameplate Capacity as defined above.

n = "Date End Year" value for the Performance Period, p , as defined in Table 2.

p = Performance Period as defined in Table 2.

A_t = Actual generation in MWh associated with each year of Commercial Operations, t , on the lease that is transferred at the Delivery Point; Delivery Point meter data supporting the values submitted for annual actual generation must be recorded, preserved, and timely provided to the Lessor upon request. In the event the Lessor requires the assistance of the Lessee in obtaining information useful in verifying such information, for example by waiving confidentiality with respect to data held by a third party, such assistance must be timely provided.

h_t = Hours in the year on which the Actual Generation associated with each year of Commercial Operations, t , on the lease is based; this definition of "hours in the

	<p>year" differs from the definition of H in the operating fee equation above. The hours in the year for purposes of calculating the capacity factor must take into account the actual number of hours, including those in leap years.</p> <p>The value of the Capacity Factor at the outset of Commercial Operations ($p = 0$) is set to 0.4 as stated in equation 3:</p> <p>(3) $C_0 = 0.4$</p> <p>The value of the Capacity Factor corresponding to each Performance Period (C_p) is set according to equations 4A, 4B, and 4C as follows for each value of p greater than zero. The Capacity Factor is set equal to the Actual 5-Year Average Capacity Factor provided that the value falls within a range of plus or minus 10 percent of the previous Performance Period's capacity factor.</p> <p>(4A) $C_p = X_p$ for $C_{p-1} * 0.90 \leq X_p \leq C_{p-1} * 1.10$</p> <p>(4B) $C_p = C_{p-1} * 0.90$ for $X_p < C_{p-1} * 0.90$</p> <p>(4C) $C_p = C_{p-1} * 1.10$ for $X_p > C_{p-1} * 1.10$</p> <p>All values for C_p must be rounded to the nearest third decimal place.</p>
$P_t =$	<p>a measure of the annual average wholesale electric power price expressed in dollars per MW hour.</p> <p>The Lessee must calculate P_t at the time each operating fee payment is due, subject to approval by the Lessor. The Base Price (P_b) must equal the weighted average of the peak and off-peak spot price indices for the Northeast – Massachusetts Hub power market for the most recent year of data available as reported by the Federal Energy Regulatory Commission (FERC) as part of its annual <u>State of the Markets Report</u> with specific reference to the summary entitled "Electric Market Overview: Regional Spot Prices." The latest version of this report is available at http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-3yr-regional-elec-pr.pdf. If FERC stops publishing its annual <u>State of the Markets Report</u> required for this calculation or the specified location of the data changes over time, the Lessor must specify an alternate source of data and methodology that is approximately equivalent.</p> <p>The peak and off-peak price indices must be weighted 52.0% and 48.0%, respectively, for purposes of estimating the weighted index value for the Base Price. For example, in the March 12, 2012 State of the Markets Report the peak price index for 2011 was \$51.99/MWh and the corresponding off-peak price index for 2011 was \$33.94/MWh, resulting in a weighted index value for the Base Price for 2011 (P_{2011}) of \$43.33/MWh ($= 52.0\% * \\$51.99 / \text{MWh} + 48.0\% * \\$33.94 / \text{MWh}$). The calculation of P_b must be rounded up to the nearest, second decimal place.</p>

The Base Price must be adjusted for inflation from the year associated with the published spot prices to the year in which the operating fee is to be paid as shown in equations (5A) and (5B):

$$(5A) \quad P_t = P_b * \left(\frac{GDP_g}{GDP_{g-1}} \right)^{y-g} * \left(\frac{GDP_g}{GDP_b} \right) \text{ for } g \geq b$$

$$(5B) \quad P_t = P_b * \left(\frac{GDP_g}{GDP_{g-1}} \right)^{y-b} \text{ for } g < b$$

Where:

GDP = Annual Implicit Price Deflators for Gross Domestic Product (GDP deflator index) from Table 1.1.9, line 1, in the Survey of Current Business published by the U.S. Bureau of Economic Analysis (BEA) in the specified period; the latest version of this data is currently available at:

<http://bea.gov/iTable/iTable.cfm?ReqID=9&step=1>

If BEA stops publishing the data required for this calculation, or the specified location of the data changes over time, the Lessor will specify an alternative source of data and methodology that it considers approximately equivalent.

b = The most recent year for which FERC reports the appropriate electricity spot price data expressed as the year, e.g., 2009, as in the illustrative example below.

g = The most recent year for which GDP deflator indices are available from BEA expressed as the year, e.g., 2011, as in the illustrative example below.

y = The year the annual payment is due expressed as the year corresponding to the value of *t* described above, e.g., 2013, as in the illustrative example below.

The second term on the right-hand side of equation (5A) represents a projected annual change in the index of inflation employing the last year of data available from BEA, while the third term represents the cumulative change in the index of inflation up to the previous year.

Example:

The following hypothetical example is provided to illustrate the methodology using Equation (5A) and the illustrative values provided for *b*, *g*, and *y* above, applied to historical GDP deflator data. If the actual FERC price indices are based on 2009 data and the GDP deflator indices are available for 2011, the inflation-adjusted price index value would be determined from equation (5A) as follows for a payment occurring in *y* = 2013:

	$P_{t(2013)} = P_{2009} * \left(\frac{GDP_{2011}}{GDP_{2010}} \right)^{2013-2011} * \left(\frac{GDP_{2011}}{GDP_{2009}} \right) = \frac{\$38.40}{\text{MWh}} * \left(\frac{113.361}{110.992} \right)^2 * \left(\frac{113.361}{109.729} \right) = \frac{\$41.38}{\text{MWh}}$ <p>Note: The current GDP deflator index is 113.361 for 2011, 110.992 for 2010, and 109.729 for 2009 (last revised by BEA on April 27, 2012); the FERC index price for the year 2009 is \$38.40/MWh (On-peak: \$44.60/MWh; Off-peak: \$31.68/MWh; last revised March 12, 2012). Although 2011 FERC prices are available, the 2009 prices are used in the example to illustrate the concept.</p> <p>The Lessor and the Lessee will use the latest FERC price indices and revised BEA GDP deflator index values at the time the pricing adjustments are made. The source of data used in the calculations must be noted in the Lessee's documentation supporting their estimate of the value of P_t each year for review and approval by the Lessor.</p>
$r_t =$	the operating fee rate of 0.02 (2%).

(c) Reporting, Validation, Audits, and Late Payments.

The Lessee must submit the values used in the operating fee formula to the Lessor at the time the annual payment based on these values is made. Submission of this and other reporting, validation, audit and late payment information as requested by the Lessor must be sent to the Lessor using the contact information indicated in Addendum "A", unless the Lessor directs otherwise. Failure to submit the estimated values and the associated documentation on time to the Lessor may result in penalties as specified in applicable regulations.

Within 60 days of the submission by the Lessee of the annual payment, the Lessor will review the data submitted and validate that the operating fee formula was applied correctly. If the Lessor validation results in a different operating fee amount, the amount of the annual operating fee payment will be revised to the amount determined by the Lessor.

The Lessor also reserves the right to audit the meter data upon which the Actual 5-year Average Capacity Factor is based at any time during the lease term. If, as a result of such audit, the Lessor determines that any annual operating fee payment was calculated incorrectly, the Lessor has the right to correct any errors and collect the correct annual operating fee payment amount.

If the annual operating fee is revised downward as a result of the Lessee's calculations, as validated by the Lessor, or an audit of meter data conducted by the Lessee or Lessor, the Lessee will be refunded the difference between the amount of the payment received and the amount of the revised annual operating fee, without interest. Similarly, if the payment

amount is revised upward, the Lessee is required to pay the difference between the amount of the payment received and the amount of the revised annual operating fee, plus interest on the balance, in accordance with 30 CFR § 1218.54.

Late operating fee payments will be charged interest in accordance with 30 CFR § 1218.54.

III. Financial Assurance

The Lessor will base the determination for the amounts of all SAP, COP, and decommissioning financial assurance requirements on estimates of the cost to meet all accrued lease obligations. The Lessor determines the amount of supplemental and decommissioning financial assurance requirements on a case-by-case basis. The amount of financial assurance required to meet all lease obligations includes:

- (a) **Initial Financial Assurance.** Prior to the Lease Issuance date, the Lessee must provide an initial lease-specific bond, or other approved means of meeting the Lessor's initial financial assurance requirements in an amount equal to \$100,000.
- (b) **Additional Financial Assurance.** In addition to the initial lease-specific financial assurance discussed above, the Lessee is also required to provide additional supplemental bonds associated with the SAP and COP, or other form of financial assurances and a decommissioning bond or other approved means of meeting the Lessee's decommissioning obligations.
 - (1) Prior to the Lessor's approval of a SAP, the Lessor will require an additional supplemental bond or other form of financial assurance in an amount determined by the Lessor based on the complexity, number, and location of all facilities involved in the site assessment activities planned in the SAP, and estimates of the costs to meet all accrued obligations, in accordance with applicable BOEM regulations (30 CFR 585.515-537). The supplemental financial assurance requirement is in addition to the initial lease-specific financial assurance in the amount of \$100,000. The Lessee may meet these obligations by providing a new bond or other acceptable form of financial assurance, or increasing the amount of its existing bond or other form of financial assurance.
 - (2) Prior to the Lessor's approval of a COP, the Lessor may require an additional supplemental bond or other form of financial assurance in an amount determined by the Lessor based on the complexity, number, location of all facilities, activities and Commercial Operations planned in the COP, and estimates of the costs to meet all accrued obligations, in accordance with applicable BOEM regulations (30 CFR 585.515-537). The supplemental financial assurance requirement is in addition to the initial lease-specific financial assurance in the amount of \$100,000 and an additional supplemental bond or other form of financial assurance required with the SAP. The Lessee may meet this obligation by providing a new bond or

other acceptable form of financial assurance, or increasing the amount of its existing bond or other form of financial assurance.

- (3) The Lessor will require a decommissioning bond or other form of financial assurance based on the anticipated decommissioning costs in accordance with applicable BOEM regulations (30 CFR 585.515-537). The decommissioning obligation must be guaranteed through an acceptable form of financial assurance and will be due according to the schedule beginning before commencement of the installation of commercial facilities on a date or dates to be determined by the Lessor.
- (C) **Adjustments to Financial Assurance Amounts.** The Lessor reserves the right to adjust the amount of any financial assurance requirement (initial, supplemental or decommissioning) associated with this lease and/or reassess the Lessee's cumulative lease obligations, including decommissioning obligations, at any time. If the Lessee's cumulative lease obligations and/or liabilities increase or decrease, the Lessor will notify the Lessee of any intended adjustment to the financial assurance requirements and provide the Lessee an opportunity to comment in accordance with applicable BOEM regulations.

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

ADDENDUM "C"

LEASE-SPECIFIC TERMS, CONDITIONS, AND STIPULATIONS

Lease Number OCS-A 0501

The Lessee's rights to conduct activities on the leased area are subject to the following terms, conditions, and stipulations. The Lessor reserves the right to impose additional terms and conditions incident to the future approval or approval with modifications of plans, such as a Site Assessment Plan (SAP) or Construction and Operations Plan (COP).

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1 DEFINITIONS

- 1.1 Definition of "Archaeological Resource": The term "archaeological resource" has the same meaning as "archaeological resource" in BOEM regulations provided in 30 CFR 585.112.
- 1.2 Definition of "Dynamic Management Area (DMA)": The term "DMA" refers to a temporary area designated by the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and consisting of a circle around a confirmed North Atlantic right whale sighting. The radius of this circle expands incrementally with the number of whales sighted, and a buffer is included beyond the core area to allow for whale movement. Mandatory or voluntary speed restrictions may be applied by NOAA NMFS within DMAs. Information regarding the location and status of applicable DMAs is available from the NMFS Office of Protected Resources.
- 1.3 Definition of "Effective Date": The term "Effective Date" has the same meaning as "effective date" in BOEM regulations provided in 30 CFR 585.237.
- 1.4 Definition of "Geological and Geophysical Survey (G&G Survey)": The term "G&G Survey" serves as a collective term for surveys that collect data on the geology of the seafloor and landforms below the seafloor. High resolution geophysical surveys and geotechnical (sub-bottom) exploration are components of G&G surveys.
- 1.5 Definition of "Geotechnical Exploration": The term "Geotechnical Exploration" is used to refer to site specific sediment and underlying geologic data acquired from the seafloor and the sub-bottom and includes geotechnical surveys utilizing borings, vibracores, and cone penetration tests.
- 1.6 Definition of "High Resolution Geophysical Survey (HRG Survey)": The term "HRG Survey" means a marine remote-sensing survey using, but not limited to, such equipment as side-scan sonar, magnetometer, shallow and medium (Seismic) penetration sub-bottom profiler systems, narrow beam or multibeam echo sounder, or other such equipment employed for the purposes of providing data on geological conditions, identifying shallow hazards, identifying archaeological resources, charting bathymetry, and gathering other site characterization information.
- 1.7 Definition of "Listed Species": The term "listed species," also referred to in adjective form as "listed," means any species of fish, wildlife, or plant that has been determined to be endangered or threatened under Section 4 of the Endangered Species Act. Listed species are provided in 50 CFR 17.11-12.
- 1.8 Definition of "Protected-Species Observer": The term "protected-species observer," or "observer," means an individual who is trained in the shipboard identification and behavior of protected species. Protected species include marine mammals (those protected under the Endangered Species Act and those protected under the Marine Mammal Protection Act) and sea turtles.

- 1.9 Definition of "Ramp-up": The term "ramp-up" means the process of incrementally increasing the acoustic source level of the survey equipment when conducting HRG surveys until it reaches the operational setting.
- 1.10 Definition of "Site Assessment Activities": The term "site assessment activities" or "site assessment," has the same meaning as "site assessment activities" in 30 CFR 585.112.
- 1.11 Definition of "Qualified Marine Archaeologist": The term "qualified marine archaeologist" means a person retained by the Lessee who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology (48 FR 44738-44739), and has experience analyzing marine geophysical data.
- 1.12 Definition of "Take": The terms "Takes," "Taken," and "Taking" have the same meaning as the term "take" as defined in 16 U.S.C. § 1532(19).

2 SCHEDULE

2.1 Site Characterization

2.1.1 Survey Plan(s).

- 2.1.1.1 **SAP Survey Plan.** If the Lessee proposes to conduct site assessment activities during the site assessment term, then the Lessee must submit to the Lessor a complete SAP survey plan. This SAP survey plan must include details and timelines of the surveys to be conducted on this lease necessary to support the submission of a SAP (i.e., necessary to satisfy the information requirements in the applicable regulations, including, but not limited to 30 CFR 585.606, 610, 611).

The Lessee must submit the SAP survey plan to the Lessor at least 30 calendar days prior to the date of the required pre-survey meeting with the Lessor (See 2.1.2). The Lessor may require that the Lessee modify the SAP survey plan to address any comments the Lessor submits to the Lessee on the contents of the SAP survey plan in a manner deemed satisfactory to the Lessor prior to the commencement of the survey activities described in the SAP survey plan.

- 2.1.1.2 **COP Survey Plan.** The Lessee must submit to the Lessor a complete COP survey plan providing details and timelines of the surveys to be conducted on this lease that are necessary to support the submission of a COP (i.e., necessary to satisfy the information requirements in the applicable regulations, including, but not limited to 30 CFR 585.621, 626, 627). The COP survey plan must be submitted to the Lessor at least 30 calendar days prior to the date of the required pre-survey meeting with the Lessor (See 2.1.2). The Lessee must modify the COP survey plan to address any comments the Lessor submits to the Lessee on the contents of the COP survey plan in a manner deemed satisfactory to the Lessor prior to the commencement of these survey activities.

- 2.1.2 Pre-Survey Meeting(s) with the Lessor. At least 60 days prior to the initiation of survey activities in support of the submission of a plan (i.e., SAP and/or COP), the Lessee must hold a pre-survey meeting with the Lessor to discuss the applicable proposed survey plan and timelines. The Lessee must ensure the presence of a Qualified Marine Archaeologist at this meeting (See 4.2.2).

2.2 Progress Reporting

- 2.2.1 Semi-Annual Progress Report. The Lessee must submit to the Lessor a semi-annual (i.e., every six months) progress report through the duration of the site assessment term that includes a brief narrative of the overall progress since the last progress report, or – in the case of the first report – since the Effective Date. The progress report must include an update regarding progress in executing the activities included in the survey plan(s), and include as an enclosure an updated survey plan(s) accounting for any modifications in schedule.

3 NATIONAL SECURITY AND MILITARY OPERATIONS

The Lessee must comply with the requirements specified in stipulations 3.1, 3.2 and 3.3 when conducting site characterization activities in support of plan (i.e., SAP and/or COP) submittal.

3.1 Hold and Save Harmless

Whether compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the Lessee assumes all risks of damage or injury to persons or property, which occur in, on, or above the OCS, to any persons or to any property of any person or persons in connection with any activities being performed by the Lessee in, on, or above the OCS, if such injury or damage to such person or property occurs by reason of the activities of any agency of the United States Government, its contractors, or subcontractors, or any of its officers, agents or employees, being conducted as a part of, or in connection with, the programs or activities of the individual military command headquarters (hereinafter “the appropriate command headquarters”) listed in the contact information provided as an enclosure to this lease.

Notwithstanding any limitation of the Lessee’s liability in Section 9 of the lease, the Lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the United States, its contractors or subcontractors, or any of its officers, agents, or employees. The Lessee further agrees to indemnify and save harmless the United States against all claims for loss, damage, or injury in connection with the programs or activities of the command headquarters, whether the same be caused in whole or in part by the negligence or fault of the United States, its contractors, or subcontractors, or any of its officers, agents, or employees and whether such claims might be sustained under a theory of strict or absolute liability or otherwise.

3.2 Evacuation or Suspension of Activities

- 3.2.1 **General.** The Lessee hereby recognizes and agrees that the United States reserves and has the right to temporarily suspend operations and/or require evacuation on this lease in the interest of national security pursuant to Section 3(c) of this lease.
- 3.2.2 **Notification.** Every effort will be made by the appropriate military agency to provide as much advance notice as possible of the need to suspend operations and/or evacuate. Advance notice will normally be given before requiring a suspension or evacuation. Temporary suspension of operations may include, but is not limited to the evacuation of personnel and appropriate sheltering of personnel not evacuated. "Appropriate sheltering" means the protection of all Lessee personnel for the entire duration of any Department of Defense activity from flying or falling objects or substances and will be implemented by an order (oral and/or written) from the BOEM Office of Renewable Energy Programs (OREP) Program Manager, after consultation with the appropriate command headquarters or other appropriate military agency, or higher Federal authority. The appropriate command headquarters, military agency, or higher authority will provide information to allow the Lessee to assess the degree of risk to, and provide sufficient protection for, the Lessee's personnel and property.
- 3.2.3 **Duration.** Suspensions or evacuations for national security reasons will not generally exceed seventy-two (72) hours; however, any such suspension may be extended by order of the OREP Program Manager. During such periods, equipment may remain in place, but all operations, if any, must cease for the duration of the temporary suspension if so directed by the OREP Program Manager. Upon cessation of any temporary suspension, the OREP Program Manager will immediately notify the Lessee that such suspension has terminated and operations on the leased area can resume.
- 3.2.4 **Lessee Point-of-Contact for Evacuation/Suspension Notifications.** The Lessee must inform the Lessor of the persons/offices to be notified to implement the terms of 3.2.2 and 3.2.3.
- 3.2.5 **Coordination with Command Headquarters.** The Lessee must establish and maintain early contact and coordination with the appropriate command headquarters, in order to avoid or minimize the potential to conflict with and minimize the potential effects of conflicts with military operations.
- 3.2.6 **Reimbursement.** The Lessee is not entitled to reimbursement for any costs or expenses associated with the suspension of operations or activities or the evacuation of property or personnel in fulfillment of the military mission in accordance with 3.2.1 through 3.2.5 above.

3.3 Electromagnetic Emissions

The Lessee, prior to entry into any designated defense operating area, warning area, or water test area, for the purpose of commencing survey activities undertaken to support SAP or COP submittal must enter into an agreement with the commander of the appropriate command headquarters to coordinate the electromagnetic emissions associated with such survey activities. The Lessee must ensure that all electromagnetic emissions associated with such survey activities are controlled as directed by the commander of the appropriate command headquarters.

4 STANDARD OPERATING CONDITIONS

4.1 General

4.1.1 Vessel Strike Avoidance Measures. The Lessee must ensure that all vessels conducting activity in support of plan (i.e., SAP and/or COP) submittal comply with the vessel-strike avoidance measures specified in stipulations 4.1.1.1 through 4.1.1.7, except under extraordinary circumstances when complying with these requirements would put the safety of the vessel or crew at risk.

4.1.1.1 The Lessee must ensure that vessel operators and crews maintain a vigilant watch for cetaceans, pinnipeds, and sea turtles and slow down or stop their vessel to avoid striking these protected species.

4.1.1.2 The Lessee must ensure that all vessel operators comply with 10 knot (<18.5 km/hr) speed restrictions in any Dynamic Management Area (DMA). In addition, the Lessee must ensure that all vessels operating from November 1 through July 31 operate at speeds of 10 knots (<18.5 km/hr) or less.

4.1.1.3 North Atlantic right whales.

4.1.1.3.1 The Lessee must ensure all vessels maintain a separation distance of 500 m (1,640 ft) or greater from any sighted North Atlantic right whale.

4.1.1.3.2 The Lessee must ensure that the following avoidance measures are taken if a vessel comes within 500 m (1,640 ft) of any North Atlantic right whale:

4.1.1.3.2.1 If underway, vessels must steer a course away from any sighted North Atlantic right whale at 10 knots (<18.5 km/h) or less until the 500 m (1,640 ft) minimum separation distance has been established (except as provided in 4.1.1.3.2.2).

4.1.1.3.2.2 If a North Atlantic right whale is sighted in a vessel's path, or within 100 m (328 ft) to an underway vessel, the underway vessel must reduce speed and shift the engine to neutral. The Lessee must not engage the engines until the North Atlantic right whale has moved outside the vessel's path and beyond 100 m (328 ft).

4.1.1.3.2.3 If a vessel is stationary, the vessel must not engage engines until the North Atlantic right whale has moved beyond 100 m (328 ft), at which point the Lessee must comply with 4.1.1.3.2.1.

4.1.1.4 Non-delphinoid cetaceans other than the North Atlantic right whale.

4.1.1.4.1 The Lessee must ensure all vessels maintain a separation distance of 100 m (328 ft) or greater from any sighted non-delphinoid cetacean.

4.1.1.4.2 The Lessee must ensure that the following avoidance measures are taken if a vessel comes within 100 m (328 ft) of any non-delphinoid cetacean:

4.1.1.4.2.1 If any non-delphinoid cetacean is sighted, the vessel underway must reduce speed and shift the engine to neutral, and must not engage the engines until the non-delphinoid cetacean has moved outside of the vessel's path and beyond 100 m (328 ft).

4.1.1.4.2.2 If a vessel is stationary, the vessel must not engage engines until the non-delphinoid cetacean has moved out of the vessel's path and beyond 100 m (328 ft).

4.1.1.5 Delphinoid cetaceans.

4.1.1.5.1 The Lessee must ensure that all vessels maintain a separation distance of 50 m (164 ft) or greater from any sighted delphinoid cetacean.

4.1.1.5.2 The Lessee must ensure the following avoidance measures are taken if the vessel comes within 50 m (164 ft) of a sighted delphinoid cetacean:

4.1.1.5.2.1 The Lessee must ensure that any vessel underway remain parallel to a sighted delphinoid cetacean's course whenever possible, and avoid excessive speed or abrupt changes in direction. The Lessee may not adjust course and speed until the delphinoid cetacean has moved beyond 50 m (164 ft) and/or the delphinoid cetacean has moved abeam of the underway vessel.

4.1.1.5.2.2 The Lessee must ensure that any vessel underway reduce vessel speed to 10 knots (18.5 km/h) or less when pods (including mother/calf pairs) or large assemblages of delphinoid cetaceans are observed. The Lessee may not adjust course and speed until the delphinoid cetaceans have moved beyond 50 m (164 ft) and/or abeam of the underway vessel.

4.1.1.6 Sea Turtles and Pinnipeds.

4.1.1.6.1 The Lessee must ensure all vessels maintain a separation distance of 50 m (164 ft) or greater from any sighted sea turtle or pinniped.

4.1.1.7 Vessel Operator Briefing. The Lessee must ensure that all vessel operators are briefed to ensure they are familiar with the requirements specified in 4.1.1.

4.1.2 Marine Trash and Debris Prevention. The Lessee must ensure that vessel operators, employees, and contractors engaged in activity in support of plan (i.e., SAP and/or COP) submittal are briefed on marine trash and debris awareness and elimination, as described in the BSEE NTL No. 2012-G01 ("Marine Trash and Debris Awareness and Elimination") or any NTL that supersedes this NTL, except that the Lessor will not require the Lessee, vessel operators, employees, and contractors to undergo formal training or post placards. The Lessee must ensure that these vessel operator employees and contractors are made aware of the environmental and socioeconomic impacts associated with marine trash and debris and their responsibilities for ensuring that trash and debris are not intentionally or accidentally discharged into the marine environment. The above-referenced NTL provides information the Lessee may use for this awareness training.

4.2 Archaeological Survey Requirements

4.2.1 Archaeological Survey Required. The Lessee must provide the results of an archaeological survey with its SAP and COP.

4.2.2 Qualified Marine Archaeologist. The Lessee must ensure that the analysis of archaeological survey data collected in support of plan (e.g., SAP and/or COP) submittal and the preparation of archaeological reports created in support of plan submittal are conducted by a Qualified Marine Archaeologist.

4.2.3 Tribal Pre-Survey Meeting. Subsequent to any pre-survey meeting with the Lessor (see 2.1.2) and at least 45 calendar days prior to commencing survey activities performed in support of plan (i.e., SAP and/or COP) submittal, the Lessee must invite by certified mail the Narragansett Indian Tribe, the Mashpee Wampanoag Tribe, and the Wampanoag Tribe of Gay Head (Aquinnah) to a tribal pre-survey meeting. The purpose of this meeting will be for the Lessee and the Qualified Marine Archaeologist to discuss the Lessee's Survey Plan and consider requests to monitor portions of the archaeological survey and the geotechnical exploration activities, including the visual logging and analysis of geotechnical samples (e.g., cores, etc.). The meeting must be scheduled for a date at least 30 calendar days prior to commencing survey and at a location and time that affords the participants a reasonable opportunity to participate. The anticipated date for the meeting must be identified in the timeline of activities described in the applicable survey plan (see 2.1.1).

4.2.4 Geotechnical (Sub-bottom) Exploration. The Lessee may only conduct geotechnical exploration activities performed in support of plan (i.e., SAP and/or COP) submittal in locations where an analysis of the results of geophysical surveys has been completed. This analysis must include a determination by a Qualified Marine Archaeologist as to whether any potential archaeological resources are present in the area. Except as allowed by the Lessor under 4.2.6, the geotechnical exploration activities must avoid potential archaeological resources by a minimum of 50 m (164 ft), and the avoidance distance must be calculated from the maximum discernible extent of the archaeological resource. A Qualified Marine Archaeologist must certify, in the Lessee's archaeological reports, that geotechnical exploration activities did not impact potential historic properties identified as a result of the HRG surveys performed in support of plan submittal, except as follows: in the event that the geotechnical exploration activities did impact potential historic properties identified in the archaeological surveys without the Lessor's prior approval, the Lessee and the Qualified Marine Archaeologist who prepared the report must instead provide a statement documenting the extent of these impacts.

4.2.5 Monitoring and Avoidance. The Lessee must inform the Qualified Marine Archaeologist that he or she may be present during HRG surveys and bottom-disturbing activities performed in support of plan (i.e., SAP and/or COP) submittal to ensure avoidance of potential archaeological resources, as determined by the Qualified Marine Archaeologist (including bathymetric, seismic, and magnetic anomalies; side scan sonar contacts; and other seafloor or sub-surface features that exhibit potential to represent or contain potential archaeological sites or other historic properties). In the event that this Qualified Marine Archaeologist indicates that he or she wishes to be present, the Lessee must facilitate the Qualified Marine Archaeologist's presence, as requested by the Qualified Marine Archaeologist, and provide the Qualified Marine Archaeologist the opportunity to inspect data quality.

4.2.6 No Impact without Approval. In no case may the Lessee knowingly impact a potential archaeological resource without the Lessor's prior approval.

4.2.7 Post-Review Discovery Clauses. If the Lessee, while conducting site characterization activities in support of plan (i.e., SAP and/or COP) submittal, discovers a potential archaeological resource such as the presence of a shipwreck (e.g., a sonar image or visual confirmation of an iron, steel, or wooden hull, wooden timbers, anchors, concentrations of historic objects, piles of ballast rock), prehistoric artifacts, and/or relict landforms, etc. within the project area, the Lessee must:

4.2.7.1 Immediately halt seafloor/bottom-disturbing activities within the area of discovery;

4.2.7.2 Notify the Lessor within 24 hours of discovery;

4.2.7.3 Notify the Lessor in writing via report to the Lessor within 72 hours of its discovery;

- 4.2.7.4 Keep the location of the discovery confidential and take no action that may adversely affect the archaeological resource until the Lessor has made an evaluation and instructs the applicant on how to proceed; and
- 4.2.7.5 Conduct any additional investigations as directed by the Lessor to determine if the resource is eligible for listing in the National Register of Historic Places (30 CFR 585.802(b)). The Lessor will do this if: (1) the site has been impacted by the Lessee's project activities; or (2) impacts to the site or to the area of potential effect cannot be avoided. If investigations indicate that the resource is potentially eligible for listing in the National Register of Historic Places, the Lessor will tell the Lessee how to protect the resource or how to mitigate adverse effects to the site. If the Lessor incurs costs in protecting the resource, under Section 110(g) of the National Historic Preservation Act, the Lessor may charge the Lessee reasonable costs for carrying out preservation responsibilities under the OCS Lands Act (30 CFR 585.802(c-d)).

4.3 Geological and Geophysical (G&G) Survey Requirements

- 4.3.1 The Lessee must ensure that all vessels conducting activity in support of a plan (i.e., SAP and/or COP) submittal comply with the geological and geophysical survey requirements specified in 4.3 except under extraordinary circumstances when complying with these requirements would put the safety of the vessel or crew at risk.
- 4.3.2 Visibility. The Lessee must not conduct G&G surveys in support of plan (i.e., SAP and/or COP) submittal at any time when lighting or weather conditions (e.g., darkness, rain, fog, sea state) prevents visual monitoring of the HRG survey exclusion zone (see 4.3.6) or the geotechnical exploration exclusion zone (see 4.3.7), except as allowed under 4.3.3.
- 4.3.3 Modification of Visibility Requirement. If the Lessee intends to conduct G&G survey operations in support of plan submittal at night or when visual observation is otherwise impaired, it must submit to the Lessor an alternative monitoring plan detailing the alternative monitoring methodology (e.g. active or passive acoustic monitoring technologies). The Lessor may, after consultation with NMFS, decide to allow the Lessee to conduct G&G surveys in support of plan submittal at night or when visual observation is otherwise impaired using the proposed alternative monitoring methodology.
- 4.3.4 Protected-Species Observer. The Lessee must ensure that the exclusion zone for all G&G surveys performed in support of plan (i.e., SAP and/or COP) submittal is monitored by one or more NMFS-approved protected-species observers. The Lessee must provide to the Lessor a list of observers and their résumés no later than 45 calendar days prior to the scheduled start of surveys performed in support of plan submittal. The résumés of any additional observers must be provided 15 calendar days prior to each observer's start date. The Lessor will send the observer's information to NMFS for approval.
- 4.3.5 Optical Device Availability. The Lessee must ensure that reticuled binoculars and other suitable equipment are available to each observer to adequately perceive and monitor protected marine species within the exclusion zone during surveys conducted in support of plan (i.e., SAP and/or COP) submittal.
- 4.3.6 High-Resolution Geophysical (HRG) Surveys. Stipulations specific to HRG surveys conducted in support of plan (i.e., SAP and/or COP) submittal where one or more acoustic sound sources is operating at frequencies below 200 kHz are provided in 4.3.6.1 through 4.3.6.10:
- 4.3.6.1 Establishment of Default Exclusion Zone. The Lessee must ensure that a 200-meter default exclusion zone for cetaceans, pinnipeds, and sea turtles will be monitored by a protected species observer. In the case of the North Atlantic right whale, the minimum separation distance of 500 m (1,640 ft) as required under 4.1.1.3 must be observed.

- 4.3.6.1.1 If the Lessor determines that the exclusion zone does not encompass the 180 dB Level A harassment radius calculated for the acoustic source having the highest source level, the Lessor will consult with NMFS and may impose additional, relevant requirements on the Lessee, including but not limited to, required expansion of this exclusion zone.
- 4.3.6.2 Field Verification of Exclusion Zone. The Lessee must conduct field verification of the exclusion zone for HRG survey equipment operating below 200 kHz. The Lessee must take acoustic measurements at a minimum of two reference locations and in a manner that is sufficient to establish the following: source level (peak at 1 meter) and distance to the 180, 160, and 150 dB_{rms} re 1μPa sound pressure level (SPL) isopleths as well as the 187 dB re 1μPa cumulative sound exposure level (cSEL). Sound measurements must be taken at the reference locations at two depths (i.e., a depth at mid-water and a depth at approximately 1 meter (3.28 ft) above the seafloor). The Lessee must report the field verification results to the Lessor in the SAP and COP Survey Plans, unless otherwise authorized by the Lessor.
- 4.3.6.3 Field Verification Plan for HRG Survey Exclusion Zone. The Lessee must submit a plan for verifying the sound source levels of any electromechanical survey equipment operating at frequencies below 200 kHz to the Lessor no later than 45 days prior to the commencement of the field verification activities. The plan must demonstrate how the field verification activities will comply with the requirements of 4.3.6.2. The Lessor may require that the Lessee modify the plan to address any comments the Lessor submits to the Lessee on the contents of the plan in a manner deemed satisfactory to the Lessor prior to the commencement of the field verification activities.
- 4.3.6.4 Modification of Exclusion Zone Per Lessee Request. The Lessee may use the results from its field-verification efforts to request modification of the exclusion zone for the specific HRG survey equipment under consideration. Any new exclusion zone radius proposed by the Lessee must be based on the most conservative measurement (i.e., the largest safety zone configuration) of the target Level A or Level B harassment acoustic threshold zone as defined for the purposes of the Marine Mammal Protection Act. This modified zone must be used for all subsequent use of field-verified equipment. The Lessee may periodically reevaluate the modified zone using the field verification procedures described in 4.3.6.2. The Lessee must obtain Lessor approval of any new exclusion zone before it may be implemented.
- 4.3.6.5 Clearance of Exclusion Zone. The Lessee must ensure that active acoustic sound sources will not be activated until the protected species observer has reported the exclusion zone clear of all cetaceans, pinnipeds, and sea turtles for 60 minutes.

- 4.3.6.6 Seasonal Management Areas (SMAs) Right Whale Monitoring. The Lessee must ensure that vessel operators monitor National Marine Fisheries Service's (NMFS) North Atlantic Right Whale reporting systems (e.g., the Early Warning System, Sighting Advisory System, and Mandatory Ship Reporting System) for the presence of North Atlantic right whales during HRG survey operations within or adjacent to SMAs and/or DMAs.
- 4.3.6.7 Dynamic Management Area Shutdown Requirement. The Lessee must ensure that vessels cease HRG survey activities within 24 hours of NMFS establishing a DMA in the Lessee's HRG survey area. HRG surveys may resume in the affected area after the DMA has expired.
- 4.3.6.8 Electromechanical Survey Equipment Ramp-Up. The Lessee must ensure that when technically feasible, a "ramp-up" of the electromechanical survey equipment occurs at the start or re-start of HRG survey activities. A ramp-up would begin with the power of the smallest acoustic equipment for the HRG survey at its lowest power output. The power output would be gradually turned up and other acoustic sources added in a way such that the source level would increase in steps not exceeding 6 dB per 5-minute period.
- 4.3.6.9 Shut Down for Non-Delphinoid Cetaceans and Sea Turtles. If a non-delphinoid cetacean or sea turtle is sighted at or within the exclusion zone, an immediate shutdown of the electromechanical survey equipment is required. The vessel operator must comply immediately with such a call by the observer. Any disagreement should be discussed only after shut-down. Subsequent restart of the electromechanical survey equipment must use the ramp-up provisions described above and may only occur following clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes.
- 4.3.6.10 Power Down for Delphinoid Cetaceans and Pinnipeds. If a delphinoid cetacean or pinniped is sighted at or within the exclusion zone, the electromechanical survey equipment must be powered down to the lowest power output that is technically feasible. The vessel operator must comply immediately with such a call by the observer. Any disagreement or discussion should occur only after power-down. Subsequent power up of the electromechanical survey equipment must use the ramp-up provisions described in 4.3.6.8 and may occur after (1) the exclusion zone is clear of a delphinoid cetacean and/or pinniped or (2) a determination by the protected species observer after a minimum of 10 minutes of observation that the delphinoid cetacean and/or pinniped is approaching the vessel or towed equipment at a speed and vector that indicates voluntary approach to bow-ride or chase towed equipment. An incursion into the exclusion zone by a non-delphinoid cetacean or sea turtle during a power-down requires implementation of the shut-down procedures described in 4.3.6.9.

4.3.6.10.1 Pauses in Electromechanical Survey Sound Source. The Lessee must ensure that if the electromechanical sound source shuts down for reasons other than encroachment into the exclusion zone by a non-delphinoid cetacean or sea turtle, including, but not limited to, mechanical or electronic failure, resulting in the cessation of the sound source for a period greater than 20 minutes, then the Lessee must restart the electromechanical survey equipment using the full ramp-up procedures and clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes. If the pause is less than 20 minutes the equipment may be re-started as soon as practicable at its operational level as long as visual surveys were continued diligently throughout the silent period and the exclusion zone remained clear of cetaceans, pinnipeds, and sea turtles. If visual surveys were not continued diligently during the pause of 20-minutes or less, the Lessee must restart the electromechanical survey equipment using the full ramp-up procedures and clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes.

4.3.7 Geotechnical (Sub-bottom) Exploration. Stipulations specific to geotechnical exploration conducted in support of plan (i.e., SAP and/or COP) submittal are provided in 4.3.7.1 through 4.3.7.6.

4.3.7.1 Establishment of Default Exclusion Zone. The Lessee must ensure that a 200-meter default exclusion zone for all cetaceans, pinnipeds, and sea turtles will be monitored by a protected species observer around any vessel conducting geotechnical surveys.

4.3.7.2 Modification of Exclusion Zone Per Lessee Request. If the Lessee wishes to modify the 200 m (656 ft) default exclusion zone for specific geotechnical exploration equipment, then the Lessee must submit a plan for verifying the sound source levels of the specific geotechnical exploration equipment to the Lessor. The plan must demonstrate how the field verification activities will comply with the requirements of 4.3.7.3. The Lessor may require that the Lessee modify the plan to address any comments the Lessor submits to the Lessee on the contents of the plan in a manner deemed satisfactory to the Lessor prior to the commencement of field verification activities. Any new exclusion zone radius proposed by the Lessee must be based on the most conservative measurement (i.e., the largest safety zone configuration) of the Level B harassment acoustic threshold zone as defined for the purposes of the Marine Mammal Protection Act. This modified zone must be used for all subsequent use of field-verified equipment. The Lessee may periodically reevaluate the modified zone using the field verification procedures described in 4.3.7.3. The Lessee must obtain Lessor approval of any new exclusion zone before it may be implemented.

- 4.3.7.3 **Field Verification of Exclusion Zone.** If the Lessee wishes to modify the existing exclusion zone, the Lessee must conduct field verification of the exclusion zone for the specific geotechnical exploration equipment. The results of the sound measurements from the survey equipment must be used to establish a new exclusion zone, which may be greater than or less than the 200 m (656 ft) default exclusion zone depending on the results of the field tests. The Lessee must take acoustic measurements at a minimum of two reference locations and in a manner that is sufficient to establish the following: source level (peak at 1 meter) and distance to the 180, 160, and 150 dBrms re 1 μ Pa sound pressure level (SPL) isopleths as well as the 187 dB re 1 μ Pa cumulative sound exposure level (cSEL). Sound measurements must be taken at the reference locations at two depths (i.e., a depth at mid-water and a depth at approximately 1 meter above the seafloor).
- 4.3.7.4 **Clearance of Exclusion Zone.** The Lessee must ensure that the geotechnical sound source is not activated until the protected species observer has reported the exclusion zone clear of all cetaceans, pinnipeds, and sea turtles for 60 minutes.
- 4.3.7.5 **Shut Down for Non-Delphinoid Cetaceans and Sea Turtles.** If any non-delphinoid cetaceans or sea turtles are sighted at or within the exclusion zone, an immediate shutdown of the geotechnical survey equipment is required. The vessel operator must comply immediately with such a call by the observer. Any disagreement or discussion should occur only after shut-down. Subsequent restart of the geotechnical survey equipment may only occur following clearance of the exclusion zone for 60 minutes for all cetaceans, pinnipeds, and sea turtles.
- 4.3.7.6 **Pauses in Geotechnical Survey Sound Source.** The Lessee must ensure that if the geotechnical sound source shuts down for reasons other than encroachment into the exclusion zone by a non-delphinoid cetacean or sea turtle, including, but not limited to, mechanical or electronic failure, resulting in the cessation of the sound source for a period greater than 20 minutes, the Lessee must ensure clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes before restarting the geotechnical survey equipment. If the pause is less than 20 minutes, the equipment may be re-started as soon as practicable as long as visual surveys were continued diligently throughout the silent period and the exclusion zone remained clear of cetaceans, pinnipeds, and sea turtles. If visual surveys were not continued diligently during the pause of 20-minutes or less, the Lessee must restart the geotechnical survey equipment only after the clearance of the exclusion zone of all cetaceans, pinnipeds, and sea turtles for 60 minutes.

4.4 Reporting Requirements

The Lessee must ensure compliance with the following reporting requirements for site characterization activities performed in support of plan (i.e., SAP and/or COP) submittal and must use the contact information provided as an enclosure to this lease, or updated contact information as provided by the Lessor, to fulfill these requirements where appropriate:

- 4.4.1 Reporting Injured or Dead Protected Species. The Lessee must ensure that sightings of any injured or dead protected species (e.g., marine mammals, sea turtles or sturgeon) are reported to the NMFS Northeast Region's Stranding Hotline (800-900-3622 or current) within 24 hours of sighting, regardless of whether the injury or death is caused by a vessel. In addition, if the injury or death was caused by a collision with a project-related vessel, the Lessee must ensure that the Lessor is notified of the strike within 24 hours. The Lessee must use the form provided in Appendix A to Addendum "C" to report the sighting or incident. If the Lessee's activity is responsible for the injury or death, the Lessee must ensure that the vessel assist in any salvage effort as requested by NMFS.
- 4.4.2 Reporting Observed Impacts to Protected Species. The Lessee must ensure that the observer report any observations concerning impacts on Endangered Species Act listed marine mammals, sea turtles or sturgeon to the Lessor and NMFS within 48 hours. The Lessee must report any injuries or mortalities using the Incident Report in Appendix A to Addendum "C". Any observed takes of listed marine mammals, sea turtles or sturgeon resulting in injury or mortality must be reported within 24 hours to the Lessor and NMFS.
- 4.4.3 Final Report of G&G Survey Activities and Observations. The Lessee must provide the Lessor and NMFS with a report within 90 calendar days following the commencement of HRG and/or geotechnical exploration activities and at the conclusion of HRG and/or geotechnical exploration activities that includes a summary of the survey activities, all protected species observer reports, a summary of the survey activities and an estimate of the number of listed marine mammals, sea turtles or sturgeon observed and/or Taken during these survey activities.
- 4.4.4 Protected Species Observer Reports. The Lessee must ensure that the protected-species observer record all observations of protected species using standard marine mammal observer data collection protocols. The list of required data elements for these reports is provided in Appendix B to Addendum "C".
- 4.4.5 Marine Mammal Protection Act Authorization(s). If the Lessee is required to obtain an authorization pursuant to section 101(a)(5) of the Marine Mammal Protection Act prior to conducting survey activities, then the Lessee must provide to the Lessor a copy of the authorization prior to commencing these activities.

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT**

ADDENDUM "D"

PROJECT EASEMENT

Lease Number OCS-A 0501

This section includes a description of the Project Easement(s), if any, associated with this lease, and the financial terms associated with it. This section will be updated as necessary.

I. Rent

The Lessee must begin submitting rent payments for any project easement associated with this lease commencing on the date that BOEM approves the Construction and Operations Plan (COP) or modification of the COP describing the project easement. Annual rent for a project easement 200 feet wide, centered on the transmission cable, is \$70.00 per statute mile. For any additional acreage required, the Lessee must also pay the greater of \$5.00 per acre per year or \$450.00 per year.

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT**

ADDENDUM "E"

RENT SCHEDULE

Lease Number OCS-A 0501

This section includes a description of the schedule for rent payments that will be determined after the Construction and Operations Plan (COP) has been approved or approved with modifications. This section will be updated as necessary.

Unless otherwise authorized by the Lessor in accordance with the applicable regulations in 30 CFR Part 585, the Lessee must make rent payments as described below.

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

APPENDIX A TO ADDENDUM "C"

Lease Number OCS-A 0501

INCIDENT REPORT: PROTECTED SPECIES INJURY OR MORTALITY

Photographs and/or video footage should be taken of all injured or dead animals, if possible.

Observer's full name and/or Reporter's full name: _____

Date and Time animal observed: _____

Date and Time animal/samples collected: _____

Location of Incident (Latitude/Longitude): _____

Species Identification (closest taxonomic level possible): _____

Photograph/Video footage collected: YES / NO If Yes, was the data provided to NMFS?
YES / NO

Name of vessel, vessel speed at time of incident, and activity ongoing at time of observation
(e.g., transit, survey, pile driving): _____

Environmental conditions at time of observation (i.e., Beaufort sea state, cloud cover, wind
speed, glare): _____

Water temperature (°C) and depth at site of observation: _____

Describe location of animal and events leading up to, including, and after, the incident:

Status of all sound-source use in the 24 hours preceding the incident: _____

Describe all marine mammal, sea turtle, and sturgeon observations in the 24 hours preceding the incident:

Marine Mammal information:

Injuries observed: _____

Condition/description of animal: _____

Other remarks: _____

Date and time incident reported to NMFS Stranding Hotline: _____

Sturgeon Information:

Fork length (or total length): _____ Weight: _____

Condition of specimen/description of animal: _____

Fish Decomposed: NO SLIGHTLY MODERATELY SEVERELY

Fish tagged: YES / NO *Please record all tag numbers.* Tag #: _____

Photograph taken: YES / NO
(please label *species, date, geographic site* and *vessel name* when transmitting photo)

Genetics sample taken: YES / NO

Genetics sample transmitted to: _____ on (mm/dd/yyyy) _____

Sea Turtle Species Information: *(please designate cm/m or inches)*

Weight (kg or lbs): _____

Sex (circle): Male Female Unknown How was sex determined? _____

Straight carapace length: _____ Straight carapace width: _____

Curved carapace length: _____ Curved carapace width: _____

Plastron length: _____ Plastron width: _____

Tail length: _____ Head width: _____

Condition of specimen/description of animal: _____

Existing Flipper Tag Information

Left: _____ Right: _____

PIT Tag #: _____

Miscellaneous:

Genetic biopsy taken: YES / NO

Photos taken: YES / NO

Turtle Release Information:

Date: _____ Time: _____

Latitude: _____ Longitude: _____

State: _____ County: _____

Remarks: (note if turtle was involved with tar or oil, gear or debris entanglement, wounds or mutilations, propeller damage, papillomas, old tag locations, etc.):

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

APPENDIX B TO ADDENDUM "C"

REQUIRED DATA ELEMENTS FOR PROTECTED SPECIES OBSERVER REPORTS

Lease Number OCS-A 0501

Per ADDENDUM "C", 4.4.4, the Lessee must ensure that the protected-species observer record all observations of protected species using standard marine mammal observer data collection protocols. The list of required data elements for these reports is provided below:

1. Vessel name;
2. Observers' names and affiliations;
3. Date;
4. Time and latitude/longitude when daily visual survey began;
5. Time and latitude/longitude when daily visual survey ended; and
6. Average environmental conditions during visual surveys including:
 - a. Wind speed and direction;
 - b. Sea state (glassy, slight, choppy, rough, or Beaufort scale);
 - c. Swell (low, medium, high, or swell height in meters); and
 - d. Overall visibility (poor, moderate, good).
7. Species (or identification to lowest possible taxonomic level);
8. Certainty of identification (sure, most likely, best guess);
9. Total number of animals;
10. Number of juveniles;
11. Description (as many distinguishing features as possible of each individual seen, including length, shape, color and pattern, scars or marks, shape and size of dorsal fin, shape of head, and blow characteristics);
12. Direction of animal's travel – related to the vessel (drawing preferably);
13. Behavior (as explicit and detailed as possible; note any observed changes in behavior); and
14. Activity of vessel when sighting occurred.

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT**

Lease Number OCS-A 0501

CONTACT INFORMATION FOR REPORTING REQUIREMENTS

The following contact information must be used for the reporting and coordination requirements specified in Addendum C, Stipulation 3:

**United States Fleet Forces (USFF) N46
1562 Mitscher Ave, Suite 250
Norfolk, VA 23551
(757) 836-6206**

The following contact information must be used for the reporting requirements in Addendum C, Stipulation 4.4:

Reporting Injured or Dead Protected Species

**NOAA Fisheries Northeast Region's Stranding Hotline
800-900-3622**

All other reporting requirements in Stipulation 4.4

**Bureau of Ocean Energy Management
Environment Branch for Renewable Energy
Phone: 703-787-1340
Email: renewable_reporting@boem.gov**

**National Marine Fisheries Service
Northeast Regional Office, Protected Resources Division
Section 7 Coordinator
Phone: 978-281-9328
Email: incidental.take@noaa.gov**

Vessel operators may send a blank email to ne.rw.sightings@noaa.gov for an automatic response listing all current DMAs.



VINEYARD WIND

ATTACHMENT TO:

SECTION 6 OF APPENDIX A TO THE RFP SITING, INTERCONNECTION, AND DELIVERABILITY

ATTACHMENT 6.2-2 BOEM Letter of Good Standing



United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT

WASHINGTON, DC 20240-0001

NOV 13 2017

Mr. Erich Stephens
Vineyard Wind LLC
700 Pleasant Street, Suite 510
New Bedford, Massachusetts 02740

RE: Letter of Good Standing, Lease OCS-A 0501

Dear Mr. Stephens:

As of the date of this letter, the Bureau of Ocean Energy Management (BOEM) considers lease OCS-A 0501 to be in good standing. There are no outstanding lease obligations and the Office of Natural Resources Revenue has reported that all rental payments have been timely received.

The lease was issued to Offshore MW LLC effective April 1, 2015. On April 29, 2017, BOEM acknowledged that Offshore MW LLC changed its name to Vineyard Wind LLC effective October 17, 2016. BOEM records reflect the following ownership, including all rights, title, and interest, of the subject lease:

Vineyard Wind LLC – 100%

Please contact Ms. Gina Best at (703) 787-1341 or gina.best@boem.gov if you have questions regarding the status of your lease.

Sincerely,

James F. Bennett
Program Manager
Office of Renewable Energy Programs



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.2-3

REDACTED



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.2-4

REDACTED



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.6-1

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.6-2

REDACTED



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.6-3

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.6-4

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.6-5

REDACTED



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.6-6

REDACTED



ATTACHMENT TO:

**SECTION 6 OF APPENDIX A TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY**

ATTACHMENT 6.12-1

REDACTED



SECTION 7 OF APPENDIX A TO THE RFP ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN, AND NEW CLASS I RPS CERTIFICATION

OVERVIEW

Vineyard Wind is the most experienced company permitting offshore wind projects in the US and was the first company to submit a Construction and Operations Plan (COP) to the Bureau of Ocean Energy Management (BOEM) in 2017. As the first 800 megawatt (MW) project (“Vineyard Wind 1”) has progressed through the permitting process, the company has built strong collaborative relationships with federal, state, and local regulators along with a diverse array of stakeholders. Because of its pioneering role, Vineyard Wind has also gained unique insight into the process for permitting offshore wind projects, which is reflected in the permitting plan for Vineyard Wind 2 (the “Project”).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED] A Host Community Agreement (HCA) that is already in place with the Town accommodates the Project and includes clear guidelines and community benefits that facilitate siting and the permitting processes.

Additional factors supporting the successful permitting of the Project, include:

- Vineyard Wind's permitting team, which is comprised of global and national leaders in offshore wind and Massachusetts energy infrastructure permitting;
- A well-sited offshore wind project that avoids environmental impacts to the greatest extent practicable;
- A community outreach approach that has proven effective at building support for offshore wind projects; and
- Several years of regular contact and constructive conversations with the relevant permitting agencies as well as an array of stakeholders.

As further described in this section, these factors will provide significant additional advantages to the Project as it moves forward, and ensure the Project is permitted as planned.

7.1 Provide a list of all the permits, licenses, and environmental assessments and/or environmental impact statements required to construct and operate the project. Along with this list, identify the governmental agencies and States that are responsible for issuing approval of all the permits, licenses, and environmental assessments and/or environmental impact statements. If a bidder has secured any permit or has applied for a permit, please indicate this in the response.

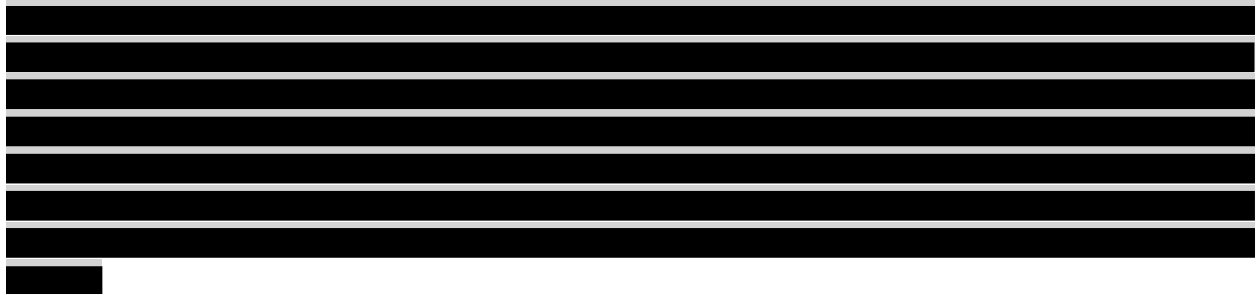
PERMITS AND ASSESSMENTS

Vineyard Wind 2 is comprised of three major elements that determine the scope of federal, state, regional, and local permitting requirements:

1. Project elements located offshore beyond state territorial waters (i.e., beyond three nautical miles [NM] seaward of the low water mark of the shore) are exclusively within federal jurisdiction. This includes the WTG array, the [REDACTED] inter-array cabling, the offshore electrical service platform (ESP), and portions of the [REDACTED] offshore export cables.



2. Project elements located within state territorial limits are subject to state permitting requirements, as well as federal permitting requirements. This includes the [REDACTED] offshore export cables, the [REDACTED] underground onshore export cables, the onshore substation, and a new onshore substation needed to make the grid connection.
3. The underground onshore export cables, the onshore substation, and portions of the offshore export cables, are subject to local and regional reviews by including, but not limited to, town conservation commissions and regional planning commissions.



A summary of all the permits, licenses, and environmental assessments or statements for the Project is provided in **Tables 7.1-1, 7.1-2, and 7.1-3.**

Federal Permits and Approvals

As described in more detail below, the principal federal authorizations and permits required to construct and operate the Project include:

- BOEM's Office of Renewable Energy Programs' approval of Vineyard Wind's COP, along with submission of a Facilities Design Report (FDR) and Fabrication & Installation Report (FIR);
- A permit to construct structures in navigable waters under Section 10 of the Rivers and Harbors Act of 1899, issued by the US Army Corps of Engineers (ACOE);
- A Clean Water Act (CWA) Section 404 permit to discharge dredge or fill into waters of the United States, issued by the ACOE;
- A Clean Air Act (CAA) Outer Continental Shelf (OCS) permit for emissions from vessels and equipment used during construction and operation of the Project, issued by the EPA;
- An Incidental Harassment Authorization (IHA) or Letter of Authorization (LOA) under the Marine Mammal Protection Act (MMPA) for construction-related noise associated with pile installation, issued by the NMFS;
- US Coast Guard (USCG) issuance of Private Aids to Navigation (PATON); and
- FAA determinations of "no hazard," for any structures within FAA jurisdiction (including temporary construction equipment).



Another required permit that does not involve environmental or other reviews before issuance includes:

- A National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater.


The above list does not include reviews that will be conducted by other agencies with which the lead permitting agency consults, as described below.

Table 7.1-1 lists the expected federal permits required for the Project and their status.

Federal Permitting Process

Bureau of Ocean Energy Management: BOEM has jurisdiction under the Outer Continental Shelf Lands Act to issue leases, easements, and rights-of-way (ROWs) for the development of renewable energy on the OCS and to ensure that activities conducted on the OCS are carried out in a manner that adequately addresses environmental protection, safety, protection of US national security, and protection of the rights of others to use the OCS and its resources. BOEM authorizes development on the OCS through its review and approval of a project's Site Assessment Plan (SAP) and COP and will be the lead federal agency for the Project.

A table with 10 rows and 2 columns. The entire content of the table is redacted with black bars.

A SAP describes the initial activities to characterize a site (e.g., installation of meteorological towers and meteorological buoys). 

A table with 4 rows and 2 columns. The entire content of the table is redacted with black bars.

The next major step in the Project's federal permitting process will be preparation and submission of a COP. In approving a COP, BOEM must comply with its obligations under the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), the Migratory Bird Treaty Act (MBTA), the CAA, and the Endangered Species Act (ESA). Thus, BOEM coordinates and consults with numerous other federal agencies, including NMFS, US Fish and Wildlife Service (USFWS), EPA, and the USCG during the review process. When appropriate, BOEM also coordinates with states under the Coastal Zone Management Act (CZMA) to ensure that a project is consistent with state-level coastal zone management plans.



Army Corps of Engineers: Section 10 of the Rivers and Harbors Act of 1899 prohibits the unauthorized obstruction or alteration of any navigable water. A Section 10 permit from the ACOE is needed for the installation of the WTGs and the ESP, the installation of the offshore cable systems, and the cable landfall structures. Section 404 of the CWA prohibits discharges of dredge or fill material into waters of the United States (i.e., waters beyond the three nautical mile limit for state territorial waters). A Section 404 permit from the ACOE is needed because construction will involve dredging and potentially backfilling portions of the seabed associated with the installation of the offshore transmission cable. Like BOEM, the ACOE must comply with its obligations under NEPA, NHPA, MSFCMA, MBTA, and ESA. However, to avoid duplication of effort, the ACOE will likely be a cooperating agency with BOEM through the NEPA process.

Environmental Protection Agency: A CAA permit is required for emissions from vessels and equipment used during construction and operation of the Project on the OCS. OCS sources subject to the permit include any equipment or activity that has the potential to emit any air pollutant. A vessel itself is not considered an OCS source unless it attaches to the seabed, but vessel emissions associated with an OCS source are included in the permit. The EPA will likely coordinate with BOEM to satisfy its obligations under the ESA and other relevant statutes.

National Marine Fisheries Service: An IHA or LOA under the MMPA is necessary for construction, principally because of the potential noise impacts to marine mammals associated with pile driving. Under the MMPA, the noise levels associated with construction have the potential to “harass” marine mammals and, therefore, an authorization is required. [REDACTED]

Federal Aviation Administration: The FAA requires a public notice of the proposed construction of a structure that is more than 200 feet (ft) above ground level or within certain distances of airports. [REDACTED]

[REDACTED] Vineyard Wind will also consult with the US Department of Defense Siting Clearing House with respect to military air traffic.

Coastal Zone Management and Coastal Resources Management Council: The CZMA gives states the authority to review federal actions that impact their coastal uses and/or resources to ensure that such actions are consistent with a state’s federally approved coastal zone management program and policies. The Rhode Island Coastal Resources Management Council (CRMC) and the Massachusetts Office of Coastal Zone Management (CZM) are responsible for implementing the federal consistency review process for Rhode Island and Massachusetts, respectively, pursuant to the CZMA (15 C.F.R. part 930, subpart E).

**Table 7.1-1 Federal Permits for Vineyard Wind 2**

Agency/Regulatory Authority	Permit/Approval	Status
Bureau of Ocean Energy Management (BOEM)	Site Assessment Plan approval	Not required
	Construction and Operations Plan approval	To be filed (TBF)
	National Environmental Policy Act Environmental Review, including: Consultation under Section 7 of the Endangered Species Act with National Marine Fisheries Service and US Fish and Wildlife Service, Coordination with states under the Coastal Zone Management Act, Government-to-Government Tribal Consultation, Consultation under Section 106 of the National Historic Preservation Act, and Consultation with National Marine Fisheries Service for Essential Fish Habitat (EFH).	To be initiated by BOEM
US Environmental Protection Agency	National Pollutant Discharge Elimination System General Permit for Construction Activities	TBF
	Outer Continental Shelf Air Permit	Notice of Intent TBF
US Army Corps of Engineers	Individual Clean Water Act Section 404 (Required for side-casting of dredged material and placement of foundations, scour protection, and cable protection)	TBF
	Rivers and Harbors Act of 1899 Section 10 Permit (Required for all offshore structures and dredging activities)	TBF
US National Marine Fisheries Service	Incidental Harassment Authorization or Letter of Authorization	TBF
US Coast Guard	Private Aids to Navigation authorization	TBF
Federal Aviation Administration	No Hazard Determinations (for activities at construction staging areas and vessel transits, if required)	TBF
MA Coastal Zone Management/ RI Coastal Resources Management Council	Consistency Review pursuant to Coastal Zone Management Act	TBF

State Permits and Approvals

At the state level, Project elements located in Massachusetts waters, as well as onshore elements, are subject to two primary review processes: (1) a broad adjudicatory review by the Energy Facilities Siting Board (EFSB), which can incorporate a request for local zoning relief; and (2) an environmental review under the Massachusetts Environmental Protection Act (MEPA).

Project elements under Massachusetts's jurisdiction will also require review and/or permits from the state's Department of Environmental Protection (MassDEP), Division of Marine Fisheries (DMF), and Department of Transportation. Required consultations with the Massachusetts Natural Heritage and Endangered Species Program, the Massachusetts Historical Commission (MHC), and the



Massachusetts Board of Underwater Archaeological Resources (MBUAR) will be conducted as part of the MEPA review. MHC and MBUAR also issue permits for archaeological investigations and participate in BOEM's Section 106 review.

Table 7.1-2 lists all of the expected state permits required for the Project and their status.

State Permitting Process

Energy Facilities Siting Board: The EFSB reviews proposals to construct certain energy facilities, including large power plants, electric transmission lines, and natural gas pipelines. Pursuant to M.G.L. c. 164, § 69J, no applicant shall commence construction of a “facility” unless a petition for approval of construction has been granted by the EFSB. A jurisdictional “facility” includes “a new electric transmission line having a design rating of 69 kilovolts or more and which is one mile or more in length on a new transmission corridor” (M.G.L. c. 164, § 69G). The EFSB also has the ability to grant a Certificate of Environmental Impact and Public Interest (approval under M.G.L. c. 164, §§ 69K-69O), which has the effect of granting other state, regional, and local permits.

For the Project, Vineyard Wind would need to file a petition with the EFSB to construct the transmission line (i.e., export cable) and onshore substation pursuant to M.G.L. c. 164, § 69J (Section 69J Petition). Vineyard Wind would also need to file related petitions with the Department of Public Utilities (DPU) for approval of the construction of transmission lines and for relief from local zoning requirements. Vineyard Wind expects the DPU petitions to be consolidated for review with the Section 69J Petition.

Massachusetts Environmental Policy Act: MEPA jurisdiction is triggered when an entity undertakes certain activities in Massachusetts that require one or more state permits. In this instance, MEPA jurisdiction only applies to those portions of the Project located within Massachusetts, including its territorial waters. Therefore, the Project components subject to MEPA review are the onshore and offshore cable system out to the mapped three-nautical mile state territorial sea boundary. MEPA review would consist of an Environmental Impact Report (EIR), whose scope is limited to those aspects of the Project within the subject matter of any required state permits that are likely, directly or indirectly, to cause damage to the environment. Vineyard Wind would initiate MEPA review by filing an Environmental Notification Form (ENF) with the MEPA office.


Table 7.1-2 State Permits for Vineyard Wind 2

Agency/Regulatory Authority	Permit/Approval	Status
Massachusetts Environmental Policy Act Office	Certificate of Secretary of Energy and Environmental Affairs on Final Environmental Impact Report	Environmental Notification Form To be filed (TBF)
Massachusetts Energy Facilities Siting Board	M.G.L. c. 64, § 69J Approval	TBF
Massachusetts Department of Public Utilities	M.G.L. c. 164, § 72, Approval to Construct M.G.L. c. 40A, § 3 Zoning Exemption (if needed)	TBF TBF
Massachusetts Department of Environmental Protection	Chapter 91 Waterways License/Water Quality Certification (Section 401 of the Clean Water Act)	TBF
Massachusetts Division of Marine Fisheries	Letter of Authorization and/or Scientific Permit (for surveys and pre-lay grapnel run)	TBF
Massachusetts Department of Transportation	Road Crossing Permits and Rail Division Use and Occupancy License (if needed)	TBF
Massachusetts Board of Underwater Archaeological Resources	Special Use Permit	TBF
Natural Heritage and Endangered Species Program	Conservation and Management Permit (if needed)	TBF
Massachusetts Historical Commission	Field Investigation Permits (980 C.M.R. § 70.00)	TBF

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7.2 Provide the anticipated timeline for seeking and receiving the required permits, licenses, and environmental assessments and/or environmental impact statements. Include a project approval assessment which describes, in narrative form, each segment of the process, the required permit or approval, the status of the request or application and the basis for projection of success by the milestone date. All requirements should be included on the project schedule in Section 10.

PERMITTING TIMELINE

[REDACTED] The permitting will allow for construction to proceed in one cycle or in stages. Therefore, as with Vineyard Wind 1, the permits will accommodate buildout of the Project's maximum capacity regardless of the commercial scenarios that lead to the full buildout.



The required federal, state, regional, and local reviews and permits for the Project, together with an explanatory discussion, are provided in response to **Question 7.1**. The Project's permitting schedule is described in more detail below. A brief overview of the timeline is shown in **Table 7.2-1**, and all permit requirements are included in the Project schedule included in **Section 9**.

[REDACTED]

[REDACTED]

Factors supporting the above permitting timeline include:

- **Significant Survey Work Already Completed:** [REDACTED] Additional offshore G&G surveys are currently underway, which will augment the information gained through prior activities to support the timely permitting process for the Project.
- **The Lease Area is Well-Understood from an Environmental Assessment Perspective:** Vineyard Wind has already conducted a thorough review of the available baseline data and available data on potential impact areas (e.g., marine mammals, birds, etc.). Additional avian and fisheries surveys are currently underway in support of the Project's permitting process.
- **Pre-filing Consultation with Agency and Non-Governmental Stakeholders:** Prior to filing a COP, Vineyard Wind will consult with fisheries stakeholders and regulators regarding the Project's proposed layout (these consultations are already underway), as well as meetings with federal agencies regarding the requirements for assessing the Project's cumulative impacts. These early meetings will address two of the most important issues facing all offshore wind projects (i.e., fisheries and cumulative impacts) and ensure the federal, state, and local permit filings address the concerns of key stakeholders.
- **HCA with the Town of Barnstable:** Vineyard Wind's existing relationship and agreement with the Town of Barnstable positions the Project ahead of others with respect to building trusted relationships with local officials, building community support, and securing the necessary permits and approvals in a timely manner.
- **Lessons Learned from Vineyard Wind 1.** Vineyard Wind is the only developer with firsthand experience permitting an offshore wind project in federal waters for Massachusetts. The lessons learned from that experience have been built into the



Project's permitting strategy and timeline, which afford ample time for stakeholder consultation and feedback prior to COP submission and throughout the permitting process.

- **Extensive Local Outreach and Network of Supporters.** Vineyard Wind has undertaken an extensive local public outreach and community participation program in support of Vineyard Wind 1. This has resulted in considerable public debate about the net benefits of offshore wind for local communities, and a broader understanding of offshore wind and the various related issues by local residents than would otherwise be the case. It has also resulted in a strong network of local supporters, who provide third party validation and an important channel for communicating accurate information regarding issues and questions of concern, as well to the benefits of offshore wind projects.

Federal Permitting Timeline

Bureau of Ocean Energy Management

Once filed, BOEM conducts technical and environmental reviews of the COP, which is coordinated through BOEM's NEPA process. The agency then issues a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS).

Army Corps of Engineers

The ACOE will coordinate its reviews of Vineyard Wind's Section 10 and Section 404 permits with BOEM's NEPA process. The ACOE will actively participate in BOEM's process to allow it to adopt the Final EIS and the findings of associated reviews.

Environmental Protection Agency

Upon receipt of the NOI, the EPA would designate the Corresponding Onshore Area (COA) and publish a consistency update to the OCS Air Regulations (40 C.F.R. Part 55).

The EPA reviews the application for completeness within approximately 30 days and then prepares a draft permit and Statement of Basis. The draft permit is then available for public comment for 30 days. Following the close of the comment period, the EPA addresses comments and issues a final permit. The permit becomes effective approximately 30 days after it is finalized.

In issuing a permit, the EPA has an obligation to comply with the ESA. However, to avoid duplication of effort, the EPA typically relies upon BOEM's ESA assessments and consultations.



National Marine Fisheries Service

Under the MMPA, an IHA is to be issued 120 days after an application is considered complete. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Federal Aviation Administration and US Coast Guard

Both the FAA and USCG will be involved in Project development and ongoing permitting activities with Vineyard Wind and through coordination with BOEM. [REDACTED]

[REDACTED]

State, Regional, and Local Timelines

As discussed in response to **Question 7.1**, Massachusetts, regional, and local approvals are required for portions of the offshore cables, as well as the onshore components, over which Massachusetts and its regional and local entities have jurisdiction. Massachusetts, regional, and local approvals are not required for Project elements located in federal waters.

Energy Facilities Siting Board

The EFSB process will be initiated by Vineyard Wind with the filing of its petition. A 14 to 15 month review period is reasonably expected because the Baker Administration has streamlined the process by eliminating the time-consuming “bench or issues memo” step, thus shortening the previous process by several months. In conjunction with the EFSB petition filing, Vineyard Wind will file the DPU Section 72 and 40A petitions listed in **Table 7.1-2**. Review of these petitions is normally consolidated with the EFSB review. After filing the EFSB petition, the next step in the process is a public hearing and public comment period. The EFSB will then review all comments and request clarification or further information from Vineyard Wind. [REDACTED]

[REDACTED]

[REDACTED]

Massachusetts Environmental Policy Act

[REDACTED] From there, an ENF certificate is issued, after which Vineyard Wind will submit a Draft EIR. Following public review and comment on the Draft EIR and the issuance of a Secretary’s Certificate outlining the scope for a Final EIR, Vineyard Wind will submit a Final EIR. [REDACTED]

[REDACTED]

Massachusetts Permits

Massachusetts permits cannot be issued until the EFSB and MEPA reviews are completed. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



Coastal Zone Management and Coastal Resources Management Council

The federal consistency review process will be initiated by Vineyard Wind after the COP has been filed with BOEM. CZM and CRMC review must be completed within six months unless the parties agree to stay the six-month review period in favor of a longer review period. [REDACTED]

agree to stay the six-month review period in favor of a longer review period. [REDACTED]
[REDACTED]
[REDACTED]

[illegible][illegible]

7.3 Provide information detailing prior experience in environmental impact assessment processes.

ENVIRONMENTAL IMPACT ASSESSMENT EXPERIENCE

Vineyard Wind's permitting team is comprised of global and national leaders in offshore wind and energy infrastructure permitting in southern New England. The permitting team is led by Rachel Pachter, who previously served as the permitting manager for the only US offshore wind project in federal waters to ever receive full permits. Rachel is also leading the permitting for Vineyard Wind 1. The permitting team also includes specialized consultants in environmental impacts assessments, marine biology, hydrodynamic modeling, marine mammals, marine acoustical modeling, avian studies, visual studies, cultural resources, marine navigation, and fisheries.

The permitting team's unique depth and breadth of experience comprises substantial local environmental impact assessment experience with the following:

- A Large-scale offshore wind energy projects, including in Nantucket Sound and the Massachusetts Wind Energy Area (MA WEA);
- Offshore power cables from Cape Cod to both Nantucket and Martha's Vineyard;
- A number of major utility transmission and substation projects on Cape Cod;
- Several utility gas pipeline projects in and along roadways on Cape Cod;



- Third-party environmental compliance monitoring for the Block Island Wind Farm and other Massachusetts energy projects;
- Major utility infrastructure projects in southeastern Massachusetts (one of which involved completing the full Federal Energy Regulatory Commission NEPA review process and included extensive marine elements); and
- Multiple marine and coastal projects in Massachusetts and Rhode Island.

Attachment 7.3-1 further describes the permitting team’s qualifications, successes, and environmental impact assessment experience.

Further, Vineyard Wind’s lead environmental consultant, Epsilon Associates, has been the primary consultant on Vineyard Wind 1 and brings considerable experience and understanding of key issues to the current Project. In addition to its work on Vineyard Wind 1, Epsilon has been involved in more than 25 EFSB cases and hundreds of MEPA and Conservation Commission reviews. Personnel from Epsilon Associates have also been involved in nearly 20 major energy projects in Massachusetts. These projects include renewable energy, gas generating facilities, as well as a proposed liquefied natural gas facility. Epsilon has vast experience in environmental permitting services and support, including air permitting, coastal and marine permitting for offshore infrastructure and submarine cables, environmental compliance monitoring, and expert witness testimony. In particular, Epsilon Associates has experience preparing permit applications for state agencies, including the EFSB, CZM, MassDEP, and the Rhode Island CRMC.

Vineyard Wind’s permitting team and Epsilon have the benefit of the environmental assessment and permitting experience gained developing Vineyard Wind 1. This experience is currently unparalleled in the offshore wind sector and has yielded critical insights into the project development and permitting process, that will be leveraged to support the successful permitting of the Project.

7.4 Please provide information on any fisheries mitigation measures designed to avoid, minimize and mitigate impacts on the commercial fishing industry, including but not limited to, progress on the following practices: fisheries outreach and communication plan; project siting and design; and financial compensation.

FISHERIES MITIGATION MEASURES

Vineyard Wind has a strong understanding of the commercial fishing sector’s concerns. As detailed in this section, the Project is responsive to these concerns as well as stakeholder input the company has previously received. The response to **Question 7.5.iv** also outlines a set of preliminary measures aimed at avoiding, minimizing, and mitigating potential impacts to fisheries, invertebrates, and their habitats during the Project’s construction, operations, and decommissioning phases.

Fisheries Outreach and Communication Plan

Vineyard Wind is committed to working with fisheries stakeholders so that both the wind and fishing industries can grow and thrive together. This commitment is long-standing, and will continue through the Project’s design and permitting, construction, operations, and decommissioning phases. Building trusted and mutually respectful communication with the diverse fishing communities in the



region can be challenging and takes years to cultivate. For these reasons, early, often, transparent, and pro-active communication and engagement with the fishermen with whom Vineyard Wind shares the waters will always be a top priority.

Fisheries Outreach

Vineyard Wind has met with hundreds of fisheries stakeholders since 2010, including fishermen from various gear types, fishing advocacy organizations, and local fisheries groups who are most likely to be affected by offshore wind development on the OCS. Vineyard Wind was the first US developer to engage a fisheries representative, and today has formal relations with four fisheries representatives who represent a variety of gear types and home ports.

Vineyard Wind has a full-time Fisheries Liaison Officer, who has deep knowledge of fishing practices and issues, and an extensive network of personal relations with a wide variety of fishermen in the region. This full-time Fisheries Liaison Officer is supported by a number of fishing liaison consultants, who take on special tasks such as managing communications and observations offshore during vessel operations, or seeking information on fishing in a specific location or gear type.

Vineyard Wind's extensive outreach and engagement efforts include communication, relationship building, and collaboration with groups such as:

- Anglers for Offshore Wind
- Cape Cod Fishermen's Alliance
- Commercial Fisheries Center of Rhode Island
- Coonamessett Farm Foundation
- Eastern Fisheries
- Falmouth Fishermen's Association
- Fishing Partnership Support Services
- Hercules SLR
- KSJ Seafood Inc.
- Long Island Commercial Fishing Association
- Massachusetts DMF
- Massachusetts Fisheries Institute
- Massachusetts Fisheries Working Group
- Massachusetts Fishermen's Partnership and Support Services
- Massachusetts Lobstermen's Association
- Martha's Vineyard Fishermen Preservation Trust
- Mid-Atlantic Fisheries Management Council



- National Academy of Sciences, Offshore Renewable Energy development and Fisheries Conference
- New Bedford Port Authority
- Northeast Fisheries Science Center
- New England Fishery Management Council
- Northeast Fishery Sector Managers VII, VIII, X, XI, XIII
- Northwest Atlantic Fisheries Organization
- New England Aquarium
- Recreational Fishing Alliance
- Responsible Offshore Development Alliance (RODA)
- Responsible Offshore Science Alliance (ROSA)
- Rhode Island Department of Environmental Management
- Rhode Island Fisheries Advisory Board (FAB)
- Rhode Island Marine Fisheries Council
- Rhode Island Salt Water Angler's Association
- Scallop Industry Advisors Meeting
- School for Marine Science and Technology (SMAST, UMass Dartmouth)
- Seafreeze
- Stoveboat- Saving Seafood
- Town Dock
- Woods Hole Oceanographic Institution

Vineyard Wind is a member of, and active participant in, the Massachusetts Fisheries Working Group on Offshore Wind Energy and Habitat Working Group on Offshore Wind Energy; attends the Rhode Island FAB meetings and has had numerous communications with its chairman, Lanny Dellinger; and is a member of the New York State Energy Research and Development Authority Fisheries Technical Working Group. Vineyard Wind is also in contact with the relevant federal (e.g., BOEM, USCG, and NMFS) and state agencies in Massachusetts, Rhode Island, and New York on fishery-related matters. Vineyard Wind is also in near daily communication with individual fishermen from the commercial (fixed and mobile gear) and recreational fishing sectors.

Fisheries Communication Plan

Vineyard Wind employs a variety of outreach and engagement approaches to communicate and maintain relationships with fisheries stakeholders. These include informal conversations with existing contacts, expanding the company's network of Fisheries Representatives, attending fishing industry trade events and recreational fishing shows, and working with the various associations and organizations that represent fishing interests.



To guide the company's outreach and engagement efforts with the fishing community, Vineyard Wind has developed a Fisheries Communication Plan (FCP; see **Attachment 7.4-1**). The is based on best practice guidelines and feedback from the fishing community. The document is publicly available on Vineyard Wind's website (<https://www.vineyardwind.com/fisheries/>) and updated on a regular basis.

The FCP has six main objectives:

1. Enhance the safety of all who work on the ocean in the wind farm, cable corridors, and landfall location;
2. Seek stakeholder concerns and strive for open, transparent resolution of those concerns;
3. Quantify and avoid or mitigate adverse impacts on fisheries;
4. Understand, as fully as possible, historic, current, and potential fisheries in the affected areas;
5. Identify gaps in information relating to fish and fisheries to inform research and monitoring strategies; and
6. Demonstrate decisions, that may impact the fishery industry, are based on best available and most credible information.

Vineyard Wind remains committed to robust stakeholder outreach and consultation with a diverse range of fisheries stakeholders. As the Project moves forward, the company will continue its practice of working with fisheries stakeholders to collaboratively identify and implement appropriate mitigation measures and supporting independent research to address data gaps.

Project Siting and Design

Vineyard Wind has taken steps to site and design a Project that minimizes impacts to the commercial fishing sector and allows fishing and other vessels to transit the Lease Area in a safe and efficient manner. Vineyard Wind has already started extensive outreach with fisheries stakeholders, before the Project's formal permitting process begins, in order to obtain input on the Project's preliminary design, including the design elements discussed below, and anticipates further refining the Project's design based on stakeholder input.

Project Site

The Project will be installed in Lease Area OCS-A 0501, which is located in the MA WEA. The MA WEA was developed by BOEM, with significant stakeholder input through a multi-year process, with the objective of minimizing and avoiding impacts to the marine environment and existing fisheries. For example, after considering stakeholder comments, BOEM modified the MA WEA to exclude some areas of important habitat and fisheries value. BOEM then conducted an Environmental Assessment of Commercial Wind Leasing and Site Assessment Activities, which resulted in a Finding of No Significant Impact. Siting choices associated with these processes were the first step to minimize and avoid impacts to fish, invertebrates, and fisheries during Project construction, operation, and decommissioning.



Wind Turbine Generator Spacing and Layout

The Project's preliminary layout reflects commitments Vineyard Wind has made to the commercial fishing industry as well as feedback from fishery stakeholders. First, the Project's WTG rows are oriented in an east-west direction to allow current commercial fishing practices to continue in the Lease Area. Second, Vineyard Wind has aligned the Project's WTG rows with the WTG rows in the adjacent lease area controlled by Bay State Wind in order to facilitate safe and efficient transit as well as commercial fishing activities across lease areas. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Transit Corridors

Vineyard Wind has been actively engaged in the stakeholder processes regarding determining transit corridors through the WEA. Vineyard Wind notes that the USCG is expected to release a Port Access Route Study regarding this question in September 2019, and the Project will be able to accommodate any recommendations or requirements resulting from that study.

WTG Foundations

Vineyard Wind is considering opportunities to maximize fisheries value through the design of tower bases and installation of scour protection material, such that the design results in improved quality of fishery habitat. For example, Vineyard Wind has received feedback from recreational fishermen that they would prefer more "structure" for scour protection (e.g. a variety of rock sizes). At the same time, commercial fishermen, particularly mobile gear fishermen, are concerned about snagging fishing gear on the scour protection and would prefer as little scour protection as possible. Vineyard Wind will work with commercial and recreational fishermen to design foundations and scour protection for the Project that, to the greatest extent practicable, is responsive to both groups' requests.

Cable Siting, Protection, and Installation

[REDACTED]

[REDACTED] As with Vineyard Wind 1, to minimize potential environmental and fisheries impacts, the Project's cable route will be refined through micro-siting informed by survey data and fishermen's input, and further screening of the proposed landfall location will be conducted. Hard bottom habitat will be avoided wherever possible (e.g., through micro-siting) and the cable will be buried at appropriate depths (i.e., 5-8 ft) whenever possible to reduce the risk of fishing gear loss due to snags on cables and cable protection like concrete mattresses.

A cable burial depth of 5-8 ft will also minimize potential impacts associated with electromagnetic fields. In addition, cable burial techniques that minimize suspended sediments will be selected to limit potential short-term impacts on species and habitats during the Project's construction phase. Finally, Vineyard Wind is also considering the use of virtual AIS to remotely alert vessels to cable locations and further reduce the risk of fishing gear snags. Vineyard Wind is also consulting with fishermen in order to determine optimal cable protection methods, to avoid fishing gear snags in unforeseen circumstances where cable burial to target depths is not able to be achieved.



Scheduling Site Assessment and Construction Activities

Vineyard Wind will further mitigate potential impacts to commercial fishermen by developing site assessment and construction schedules that, to the greatest extent practicable: (1) minimize conflicts with fishing activities; and (2) provide fisheries stakeholders advanced notice of planned activities in Lease Area OCS-A 0501 and along the OECC. Vineyard Wind will develop these schedules in consultation with its Fisheries Representatives and potentially impacted commercial fishermen.

For the Project's construction phase, specifically, the schedule will include, to the extent possible, methods such as alternating construction sites or schedules to minimize impacts to fishermen and other OCS user groups. It is recognized that different gear types, species, and fishing communities may have different and sometimes conflicting seasonal needs. In such cases, Vineyard Wind will work with all impacted fishing communities to identify a construction schedule that minimizes impacts to all or most users, to the extent possible, and that avoids or minimizes conflict among user groups.

Fisheries Monitoring and Fisheries Studies

Independent research to address data gaps is essential to understand and minimize impacts to fisheries potentially attributable to offshore wind. That's why Vineyard Wind fully supports independent research efforts and is itself contributing directly to such efforts through data collection and sharing with academic institutions and experts.

In 2017, Vineyard Wind entered into an agreement with UMass Dartmouth's School for Marine Science and Technology (SMAST) to develop a fisheries survey and monitoring program capable of supporting long-term, regional studies and monitoring potential construction impacts on fisheries resources in Lease Area OCS-A 0501. To develop this framework, SMAST held multiple workshops with regional fishermen to identify priority areas for fisheries and ecological impact assessment.

Based on the input received from more than 75 commercial and recreational fishermen who attended these workshops, and input from academics and government resource agencies, SMAST recommended a number of fisheries monitoring and research methods, including:

- Research procedures that encompass an array of species, ranging from fish caught with fixed gear to those caught with trawls to samplings of juvenile life stages;
- Integrated methodologies that will support additional and/or on-going fisheries research;
- Use of a "nested and modular" study design that can be used for both the relatively small area studied during construction monitoring but also utilized effectively for longer-term studies across the wider region;
- Creation of a standing committee/working group of commercial fishermen to review findings and, if needed, make recommendations based on initial findings while studies are underway; and
- Use of local fishermen to provide vessels in support of the studies.



In April 2019, Vineyard Wind announced it would implement all SMAST recommendations to guide fisheries monitoring during project construction and initiate longer-term studies as part of a regional approach to fisheries studies. This comprehensive research effort, which is led by SMAST on behalf of Vineyard Wind, is already underway for with studies initiated in Q2 2019.

Overall, the SMAST studies seek to further public understanding of the effects of offshore wind development and inform future permitting and public policy decisions regarding wind energy facility siting. The studies will help establish a body of knowledge to the benefit of the US offshore wind industry and fishing community. Vineyard Wind will publicly share all data and reports resulting from the SMAST studies and all subsequent projects in Vineyard Wind's lease areas on the company's website so it is readily available to federal and state agencies, academic institutions, and other interested parties. Vineyard Wind also anticipates publicly sharing data collected from any other Project-related fisheries surveys and monitoring it undertakes or funds.

Mitigation and Financial Compensation

As already noted, BOEM undertook considerable effort to avoid high value fishing areas in selecting what eventually became the Lease Area OCS-A 0501; this process has subsequently been validated by reports that indicate that the fisheries landing value from the Lease Area is one of the lowest of all existing or proposed lease areas. After BOEM effectively avoided significant fishing areas, Vineyard Wind then took steps to minimize fisheries impacts, as described above. For example, the east-west WTG orientation, and design elements aimed at minimizing the potential loss of fishing gear due to snags on foundation structures, associated cables and cable protection, or related structures. Other examples include prioritizing cable burial to a depth that allows continued fishing over the cable, and limiting the use of cable protection such as concrete mattresses. Despite these substantial efforts to avoid and minimize impacts to fisheries, there may remain some possible impacts to fisheries for which mitigation, in forms including financial compensation, is appropriate.

Vineyard Wind is currently finalizing procedures for Vineyard Wind 1 to provide fair compensation to fishermen for gear loss. It has been determined that an independent, third party will evaluate fishing gear loss claims and, when deemed appropriate, make payments from funds provided by Vineyard Wind and held in escrow or trust. These procedures can be extended to the Project or a separate gear loss compensation mechanism can be created. The final procedures, along with guidance in determining appropriate levels of compensation, will be determined through detailed discussions with the fishing community and relevant agencies.

Vineyard Wind has received feedback from fishermen that the independent third-party review process should include claims assessment by a regional fisherman from the gear type in question. These individuals could potentially be compensated by Vineyard Wind on a per-claim basis. Fishermen have also told the company they prefer the same format for gear loss/compensation across all lease areas and would prefer to have one "place" or organization handling claims regardless of which WTG, cable, survey vessel, etc. was involved. Vineyard Wind supports such a mechanism and would participate in further conversations on this topic in the Massachusetts Fisheries Working Group and other forums.



Beyond gear loss, it is too early in the Project development process to determine if a fisheries compensation plan is warranted and what type of compensation would be most effective. Compensatory mitigation is the last step and only employed to the extent that proposed avoidance and mitigation measures prove insufficient.

7.5 Provide a preliminary environmental characterization of the site and project, including both construction and operation. In addition, the bidder should identify environmental impacts associated with the proposed project and any potential impediments to development. A plan to avoid, minimize, or mitigate such impacts or impediments should also be included. The analysis should address each of the major environmental areas presented below, for the proposed project.

PRELIMINARY ENVIRONMENTAL CHARACTERIZATION

The preliminary environmental characterization provided in response to this question describes the Project's Offshore Wind Generation Energy facility site, OECC, proposed landfall location, onshore cable route, and onshore substation from an environmental assessment perspective. This assessment is largely based on the environmental analysis Vineyard Wind submitted as part of the COP for Vineyard Wind 1, which is in the same lease area, and supplemented by the company's ongoing survey and assessment work.² Proposed and potential avoidance, minimization, and mitigation measures for each of the major environmental areas are also discussed.

Vineyard Wind's Project Development Philosophy

Vineyard Wind's approach to avoiding, minimizing, restoring, and offsetting the potential environmental impacts of offshore wind can be summarized as follows: careful siting and collaborative development. Careful siting entails developing offshore wind projects so they avoid potential impacts to the greatest extent possible from the outset. Collaborative development means working with a range of stakeholders before and during a project's permitting process to refine layouts and design elements to further avoid impacts and/or minimize the risk of impacts when they are unavoidable. Collaborative development also means working with stakeholders to craft solutions that mitigate and offset a project's likely potential impacts. This builds on the approach Vineyard Wind employed with Vineyard Wind 1, and reflects the lessons learned developing the country's first commercial-scale offshore wind farm.

Designing a project which avoids or minimizes potential impacts and incorporates stakeholder concerns is an iterative, data-driven process. The quality of this process is directly dependent on the experience, knowledge, and skills of those involved. Vineyard Wind's permitting team has significant experience in data collection, environmental studies, marine and terrestrial environmental impact assessment, and permitting (see **Attachment 7.3-1**). What's more, the experience that Vineyard Wind has already gained from Vineyard Wind 1 will be directly applicable to the Project and further enhance the team's ability to develop, permit, and deploy a well-sited offshore wind farm with limited environmental impact.

² The complete environmental analysis can be found in Volume III of the COP, which is available on BOEM's website (www.boem.gov/Vineyard-Wind/).



Vineyard Wind is committed to working with environmental stakeholders and taking steps to implement appropriate mitigation measures to offset Project impacts that cannot be avoided through careful siting and collaborative design. This commitment is perhaps best exemplified by the agreement that Vineyard Wind has entered into with the Natural Resources Defense Council, National Wildlife Federation, and Conservation Law Foundation to ensure protection of the North Atlantic Right Whale (NARW; *Eubalaena glacialis*) during construction and operation of Vineyard Wind 1 (see **Attachment 7.5-1**). Among other things, this historic agreement clearly demonstrates that Vineyard Wind's project development philosophy is firmly centered on the responsible and sustainable use of the nation's offshore wind resources.

Project Area

The Project is comprised of both offshore and onshore elements. The offshore elements are the Offshore Wind Generation Energy Facility site and OECC, and the onshore elements are the landfall location where the offshore export cable comes to shore, onshore cable routes, and the onshore substation location. Each of these is described, in turn, below.

Offshore Wind Generation Energy Facility Site

The Offshore Wind Generation Facility site for the Project is located in Lease Area OCS-A 0501. Vineyard Wind has a strong understanding of Lease Area OCS-A 0501, [REDACTED] and has conducted a thorough review of available baseline data to support the permitting reviews for Vineyard Wind 1. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

While no energy facility has zero impact, the MA WEA, where Lease Area OCS-A 0501 is located, is an environmentally superior location to build an offshore wind project in terms of minimizing potential impacts and providing maximum benefits. The MA WEA was developed and refined by the BOEM with significant stakeholder input with the objective of minimizing and avoiding impacts to the marine environment and fisheries. For example, the MA WEA was designed taking bird activity south of Nantucket Island into account. During the Area Identification process (2012) for the MA WEA, BOEM excluded some of the OCS lease area blocks that overlapped with high value sea duck habitat and areas that, if ultimately developed with commercial wind energy facilities, would likely cause substantial conflict with commercial and recreational fishing activities.³ BOEM then conducted an Environmental Assessment of Commercial Wind Leasing and Site Assessment Activities, which resulted in a Finding of No Significant Impact. Siting choices associated with these processes were the first step to minimize and avoid impacts to fisheries, marine mammals, and other resources and habitats.

³ See U.S. Department of Interior, Bureau of Ocean Energy Management (2012). Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore Massachusetts, Environmental Assessment, pg. 10. Available at: https://www.boem.gov/uploadedFiles/BOEM/BOEM_Newsroom/Library/Publications/2012/BOEM-2012-087.pdf.



[REDACTED]

Landfall Location

[REDACTED]

Onshore Export Cable Route

[REDACTED]

The planned route will avoid crossing sensitive resource areas, such as streams or other wetlands, to the greatest extent feasible. [REDACTED]

Substation Location

[REDACTED]

MAJOR ENVIRONMENTAL AREAS

i. Air quality

Air Quality

The Project's construction is expected to have minor impacts on air quality, as detailed in **Table 7.5-1** below. The Project's operation, however, will result in significant air quality and climate change benefits as detailed in **Section 13** and is a net benefit to the environment.

**Table 7.5-1 Air Quality Impacts and Proposed Mitigation Measures**

Potential Impacts and Impediments to Development	Short-term air emissions will come primarily from vessels used in Lease Area OCS-A 0501 during construction and operations. These air emissions are unlikely to have any effect on onshore areas due to the Lease Area's location and the fact that prevailing winds are from the west. Short-term air emissions are also not anticipated to result in any violation of Massachusetts or National Ambient Air Quality Standards.
Avoidance, Minimization, or Mitigation Measures	Air emissions from the Project are likely to be minimized by using low-sulfur fuels and other best management practices for engine operations. Air quality impacts will be further mitigated and minimized through the US Environmental Protection Agency's Outer Continental Shelf Air Permit process under 40 C.F.R. 55. [REDACTED] [REDACTED] [REDACTED]

ii. Community

Community

The area where the [REDACTED] is located qualifies as an Environmental Justice (EJ) community, as defined in Massachusetts Environmental Justice Executive Order No. 552 (2014), based on income and minority population. Vineyard Wind has not identified any special or adverse impacts to these communities resulting from the Project or Project-related activities.

Table 7.5-2 Community Impacts and Proposed Mitigation Measures

Potential Impacts and Impediments to Development	The Project is not anticipated to create disproportionately high or adverse health or environmental effects on minority and low-income populations.
Avoidance, Minimization, or Mitigation Measures	In accordance with Massachusetts' Environmental Justice (EJ) policy, Vineyard Wind's community outreach plan includes specific engagement measures for EJ communities to learn about and provide input to the Project (see Attachment 7.6-1).

iii. Cultural resources

Cultural Resources

Cultural resources are an important concern both offshore and onshore. Several federally recognized tribes will be involved in the Project's review through the federal Section 106 process. Vineyard Wind has already conducted extensive outreach with these tribes and provided briefings to those interested in all fieldwork conducted for Vineyard Wind 1. Vineyard Wind has started a new round of outreach with these tribes, as well as the Chappaquiddick Wampanoag Tribe, and will continue its



outreach and fieldwork as the Project moves forward. **Table 7.5-3** summarizes how Vineyard Wind will assess the potential for impacts to cultural resources and how appropriate avoidance, minimization, and mitigation measures will be identified.

Table 7.5-3 Potential Cultural Resources Impacts and Mitigation Measures

<p>Potential Impacts and Impediments to Development</p>	<p>The Public Archaeology Lab (PAL) will complete an archaeological due diligence review of potential onshore cable routes and the onshore substation site. [REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
<p>Avoidance, Minimization, or Mitigation Measures</p>	<p>PAL will conduct a reconnaissance level archaeology survey of terrestrial areas where Project impacts are possible, including completion of background research and filing of an archaeological permit application with Massachusetts Historical Commission (MHC). Areas determined to have moderate or high archaeological sensitivity will be subject to intensive archaeological field investigations or monitored during construction. Offshore surveys planned for the field campaign in support of the Project's Construction and Operations Plan will include coverage of all areas where bottom disturbance could occur during construction and operation activities. Survey results will be reviewed by a Qualified Marine Archaeologist prior to any ground disturbance.</p> <p>Avoidance, minimization, and mitigation measures for terrestrial and submarine historical and archaeological resources will be determined in consultation with the consulting parties including, but not limited to, the Bureau of Ocean Energy Management, MHC, Massachusetts Board of Underwater Archaeological Resources, and tribal representatives through the Section 106 process.</p>

iv. Fishery, avian, and marine mammal impacts

Fishery and Invertebrate Impacts

A number of finfish and invertebrate species occur in and around Lease Area OCS-A 0501 and the OECC, including many commercially important species. A list of major fish and invertebrate species potentially occurring in these areas can be found in Table 6.6-1 of Volume III of the COP for Vineyard Wind 1, which is included as **Attachment 7.5-2**. The COP for Vineyard Wind 1 also identifies Essential Fish Habitat in both benthic and substrate water column habitats for 47 fish and invertebrate species. Further desktop review, surveys, and consultations with fisheries stakeholders are currently being conducted to confirm fish and invertebrate assemblage as well as temporal and spatial variations in fish, invertebrates, and their habitats in and around the Offshore Wind Energy Generation facility site and the OECC.

The overall impact of the Project on finfish, invertebrates, and their habitats is anticipated to be short-term, localized, and largely confined to the installation of Project components. Population level impacts are not anticipated. This assessment is supported by the Draft Environmental Impact



Statement (DEIS) issued by BOEM in December 2018 for Vineyard Wind's first 800 MW project,⁴ and will be confirmed after additional desktop research, surveys, and fisheries stakeholder consultation are completed. Vineyard Wind has adopted or is considering a set of avoid/minimize/mitigate measures for the Project to reduce impacts to fisheries resources and other sensitive species, as summarized in **Table 7.5-4**. Additional measures will be considered as the Project moves through the design and permitting phase.

Table 7.5-4 Fishery and Invertebrate Impacts and Proposed Mitigation Measures

Potential Impacts and Impediments to Development	<ul style="list-style-type: none"> Fish species may be impacted by underwater noise during pile installation and possible siltation during cable installation. Fishery habitat may also be impacted during construction and operation of the Project. Commercial fishing may be impacted by construction activity during installation and by the presence of the Project during operations. The overall impact of the Project on finfish, invertebrates, and their habitats is anticipated to be short-term, localized, and largely confined to the installation of Project components. Population level impacts are not anticipated.
Avoidance, Minimization, or Mitigation Measures	<ul style="list-style-type: none"> Underwater noise during pile installation will be mitigated through a soft start, which allows fish time to move away from the area, and/or other methods to be determined based on knowledge gained in the field and consultations with agencies and stakeholders. Cable burial techniques will be selected to minimize suspended sediments during installation. The majority of the cables will be installed in coarse grained sediment that would settle down quickly after installation, which reduces impacts from suspended sediments in the water column. Additionally, offshore cables have also been sited to avoid areas sensitive habitats to the greatest extent feasible. Vineyard Wind does not plan to restrict fishing or transit in the Lease Area, except for required safety zones during construction or maintenance. WTG layout and spacing will incorporate preferences of commercial fishing interests. In addition, Vineyard Wind will implement a pre- and post-construction fisheries monitoring program to measure the Project's effect on fisheries resources. Cable burial for the inter-array cables and export cables will allow for continued ground fishing during Project operations. Vineyard Wind will prioritize cable burial over the use of any cable protection that could impede fishing activity.

As noted in response to **Question 7.4**, Vineyard Wind has undertaken substantial effort to meet with and understand the concerns of various fisheries stakeholders, including commercial fishing interests. The planning for the Project, including key elements of its design, reflects the feedback that Vineyard Wind has received from the fishing community. Vineyard Wind will continue working with fisheries stakeholders to refine the Project's design and identify appropriate additional mitigation measures before and during the permitting process.

⁴ Available at: <https://www.boem.gov/Vineyard-Wind/>.



Avian Impacts

Occurrence of birds in the MA WEA and surrounding area is well-documented, with multiple studies providing important information on avian presence and abundances at a series of useful scales. Based on the assessment completed for Vineyard Wind 1, the species most likely to occur within Lease Area OCS-A 0501 and surrounding waters include 22 species of gulls and terns, 17 species of sea ducks, nine species of shearwaters and petrels, four species of loons and grebes, and three species of gannets and cormorants (see **Attachment 7.5-3**).

During construction, operation, and decommissioning, coastal birds may be exposed during migration and marine birds during all seasons. However, based on the assessment completed for Vineyard Wind 1, coastal birds are expected to have insignificant-to-unlikely behavioral vulnerability to construction activities and unlikely-to-potential vulnerability to WTGs during operation. Depending on the species, marine birds are expected to have a range of behavioral vulnerability and a range of exposure to an offshore wind project located in Lease Area OCS-A 0501. Potential impacts will be minimized through the mitigation measures summarized in **Table 7.5-5** below.

Currently available information indicates that the Project will have negligible-to-minor impacts on bird species likely to occur in Lease Area OCS-A 0501 and the OECC. This assessment is supported by the DEIS for Vineyard Wind 1.

Table 7.5-5 Avian Impacts and Proposed Mitigation Measures

Potential Impacts and Impediments to Development	The primary potential impacts to avian species are mortality or injury due to collision with the WTGs. Federally listed endangered species may have limited exposure to the Project, which would largely be restricted to few individuals during the migration periods. Impacts to these species are expected to be unlikely or insignificant.
Avoidance, Minimization, or Mitigation Measures	<ul style="list-style-type: none"> • Location: The offshore location of the Lease Area avoids potential impacts to many avian species. • Lighting: Vineyard Wind will use best management practices to reduce lighting, which can attract birds, as much as is practicable during construction and operation and follow Federal Aviation Administration recommendations to use red-flashing aviation lights (that fully extinguish), which are favored over steady burning and/or white lights, during operation. [REDACTED]

Marine Mammal Impacts

Twenty-six species of marine mammals occur at least occasionally in the MA WEA. Of those, species that commonly occur in or around the Offshore Wind Energy Generation facility site and the OECC, include:

- NARW,
- Humpback Whale (*Megaptera novaeangliae*),
- Fin Whale (*Balaenoptera physalus physalus*),
- Sei Whale (*Balaenoptera borealis*),



- Minke Whale (*Balaenoptera acutorostrata acutorostrata*),
- Long-Finned Pilot Whale (*Globicephala melas*),
- Atlantic White-Sided Dolphin (*Lagenorhynchus acutus*),
- Short-Beaked Common Dolphin (*Delphinus delphis*),
- Bottlenose Dolphin (Western North Atlantic Offshore Stock),
- Harbor Porpoise (*Phocoena phocoena*),
- Harbor Seal (*Phoca vitulina concolor*), and
- Gray Seal (*Halichoerus grypus*).

All marine mammals are protected by the MMPA (16 U.S.C. § 1361 *et seq.*). Four large whale species that could occur in and around the Offshore Wind Energy Generation facility site and the OECC-NARW, Fin Whale, Sei Whale, and Sperm Whale- are listed as endangered, and therefore, are afforded additional protection under the ESA (16 U.S.C. § 1531 *et seq.*).

Sound and vessel interactions are the primary potential concerns for marine mammals. For all Project phases, disturbance to marine mammals may result from short-term, localized noise and increases in vessel traffic. However, the noise produced by pile driving is of greatest concern as it is the loudest activity expected to occur during the Project's construction phase. While Vineyard Wind is considering monopile and jacket foundations for the WTGs, the majority of the WTG foundations are expected to be monopiles; a jacket foundation has been proposed for the ESP.

It is estimated that each monopile will typically take less than approximately three hours to install; jacket pin piles will take less time to install than monopiles. It is anticipated that up to two monopile foundations and a maximum of one complete jacket could be installed per day. There will be many days where no pile driving occurs, creating periods without pile driving noise throughout the construction period. Some habituation and/or adaptation to pile driving noise may occur. Vineyard Wind is also looking into alternate foundation types that do not involve pile driving and assessing their feasibility based on site conditions and other factors. Further, Vineyard Wind is in discussions and analysis with hammer manufacturers on potential advancements in hammer technologies to reduce noises in the frequency bands associated with the species specific to the MA WEA.

While it is premature to discuss all potential mitigation measures at this stage of the Project's development, a number of measures and initiatives have been identified. Measures such as the establishment of clearance and monitoring zones, pile driving soft-start procedures, vessel speed restrictions and avoidance measures, noise reduction technology, and the use of protected species observers and underwater vocalization detection systems (i.e., Passive Acoustic Monitoring [PAM]) are expected to be part of the final mitigation plan. **Table 7.5-6** below summarizes potential mitigation measures for the Project. Vineyard Wind will work collaboratively with BOEM, the National Oceanic and Atmospheric Administration (NOAA), and other stakeholders to further develop mitigation measures that effectively minimize and avoid the risk of potential impacts to marine mammals from noise generated during the construction and operation of the Project.



Appropriate mitigation and best management practices must consider both practicability for a large-scale project and effectiveness at avoiding and minimizing impacts to marine mammals. Practicability includes safety, logistical ability, project integrity, environmental impacts, and the potential to increase the Project's construction duration, which may have secondary impacts on other Project resources. Options will be modeled and weighed against biological value and effectiveness relative to practicability. BOEM and NOAA will be engaged in this iterative and adaptive process that will also incorporate lessons learned from Block Island offshore wind farm's five-turbine demonstration project located near the Massachusetts/Rhode Island Wind Energy Area and Vineyard Wind's first 800 MW project.

Table 7.5-6 *Marine Mammal Impacts and Potential Mitigation Measures*

<p>Potential Impacts and Impediments to Development</p>	<ul style="list-style-type: none"> • Construction: Disturbance is expected to primarily result from pile driving noise; however, there is also potential for vessel interaction. For federally listed whale species, there are no anticipated losses of individuals, but disturbance of individuals may occur. • Operation: Current literature indicates noise generated from the operation of wind farms is minimal and only localized avoidance behaviors are expected, if at all; acclimation to the noise over time may occur.
<p>Avoidance, Minimization, or Mitigation Measures</p>	<ul style="list-style-type: none"> • Measures that Vineyard Wind expects to employ include the establishment of clearance and monitoring zones, pile driving soft-start procedures, vessel speed restrictions and avoidance measures, and the use of protected species observers. Project vessels will also comply with the National Marine Fisheries Service Regional Viewing Guidelines while in transit. Vineyard Wind will use the learnings and experience gained on Vineyard Wind 1 to develop a mitigation plan for the Project. • Enhanced mitigation measures for the North Atlantic Right Whale may include time of year restrictions on pile driving, passive acoustic monitoring (PAM), extended PAM clearance zones, and aerial or boat surveys across a clearance zone prior to the start of piling. Final measures will be determined in consultation with federal and state agencies and environmental stakeholders. • Vineyard Wind is considering a number of noise mitigation technologies. Options under consideration include equipment selection that is optimized for sound reduction (Integrated Pile Installer), underwater noise abatement systems (e.g., AdBm encapsulated air-filled resonators), and/or bubble curtains to reduce sounds levels. Vineyard Wind will collaborate with BOEM and the National Oceanic and Atmospheric Administration to integrate practicable technology choices in equipment, mitigation, and monitoring to meet the necessary standards for permitting and successful consultations. • Vineyard Wind is also supporting the development of technologies to reduce impacts to marine mammals through the \$3 million Wind and Whales fund established in connection with Vineyard Wind 1. This effort will benefit all future projects including the one proposed here.

Vineyard Wind is also considering a set of enhanced mitigation measures for the NARW to further reduce exposure and potential impacts. For example, during certain times of the year, Vineyard Wind may implement, among other things, 24/7 PAM, extended PAM clearance zones, and aerial or boat surveys across a clearance zone prior to the start of piling. Such measures are similar to those



included in the agreement, announced in January 2019, between Vineyard Wind and the Natural Resources Defense Council, National Wildlife Federation, and Conservation Law Foundation whereby Vineyard Wind committed to implement voluntary, enhanced measures to protect the NARW (see **Attachment 7.5-1**). Enhanced mitigation measures for the Project will be developed in consultation with BOEM, NOAA, state agencies, and environmental stakeholders, and benefit from lessons learned during Vineyard Wind 1.

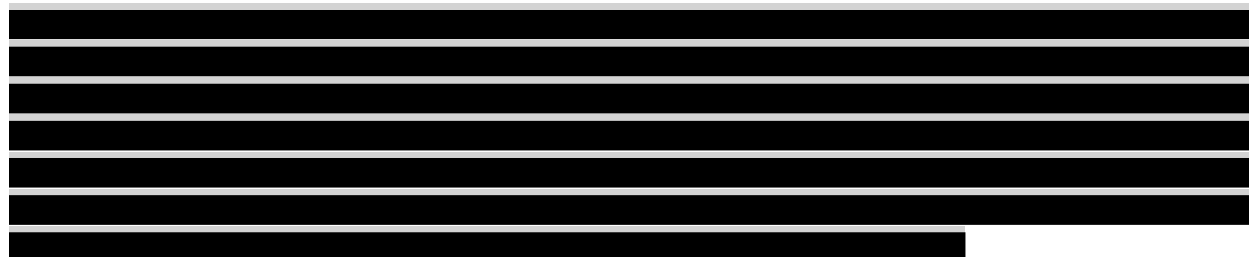
v. *Other ecological and biological resources (including endangered species)*

Other Ecological and Biological Resources

Other Ecological and Biological Resources relevant to the Project are bats, sea turtles, and terrestrial fauna.

Bats

The Project will be located approximately 23 mi from Martha's Vineyard. As such, the overall exposure of bat species to the Offshore Wind Generation Energy facility is expected to be insignificant-to-unlikely. With respect to Northern Long-eared Bats (*Myotis septentrionalis*), based on BOEM's Biological Assessment for Vineyard Wind 1, given the rarity of the bat in the region, its ecology, and habitat requirements, it is extremely unlikely this species would traverse portions of Lease Area OCS-A 0501. Onshore, Vineyard Wind will adhere to Northern Long-eared Bat ESA 4(d) Rule, and any applicable local regulations for this and other endangered or threatened species.



Sea Turtles

Sea turtles are reptiles that use marine habitats throughout the tropical and temperate regions of the world's oceans, in addition to adjacent terrestrial habitats (i.e., sandy beaches) for nesting. Seven species of sea turtles occur worldwide, all of which are protected under the ESA. However, only four species of sea turtles are likely to occur in and around the Offshore Wind Generation Facility site, OECC, and New England waters: Loggerhead Sea Turtle (*Caretta caretta*), Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Green Sea Turtle (*Chelonia mydas*), and Leatherback Sea Turtle (*Dermochelys coriacea*). Sea turtle presence in the MA WEA is primarily limited to summer and fall months as sea turtles use warmer water habitats in the winter months. In addition, no nesting sites are expected near the proposed landfall location for the Project.

Best available science indicates that sea turtle hearing is less than that of marine mammals; and therefore, the proposed mitigation measures for marine mammals provide even more conservative measure for sea turtles. These measures are summarized in **Table 7.5-6**.



Terrestrial Fauna

[REDACTED]

vi. Landscape and visual

Landscape and Visual

The area of potential visual effects for the Project includes Martha's Vineyard, Nantucket Island, the Elizabeth Islands, associated smaller islands, and a portion of Cape Cod. The islands are generally characterized by low elevation, with undulating hills and shallow depressions. Elevations range from sea-level to approximately 110 ft above sea-level in the central portion of Martha's Vineyard and Nantucket. Most of the oceanfront is fringed by barrier beaches and sand dunes. The overall aesthetic character of Martha's Vineyard and Nantucket is that of a small-town landscape with minimal urban development. The horizon, looking south towards the ocean, is typically defined by a view of the open ocean. Lights from boats and ships, and often nearby shores, can be seen from all locations of the coastline on the ocean horizon on most nights.

The Project is located approximately 23 mi from the nearest shoreline on Martha's Vineyard, 25 mi from Nantucket, and south of Vineyard Wind 1. At this distance, only a portion of the WTGs will be visible from land-based vantage points and are likely to be considered visually subordinate to the landscape. Normal atmospheric phenomena, including fog, particulate matter, smog or any combination thereof, will further reduce the potential visibility of the WTGs. An assessment of visibility for Vineyard Wind 1 indicates that for Nantucket the closest WTG (14.9 miles) may be visible 50% of annual daylight hours; however, this does not include all visibility reducing factors such as sea salts, wind, and other factors. For this Project, the expected visibility would be even less since the closest WTG is approximately 23 mi from Martha's Vineyard and 25 mi from Nantucket. [REDACTED]

[REDACTED] The WTGs will not be visible from Cape Cod or any other mainland locations.

[REDACTED]



Table 7.5-7 Landscape and Visual Impacts and Proposed Mitigation Measures

<p>Potential Impacts and Impediments to Development</p>	<ul style="list-style-type: none"> • Portions of Project's wind turbine generators (WTGs) and night lighting may be visible under certain conditions from some land-based vantage points on Martha's Vineyard and Nantucket. • Areas in the immediate vicinity of the Project's onshore substation may experience limited visual impacts.
<p>Avoidance, Minimization, or Mitigation Measures</p>	<ul style="list-style-type: none"> • Distance from shore: Due to the distance of the WTGs from shore, the curvature of the Earth obstructs the visibility of the Project in its entirety (e.g., from Cape Cod) and partially obstructs the visibility from other locations. At no point, can any of the WTGs be viewed at their full height from shore. Meteorological and atmospheric conditions will further limit the visibility of the WTGs. • WTG design and appearance: The WTGs are uniform in shape, color, size of rotor blades, nacelles, and towers to minimize visual contrast. The white to light gray color selected for all WTG components is designed to minimize contrast with the sky under most conditions. <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>

vii. Oceanography

Oceanography

The Project will be located in Lease Area OCS-A 0501, which is located in the open Atlantic Ocean south of Martha's Vineyard and Nantucket. [REDACTED]

[REDACTED] The dominant wind and sea direction is from the southwest and south with a secondary component from the northwest. Sediment is transported by longshore drift and tidal currents, with episodic storm events causing more severe erosion and distribution. Tides are semi-diurnal with two high and two low tides occurring daily. The Project is not expected to impact oceanography, and the measures described in **Table 7.5-8** will ensure minimal disturbance to and protection of the ocean's resources.

**Table 7.5-8 Oceanography Impacts and Proposed Mitigation Measures**

Potential Impacts and Impediments to Development	The Project is not expected to impact oceanography.
Avoidance, Minimization, or Mitigation Measures	<ul style="list-style-type: none"> • An overarching Safety Management System, Oil Spill Response Plan, waste management plans, emergency response plan as well as others will be in place to protect ocean resources. • WTGs will be widely spaced with Project structures impacting less than 1% of the Offshore Wind Energy Generation facility site where they will be installed.

viii. Sound, noise and vibration

Sound, Noise and Vibration

The Project's noise level impacts are primarily limited to the construction phase and result from pile-driving activities undertaken to install the Project's foundations. As already discussed, the underwater noise generated by pile driving has the potential to impact marine mammal and other marine species in the vicinity of these activities. Other potential sound-producing activities during the Project's construction phase are vessel traffic, cable installation, and survey operations. The potential sound-producing activities for the Project's operations phase are WTG operation, vessel traffic, and survey operations. There is a low risk, however, that the Project's operations and maintenance activities would result in potential noise impacts, including acoustic impacts to marine mammal and other marine species.

Table 7.5-9 Sound, Noise and Vibration Impacts and Proposed Mitigation Measures

Potential Impacts and Impediments to Development	<ul style="list-style-type: none"> • Construction: Noise during construction, particularly during pile driving, is addressed in response to Question 7.5.iv, and will be analyzed in-depth through the permitting process. • Operation: Current literature indicates noise generated from the operation of wind farms is minimal and only localized avoidance behaviors are expected; acclimation to the noise over time may occur.
Avoidance, Minimization, or Mitigation Measures	<ul style="list-style-type: none"> • Noise mitigation measures are addressed in response to Question 7.5.iv. • Appropriate monitoring and mitigation procedures, like those required in the lease agreement for Lease Area OCS-A 0501 for site assessment, would be utilized to minimize potential impacts from survey operations.



ix. Socio-economic and land use

Socio-economic and Land Use

[REDACTED]

[REDACTED]

[REDACTED]

x. Traffic and transportation (including Navigation)

Traffic and Transportation

The majority of the Project will be located offshore in Lease Area OCS-A 0501. The most significant operational impact in the offshore environment is related to navigation in the Offshore Wind Energy Generation facility site. [REDACTED]

[REDACTED]

[REDACTED]

**Table 7.5-10**

includes an overview of potential traffic, transportation, and navigation-related impacts as well as proposed mitigation measures.

Table 7.5-10 Traffic and Transportation Impacts and Proposed Mitigation Measures

<p>Potential Impacts and Impediments to Development</p>	<ul style="list-style-type: none"> • Offshore: Project-related activities may impact navigation capacity and vessels transiting to and from ports along the south coast of Massachusetts, Cape Cod, and the Islands. Congestion in the port(s) could also occur during the construction phase. Temporary restrictions on non-Project-related vessels transiting in the immediate vicinity of the Project's construction vessels may be necessary. Aside from this, no significant disruptions to navigation patterns or aids to navigation are anticipated during the construction. During the operations phase, the Project may increase risks to navigation. However, the structures will also be considered Private Aids to Navigation (PATONS). • [REDACTED]
<p>Avoidance, Minimization, or Mitigation Measures</p>	<ul style="list-style-type: none"> • The Project is sited within the Massachusetts Wind Energy Area, which, after public comment, was developed to avoid shipping lanes and United States Coast Guard (USCG)-designated Traffic Separation Schemes. [REDACTED] • To minimize hazards to navigation, all Project-related vessels, equipment, and appurtenances will display the required navigation lighting and day shapes. Notices to Mariners (NTMs) will be distributed to notify recreational and commercial vessels of their intended operations to/from and within Lease Area OCS-A 0501. Vineyard Wind's FCP will keep relevant parties informed (see Attachment 7.4-1). • Vineyard Wind will continue working with ferry operators, harbor pilots, other vessel operators, the Harbor Development Commissions, the Harbor Masters, USCG, and other entities to ensure disruption to commercial vessel traffic and navigation is minimized to the greatest extent practicable. Vineyard Wind has also engaged with the marine pilots to coordinate installation vessel approaches, as required by state and federal law, and to minimize impacts to commercial vessel traffic and navigation. A traffic management plan will be developed for harbor activities. • To aid mariners navigating Lease Area OCS-A 0501, WTGs and the electrical service platform will contain fog horns and be lit, marked, and maintained as PATONs in reference to International Association of Lighthouse Authorities guidance. NTMs will be distributed to notify recreational and commercial vessels of construction activities. • [REDACTED]



xi. Water resources (including quality and flood risk)

Water Resources

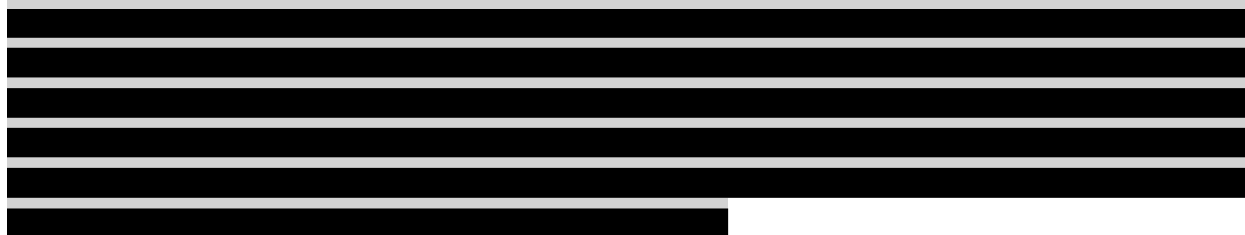
The Project is not expected to have any significant environmental or biological impacts related to offshore water resources during either the construction or operational phases as detailed in **Table 7.5-11**. As noted in response to **Question 7.5.vii**, multiple plans, pertaining to either the construction or operation of the Project, or both, will be in place to ensure protection of the ocean resources, including an Oil Spill Response Plan, waste management plans, an emergency response plan, and an overarching Safety Management System.

Certain construction activities, such as cable installation, may have limited, temporary, and small-scale impact to water quality via sediment resuspension and dispersion. In most cases, during installation of the offshore cable system, mobilized sediment will not be transported far by the currents and will settle rapidly. Based on sediment dispersion modelling for Vineyard Wind 1, maximum deposition is typically less than 0.2 inches (in).

Table 7.5-11 Water Resources Impacts and Proposed Mitigation Measures

<p>Potential Impacts and Impediments to Development</p>	<ul style="list-style-type: none"> • Pile driving, offshore cable installation, horizontal directional drilling (HDD), installation of scour protection, and dredging may impact offshore water resources through sediment resuspension and dispersion. Impacts will be short-term and localized. Based on sediment dispersion modelling, maximum deposition associated with cable installation is typically less than 0.2 in. • Routine releases from vessels, bilge water, engine cooling water, deck drainage and/or ballast water are expected. Such releases would quickly disperse, dilute, and biodegrade so that impacts to offshore water resources would be minimal. • [REDACTED]
<p>Avoidance, Minimization, or Mitigation Measures</p>	<ul style="list-style-type: none"> • Cable installation methods, such as HDD and using the least environmentally impactful offshore cable installation techniques (such as a jet plow or similar), will be employed to avoid and minimize potential impacts. • Multiple plans will be in place to ensure protection of the ocean resources including an Oil Spill Response Plan, waste management plans, emergency response plans, and an overarching Safety Management System. • Offshore export cables do not contain any fluids. • [REDACTED]

The Project is not anticipated to impact access to or the quality of any onshore water resources, including but not limited to wetlands, and wetland soils, waterbodies, watercourses, groundwater, drinking water, and public water supplies. [REDACTED]



7.6 Provide documentation identifying the level of public support for the project including letters from public officials, newspaper articles, etc. Include information on specific localized support and/or opposition to the project of which the bidder is aware. Provide copies of any agreements with communities and other constituencies impacted by the project, and a stakeholder map with a plan for community engagement activities. Please discuss the status of the stakeholder plan.

Vineyard Wind's community outreach work has been underway for a decade and has fostered strong community support for offshore wind. As a result of these efforts, Vineyard Wind is viewed by many as a trusted community partner. Vineyard Wind 1 enjoys substantial public support. Vineyard Wind 2 will benefit greatly from this existing base of support. The company is also confident in its ability to continue to successfully engage with local communities on Cape Cod, Martha's Vineyard, and Nantucket and secure public support for the Project.

COMMUNITY OUTREACH PLAN

Vineyard Wind has developed a community outreach plan (the "Plan") for the Project, included as **Attachment 7.6-1**. The Plan builds on the experience gained developing the company's first Massachusetts project and provides a high degree of assurance that potentially impacted communities will support it. As detailed below, the community outreach plan includes stakeholder maps for each of the major stakeholder groups identified and describes community engagement strategies for the Project's design and permitting, construction, and operations phases.

This Plan defines stakeholders as individuals, institutions, groups, or communities that may be directly or indirectly affected by Project-related activities or have an interest in them. This diverse group spans several states and is comprised of communities or individuals and their formal and informal representatives, including national or local government authorities, elected officials, community organizations, public interest groups, and others.

These stakeholders are categorized into one of five primary stakeholder groups:

- Federal, State, and Local Government Entities
- Local Communities
- Fisheries and Marine Users
- Business, Organized Labor, Non-Profit, and Other Interest Groups
- Tribes



While the Plan includes a stakeholder mapping exercise for fisheries stakeholders, engagement and communication with these stakeholders is primarily be managed through Vineyard Wind's FCP (see **Attachment 7.4-1**). The Plan does not include supply chain stakeholders, which are managed through the Project's procurement process (see **Section 8**).

As detailed in the Plan, Vineyard Wind's approach to community outreach is to provide stakeholders regular and meaningful opportunities to offer input into the project development process and to develop community benefits on a collaborative basis. For example, during the design and permitting phase for Vineyard Wind 1, Vineyard Wind has:

- Provided ample opportunity in multiple public forums for interested stakeholders to learn about the project, ask questions, and share feedback;
- Responded to concerns raised by fisheries and marine users stakeholders by, among other things, making changes to the project's design and agreeing to implement fisheries monitoring studies recommended by SMAST;
- Entered into an historic agreement with environmental organizations to secure additional protections for the NARW during project construction; and
- Negotiated an HCA with the Town of Barnstable that not only supports Vineyard Wind 1 project but this Project as well.

The company's hands-on collaborative approach to community outreach has proven successful in Vineyard Wind 1, and a substantially similar approach will be implemented for Vineyard Wind 2. The Project also stands to reap significant benefits from Vineyard Wind's early and on-going outreach efforts and the trust the company has built along the way by following through on its commitments and responding to stakeholder concerns. Finally, the community outreach plan is a dynamic document that will be revisited and updated as the Project moves forward to ensure it remains relevant and responsive to the interests of new and existing stakeholders.

Status of Community Engagement Activities

Vineyard Wind's outreach efforts have intensified significantly in the past three years as Vineyard Wind 1 has moved through the design and permitting phase. The company is in daily contact with a wide array of federal, state, fisheries, community, and environmental stakeholders. [REDACTED]

[REDACTED] These meetings are in addition to regular calls and emails that Vineyard Wind has with these stakeholders.

[REDACTED]

[REDACTED]



Furthermore, most of the learnings and benefit of fisheries outreach related to Vineyard Wind 1 can and will be applied to Vineyard Wind 2. [REDACTED]

Support for Vineyard Wind in the Community

Vineyard Wind has been working for the better part of a decade to build support for the country's first commercial-scale offshore wind farm. Behind Vineyard Wind's outreach efforts is a dedicated outreach team comprised largely of community organizing and campaign veterans who have spent years working for environmental non-profits, community organizations, elected officials, and political and advocacy campaigns in and around Massachusetts.

The support letters included as **Attachment 7.6-3** speak to the success of Vineyard Wind's community outreach efforts and sincere commitment to working with local communities to develop well-sited offshore wind projects. These letters come from a variety of stakeholders, including state legislators, town managers, chambers of commerce, business development groups, solar companies, environmental organizations, and private citizens in Massachusetts and Rhode Island. Excerpts from some of the support letters are included below:

"Vineyard Wind has demonstrated its willingness and commitment to developing community benefits on a collaborative basis, listening to community concerns, and developing offshore wind in a manner that delivers significant benefits to the Commonwealth."

- Mark Ells, Barnstable Town Manager

"The creation of a major new industry such as offshore wind in the public domain is a major undertaking for sure. It is impossible to predict any and all circumstances that will occur as we launch this new industry. For that reason, we believe that Vineyard Wind is an excellent partner. They have demonstrated a sound commitment to incumbent industries, the environment, and minimizing impacts to the ocean environment. We believe they will continue this commitment throughout the project's development and operation."

- Wendy Northcross, CEO, Cape Cod Chamber of Commerce

"[We have] carefully followed and been impressed by Vineyard Wind's efforts to mitigate project impacts and address community concerns."

- Moncrieff Cochran, Executive Director, Cape Cod Climate Change Collaborative

"We are pleased to see that Vineyard Wind has made every effort to reduce the environmental impacts on local communities and to address the concerns of those in the fishing industry who feel they might be adversely affected. Vineyard Wind has listened to these concerns and taken steps to alleviate them."

- Dorothy McIver, Greening Greenfield



“Vineyard Wind is committed to responsible renewable energy project development as evidenced by the recently announced agreement with environmental organizations to protect the critically-endangered North Atlantic right whale.”

- Alex Papali, Clean Water Action

Vineyard Wind 1 has also been formally endorsed by the Association to Preserve Cape Cod (APCC).⁵ At a press conference announcing APCC’s support, Executive Director Andrew Gottlieb noted that “Vineyard Wind has chosen to get out in front of potential problems and effects, to meet with stakeholders early, to work to understand concerns and has done a serious job in managing project impacts.”⁶

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Building Pathways South, a collaboration between several building trades councils and The Women’s Fund of Southeastern Massachusetts, notes in a support letter that “Vineyard Wind has demonstrated its commitment to offshore wind bringing union jobs to Southeastern Mass through signing [project labor agreements] for both its first and second projects” (see **Section 14**). Vineyard Wind was also awarded the John A.S. McGlennon Award for Corporate Leadership the Environmental Business Council in recognition of the company’s foresight, leadership, and commitment in bringing the nation’s first commercial-scale offshore wind Project to Massachusetts and New England.⁸

Finally, Vineyard Wind staff spend a great deal of time in the community organizing, attending, speaking at, and sponsoring events. Vineyard Wind believes this kind of engagement is not only important to build support for offshore wind projects but is a necessary part of being a good corporate citizen. For example, this year alone, Vineyard Wind has hosted 12 community events and Vineyard Wind staff have presented at and/or attended another 48. Vineyard Wind’s quarterly newsletters, included as **Attachment 7.6-4**, showcase the range of events that staff at all levels participate in on a regular basis. These include career fairs for high school students, speaking at community roundtables on climate change, sponsoring fisheries-related trade shows, and organizing events aimed at increasing consumer awareness around renewable energy and electric vehicle transport solutions. A summary of the community outreach events Vineyard Wind has either hosted, presented at, or attended between January and July 2019 is included as **Attachment 7.6-5**.

⁵ Vineyard Wind (2019). Association to Preserve Cape Cod announces support for wind energy project, moves on climate. Press Release. December 19, 2018. Available at : <https://www.vineyardwind.com/news-and-updates/2018/12/20/association-to-preserve-cape-cod-announces-support-for-wind-energy-project-moves-on-climate>.

⁶ *Ibid.*

[REDACTED]

[REDACTED]

[REDACTED]

⁸ Environmental Business Council of New England, Inc. (2019). Annual EBEE Awards. June 19, 2019. Available at : <https://ebcne.org/events-programs/ebec-awards-ceremony/> (accessed August 1, 2019).



Vineyard Wind in the Media

Vineyard Wind's offshore wind development efforts have attracted significant media coverage, the vast majority of which has been positive. News stories of note discuss Vineyard Wind 1's competitive pricing, community agreements, achievement of important project milestones, and the recent announcement by a WTG manufacturer to locate its US headquarters in Boston. A selection of news stories and letters to the editor are included as **Attachment 7.6-6**.

COMMUNITY AGREEMENTS

Host Community Agreement

Vineyard Wind has entered into an HCA with the Town of Barnstable, which will host onshore components for both of Vineyard Wind's projects (see **Attachment 6.2-3**). The HCA commits Vineyard Wind to certain protection and benefits requested by the Town to offset or mitigate any potential impacts associated with hosting offshore wind project infrastructure. [REDACTED]

[REDACTED]

[REDACTED]

Community Benefits Agreement

Vineyard Wind will continue its partnership with Vineyard Power Cooperative (Vineyard Power), a 501(c)12 non-profit community-owned energy cooperative on Martha's Vineyard. The company first began collaborating with Vineyard Power in 2011. The partnership was formalized in 2015 with the signing of the first, federally recognized offshore wind Community Benefit Agreement (CBA) in connection with Vineyard Wind 1. Among other things, the CBA gives Vineyard Power lead responsibility for aspects of Vineyard Wind's community outreach efforts and aims to bring tangible value from offshore wind to Martha's Vineyard and the region. Overall, this partnership has been very effective and significantly enhanced local community input into the project design process.

7.7 Provide documentation demonstrating that the project was or will be qualified as New Class I Renewable Portfolio Standard Eligible Resource under M.G.L. c. 25A, § 11F, and 225 CMR 14.00.

QUALIFYING AS A CLASS I RENEWABLE RESOURCE

Vineyard Wind 2 is a new offshore wind generation resource located within the ISO-NE Control Area that will begin operating after December 31, 1997 and generate electricity using wind energy as its fuel source. The Project will therefore qualify as a "New Class I Renewable Portfolio Standard Eligible Resource" as defined under M.G.L. c. 25A § 11F and 225 C.M.R. 14.00. Vineyard Wind will provide documentation demonstrating such qualification at the appropriate time as per the regulations.



7.8 All bidders must include sufficient information and documentation that demonstrates that the bidder will utilize an appropriate tracking system to ensure a unit-specific accounting of the delivery of Offshore Wind Energy Generation, to enable the Department of Environmental Protection, in consultation with DOER, to accurately measure progress in achieving the commonwealth's goals under chapter 298 of the acts of 2008 or Chapter 21N of the General Laws. The RECs associated with Offshore Wind Energy Generation must be delivered into the Distribution Companies' NEPOOL GIS accounts.

TRACKING SYSTEM

Vineyard Wind will utilize the New England Power Pool Generation Information System (NEPOOL GIS) as the tracking system to ensure a unit-specific accounting of the delivery of Offshore Wind Energy Generation, to enable MassDEP, in consultation with Massachusetts Department of Energy Resources, to accurately measure progress in achieving the Commonwealth's goals under chapter 298 of the acts of 2008 or Chapter 21N of the General Laws. Additionally, Vineyard Wind hereby certifies that the Renewable Energy Credits (RECs) associated with the Offshore Wind Generation will be delivered into the Distribution Companies' NEPOOL GIS accounts according to the terms specified in any power purchase agreement.

7.9 Identify any existing, preliminary or pending claims or litigation, or matters before any federal agency or any state legislature or regulatory agency that might affect the feasibility of the project or the ability to obtain or retain the required permits for the project.

CLAIMS OR LITIGATION

There are no existing, preliminary, or pending claims or litigation, or matters before any federal agency or any state legislature or regulatory agency that might affect the feasibility of the Project or the ability to obtain or retain the required permits for the Project.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.3-1

REDACTED



ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.4-1 Fisheries Communication Plan

Vineyard Wind Fisheries Communication Plan

Revised August 2019

I. Introduction

Vineyard Wind's Fisheries Communication Plan (FCP) is a living document that began in 2011 in order to develop strategies to improve communication with fishermen potentially affected by the development of offshore wind projects. The document continues to evolve with continuous feedback and guidance from fishermen, fishing organizations, and regulatory agencies. The increased participation from the fishing industry will help us to reduce user conflict, improve project design, and build a better understanding between the two industries.

If you would like to receive updated versions of this FCP when they become available, or have any suggestions on how to improve this plan please send an email to fisheries@vineyardwind.com.

II. Vineyard Wind's Lease Areas

a. Overview

Vineyard Wind holds two lease areas for wind energy development on the Outer Continental Shelf (OCS): Lease Area OCS-A 0501 and Lease Area OCS-A 0522. As shown in Figure 2.1, both areas are in the Massachusetts Wind Energy Area (MA WEA). The MA WEA was designated by the Bureau of Ocean Energy Management (BOEM), with significant stakeholder input, including the BOEM MA Renewable Energy Taskforce (made up of local and state elected officials in Massachusetts and Rhode Island), the MA Fishery Working Group (FWG)¹, and the MA Habitat Working Group (HWG)² with the intention towards minimizing and avoiding impacts to the marine environment. For example, after considering stakeholder comments, BOEM modified the MA WEA to exclude an area of high fisheries value so as to reduce potential conflict with commercial and recreational fishing activities. Siting choices were considered to minimize and avoid potential impacts to environmental and fisheries resources from offshore wind development on the OCS.

b. Lease Area OCS-A 0501

Lease Area OCS-A 0501 is located approximately 12.4 nautical miles (NM) from the southeast corner of Martha's Vineyard and a similar distance from the southwest side of Nantucket. The Lease Area comprises more than 260 square miles (sq. mi) and is approximately 8.7 NM wide and 26 NM long. Water depths range from about 121-197 feet (ft), gradually increasing as distance from land increases. The Lease Area has high wind speeds, excellent seafloor conditions, moderate water depths, and reasonable proximity to multiple grid connection locations in an area of high electrical load and a need for new generation capacity.

¹ The FWG is made up of fishermen, fisheries scientists, and other interested parties. Early meetings addressed usage of the potential wind areas by various gear types as well as fisheries science. The FWG, convened by the State of Massachusetts, continues to meet and engage in offshore wind issues.

² The HWG is made up of NGOs, scientists, agencies and other interested parties. Early meetings addressed issues such as marine mammal and avian use of the potential wind areas. The HWG, convened by the State of Massachusetts, continues to meet and engage in offshore wind issues.

c. Lease Area OCS-A 0522

Lease Area OCS-A 0522 is located approximately 24-44 NM south of Nantucket. The Lease Area comprises more than 330 sq. mi and is approximately 18 NM wide and 12 NM long. Water depths range from about 100-198 ft. The Lease Area has high wind speeds, excellent seafloor conditions, moderate water depths, and reasonable proximity to multiple grid connection locations in an area of high electrical load and a need for new generation capacity.

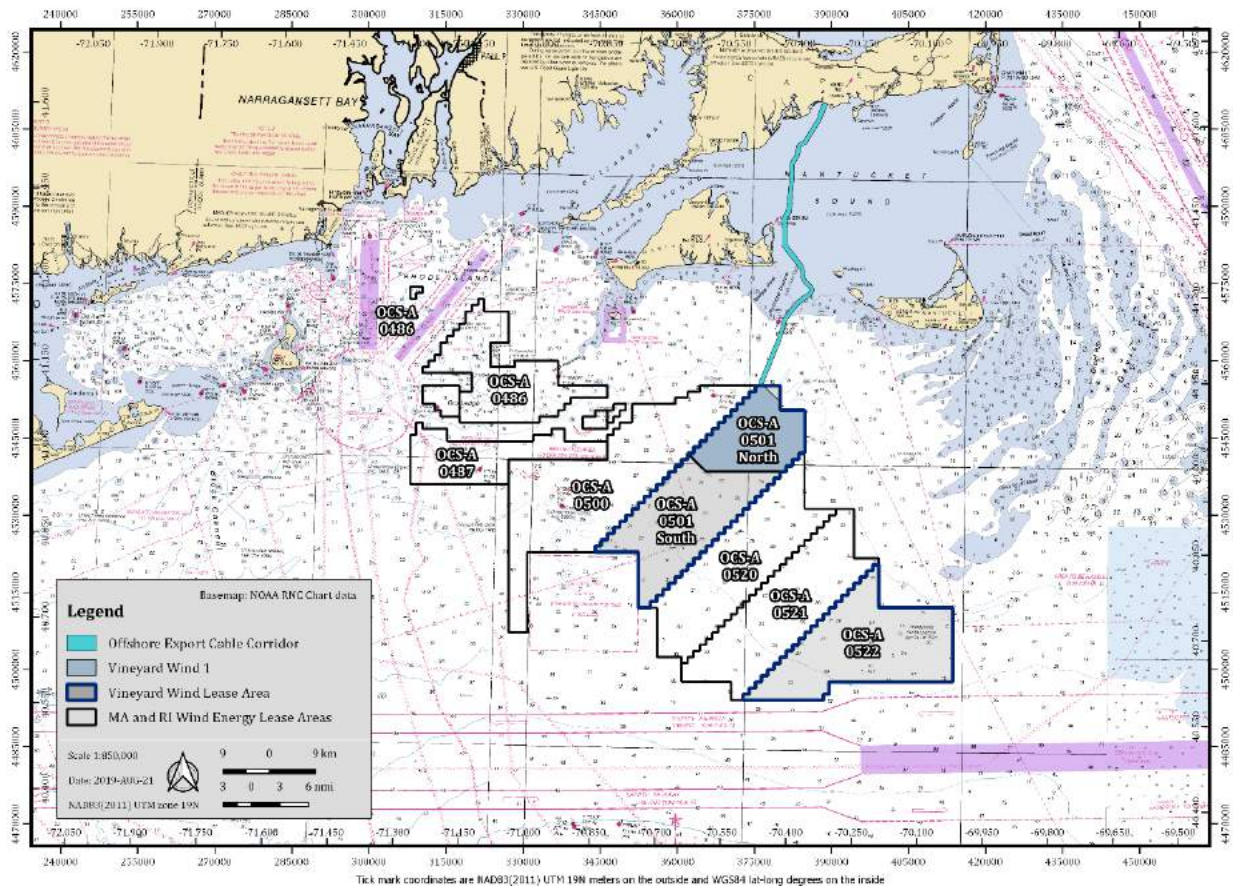


Figure 2.1. Chart of Lease Areas and planned cable corridor route for Vineyard Wind 1.

III. Vineyard Wind's Offshore Wind Projects

a. Overview

Vineyard Wind is developing the nation's first utility-scale offshore wind energy project off the coast of Massachusetts within the northern portion of Lease Area OCS-A 0501. Vineyard Wind is also planning projects in the southern portion of Lease Area OCS-A 0501 and in Lease Area OCS-A 0522.

b. Vineyard Wind 1

Vineyard Wind's first offshore wind project, referred to as Vineyard Wind 1, is an 800 MW facility that will be located in the northern portion of Lease Area OCS-A 0501. The project site is approximately 118 sq. mi in size with water depths ranging from 121-162 feet. In May 2018, this project was awarded long-term contracts with Massachusetts electric distribution companies and is on track to be the first utility-scale offshore wind project in the US. The Vineyard Wind 1 project will generate clean, renewable, cost-competitive energy for over 400,000 homes and businesses across the Commonwealth, while reducing carbon emissions by over 1.6 million tons per year.

c. Future Vineyard Wind projects

Vineyard Wind is developing new projects in the remaining portion of the Lease Area OCS-A 0501 and in Lease Area OCS-A 0522 and is seeking to secure long-term contracts for these projects through state-led energy procurements. Future Vineyard Wind projects' turbines are to be set in an east to west layout, based on fishermen input. As Vineyard Wind moves forward with future projects, the company will always work to strengthen its communication between potentially affected fishermen and fishery organizations during design, development, construction, operation, and final decommissioning of its offshore wind projects.

IV. Fisheries Communication Plan Objectives and Strategy

a. Objectives

The purpose of the Fisheries Communication Plan (FCP) is to define outreach and engagement to potentially affected fishing interests during design, development, construction, operation, and final decommissioning of offshore wind projects, with seven main objectives:

1. Enhance the safety of all who work on the ocean in the wind farms, cable corridors, and landfall sites.
2. Seek stakeholder concerns and strive for open, transparent communication so as to avoid conflicts before they develop, and quickly and fairly resolve conflicts that do develop.
3. Quantify and avoid, minimize and when warranted mitigate adverse impacts on fisheries, and inform appropriate measures for mitigation.
4. Understand, as fully as possible, historic, current, and potential fisheries in the affected areas
5. Identify gaps in information relating to fish and fisheries to inform research and monitoring strategies.
6. Demonstrate decisions, that may impact the fishing industry, are based on the best available and most credible information, recognizing that information gathering is an on-going iterative process, that there is never a point when complete and final information is available, and that some information can be expected to contradict other information.
7. Facilitate a professional co-existence of these two offshore industries, in which both industries can prosper on a long-term basis

b. Strategy

The foundation for achieving these objectives will be built on Vineyard Wind's existing relationships with the fishing communities, cultivated since 2010, and to continuously work towards trusted and mutually respectful lines of communications with the diverse fishing communities of the region. Regular, frequent, and open consultation is primary to ensuring all parties are well informed and can work towards the shared objective of maintaining thriving fisheries alongside offshore wind development in the region.

This FCP is based on best practice guidance and has improved with input from the fishing industry through feedback and consultation. Best practice guidance from other resources includes but is not limited to:

- Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan, Attachment A – Version 3.0, BOEM April 2016
- Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW) Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison, January 2014
- Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishermen on the Atlantic Outer Continental Shelf, BOEM 2014 – 654
- Fishing and Submarine Cables Working Together – International Cable Protection Committee, February 2009, Second Edition
- Options for Cooperation between Commercial Fishing and Offshore Wind Energy Industries: A review of relevant tools and best practices, SeaPlan November 2015
- Commercial Fisheries Mitigation Strategy – Developing Wind Energy in the Outer Moray Firth, Moray offshore renewables ltd 2003
- Oregon's Fishermen's Cable Committee
- Coordination with Fisheries Liaisons from Orsted, Equinor, Mayflower

V. Fisheries Outreach Team

a. Overview

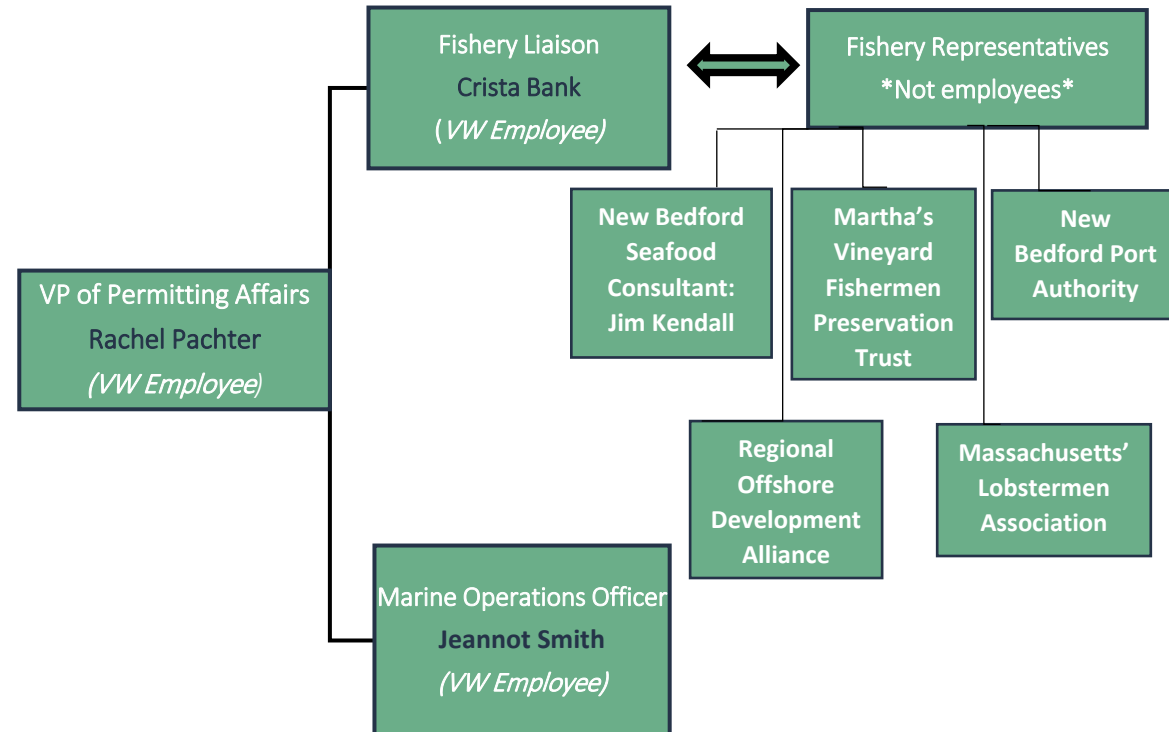
Fisheries communication is conducted through several roles including Fisheries Representatives (FR) and Fisheries Liaisons (FL). Vineyard Wind has hired one FL and a number of FRs who have been actively engaged with the fishing industry regarding the Vineyard Wind project since 2010. Below is a graphic explaining the communication channel relationship between the FLs and the FRs. Contact details for the FL and FRs can be found in the Section V.b. and Section V.c.



VINEYARD WIND

Fisheries Outreach Organization Matrix

- The Vineyard Wind Fisheries Liaison (FL) is employed by Vineyard Wind and reports directly to the Vineyard Wind Permitting Affairs Manager. The FL is responsible for overall implementation of the communications plan, in particular communicating project plans and activities that might impact the fishing industry during pre, during, and post construction activities of the offshore wind farm and reporting interactions or concerns from the industry to the Permitting Affairs Manager.
- The Fishery Representatives (FR) do not work on behalf of Vineyard Wind, but rather represent their respective fishing communities to Vineyard Wind. The FRs collect and report information about fishing industry activities and concerns to the FL as well as collect and relay accurate/relevant project information to the fishing community from the FLs.
- The Marine Operations Officer (MOO) is responsible for safe marine operations by Vineyard Wind, and ensuring that Vineyard Wind is a good neighbor generally while on the water. As such, there is frequent interaction, information exchange, and coordination between the MOO and the FL



The FR represents a particular fishery industry, organization, gear type, port, region, state, or sector(s), and is responsible for communicating concerns, issues, and other input to the project from development and pre-construction through decommissioning of the project. Typically, the FR is an active fisherman, or group representing active fishermen, within the region, fishery, state, or sector they represent. While FRs are compensated for their time and expenses by the project, their duty is to the fishing region, industry, organization, gear-type, or sector they represent. FRs are solicited through a fair and equitable process by the FL who ensures these individuals or organizations adequately and fairly represent their respective industry, gear type, port, or region and have the support of the fisheries stakeholders they represent.

The FL facilitates the work of the FRs by serving as a knowledgeable point of contact to which the FRs can efficiently and effectively communicate. The FL also communicates across fishery communities and regions, inside and outside of the FR network, in order to educate and disseminate vital information regarding the project to fishermen and to receive input back to the project. The FL works to validate fisheries information through cross-referencing among data sources.

The FL seeks to:

- develop relationships and direct lines of communication with individuals that are representative of all potentially impacted fishing regions, industries, and interests;
- identify and engage new FRs;
- confirm appropriate identification of potentially affected fisheries; and
- develop communication methods and tools.

The FL also works with the FRs and scientists to develop measures to reduce potential impacts to fisheries before any impacts may occur and develop resources and potential methods to monitor fisheries species and potential changes in species abundance and distribution pre/during/post construction. The FL is responsible for implementing this plan and updating it at least annually or as needed.

The FL and FR's will work together to review, evaluate and improve the effectiveness of the outreach and two-way communication. Vineyard Wind will review these methods quarterly. The FL and the FR will also report progress to the Bureau of Ocean Energy Management and National Marine Fisheries Service.

b. Fisheries Liaison

Currently, Crista Bank is the Vineyard Wind FL. The FL is employed by Vineyard Wind and works on behalf of the project. Her contact information, which is provided below, is posted on Vineyard Wind's website.

FL Name: Crista Bank
Phone: 508-525-0421
Email: cbank@vineyardwind.com

The FL is available by phone, email, and through our website for ongoing communication. There is a specific form on our website (<https://www.vineyardwind.com/fisheries>) for fishermen to fill out their contact information and concerns. The form is sent directly to the FL's email, and a follow-up phone call and/or email is made shortly after receipt of the contact information.

A full job description for the FL is included as Appendix 1.

Onboard Fisheries Liaison

During offshore operations that continues for periods of weeks-to-months, Vineyard Wind may also engage an Onboard Fisheries Liaison (OFL), serving onboard a vessel during the time of its operations for Vineyard Wind. The OFL's role is, simply put, to continue the role of the FL offshore, so that there is effective communication on-site, in real time. The OFL reports to the FL, and serves as the FL's "eyes, ears, and voice" during offshore operations. The OFL records observed fisheries activities, ensures vessel operations are compliant with this FCP and other fisheries related policies, and in particular seeks to avoid negative fisheries interactions by looking out for fixed gear and establishing communications (usually by VHF radio) with fishing vessels when appropriate. If there is a negative fisheries interaction, the OFL works with the FL and relevant FRs to quickly resolve the matter safely, fairly, and efficiently. Typically the OFL is contracted for the duration of a vessel's operations for Vineyard Wind, and is an individual familiar with marine operations and fishing practices in the region.

c. Fisheries Representatives

The current list of FRs with contact information is provided below and posted on Vineyard Wind's website:

FR Name: New Bedford Seafood Consulting
Contact: Jim Kendall
Phone: 508-287-2010
Email: nbsc@comcast.net

FR Name: New Bedford Port Authority
Contact: Ed Washburn
Phone: 508-961-3000

FR Name: Massachusetts Lobster Association
Contact: Beth Casoni
Phone: 781-545-6984
Email: beth.casoni@lobstermen.com

FR Name: Martha's Vineyard Fishermen's Preservation Trust
Contact: Shelley Edmundson
Phone: 508-687-0344
Email: mvfishermen@gmail.com

FR Name: Responsible Offshore Development Alliance
Contact: Annie Hawkins
Phone: 617 359-2576
Email: annie@rodafisheries.org

Full roles and responsibilities for the FR are included as Appendix 2. FR biographies can be found in Appendix 3.

Vineyard Wind continuously seeks additional FRs to provide regular input to the project development work. Specifically, at this time, Vineyard Wind is seeking FRs in Rhode Island, Connecticut, New York, and New Jersey. If you are interested or have suggestions, please contact Crista Bank, FL (see above).

In addition to the formal FR roles, several organizations and working groups provide direct access to fishermen and have been helpful in disseminating information and providing feedback. These include, but are not limited to:

- NYSERDA Fisheries Technical Working Group (F-TWG)
- Massachusetts Fisheries Working Group
- Rhode Island Fisheries Advisory Board (FAB)
- Massachusetts Department of Marine Fisheries
- Rhode Island Department of Environmental Management
- New England Fishery Management Council
- Mid-Atlantic Fishery Management Council
- Commercial Fisheries Center of Rhode Island
- Long Island Commercial Fishing Association
- Atlantic States Marine Fisheries Commission

Vineyard Wind is committed to working with fishermen and fishing organizations. If you would like to receive emails or text message updates and mariner notices please email the project at fisheries@vineyardwind.com.

VI. Stakeholder Identification and Outreach

a. Overview

Vineyard Wind has proactively engaged with potentially affected fisheries throughout the development of its lease areas. Vineyard Wind regularly communicates with stakeholders and has incorporated input from stakeholders into the project's design, communication plans, and mitigation measures. Vineyard Wind will maintain frequent dialogue with stakeholders as the Project moves forward.

b. Potentially Affected Fisheries

Based on Vineyard Wind's outreach and experience to-date, the fisheries most likely to potentially be affected in OCS-A 0501 during the construction, operation and decommissioning of the projects are:

- Nantucket Sound: conch, squid, surf clam, fluke, sea bass, demersal recreational
- Muskeget Channel: Surf Clam, commercial sea bass, demersal recreational
- Lease Area: Surf clam, squid, fluke, mackerel, whiting, butterfish, scup, monkfish, lobster, scallop, large pelagic recreational

Based on Vineyard Wind's outreach and experience to-date, the fisheries most likely to potentially be affected in OCS-A 0522 during the construction, operation, and decommissioning of the projects are:

- Mackerel, whiting, butterfish, Jonah crab, lobster, scallop, surf clam, large pelagic recreational

These groups are prioritized during the implementation of this plan. Regular reviews are used to modify or confirm this prioritization, as needed.

c. Outreach Approach and Tactics

Vineyard Wind employs a variety of outreach and engagement approaches to communicate and maintain relationships with fisheries stakeholders. These include informal conversations with existing contacts, expanding the company's network of Fisheries Representatives, attending fishing industry trade events and recreational fishing shows, presenting at commercial and recreational fishing group meetings, and working with the various associations and organizations that represent fishing interests. Vineyard Wind understands that some fishermen do not feel adequately represented by fishing organizations, or Fisheries Representatives, and therefore prefer to communicate information and concerns individually and through different channels of communication. Vineyard Wind is committed to recognizing that individual concerns are just as important as group concerns and will continue efforts to respect anonymity.

Target Audience	Principle Channels	Supporting Tactics
Fishing sector, fishing region, seasonal fisheries, specific fishery gear types, fishermen at sea, charter fishermen, fishery ports	<ul style="list-style-type: none"> • Fisheries Representatives (FRs) and Fisheries Liaison (FL) • Other fishermen • Port Agents • Fish houses • Sector Managers • Media – newspapers, internet, e-mail subscriptions, flyers, and thumb-drives • Fishing organizations, alliances, partnerships, commissions, coalitions, councils, state agencies, federal agencies, and advocacy groups • Local elected officials • Friends and family • Employers 	<ul style="list-style-type: none"> • Access to information via internet, e-mail lists (state and Vineyard Wind), and social media • Industry specific publications or e-mails • Trade magazines • 24-hour phone service for up-to-date project info and emergencies. • Project specific radio alerts to fishermen at sea • FL contact info on website • Attending and speaking at fishermen working group meetings • Fishermen open house information meetings • FL/FR communication channels • Clear daily two-way communication channels between fishery/fishermen and project during construction
Recreational fisherman, recreational boaters	<ul style="list-style-type: none"> • Same as above • Bait shops 	<ul style="list-style-type: none"> • Access to information via Vineyard Wind's website, social media, and newsletters • Advertisements through recreational fishing magazines and websites • FL contact info on website • Attending and speaking at fishermen working group meetings • Fishermen open house information meetings.

VII. Communication Protocols

a. Overview

Communication is a high priority for Vineyard Wind. It is important to ensure fishermen are aware of the activities in the lease area and along the cable route and feel comfortable to reach out with questions and concerns. It is also important to communicate to the Vineyard Wind survey vessels the expected fishing activities in and around the lease area, what to be aware of, and how to handle any interactions with the fishing fleet. The protocols outlined below are procedures Vineyard Wind has implemented to date and we will continue to adjust and adapt protocols as needed. Similar protocols will be standardized and implemented during project construction.

b. Communication and Notification to Fishing Industry Prior to and During Offshore Work

Our communication strategy, which includes recommendations from fishermen and adopts protocols the MA DMF uses for their biannual inshore trawl survey, are as follows:

1. Send Notices to Mariners to Coast Guard
2. Send notifications with all vessel identifying features to Vineyard Wind fisheries email list
3. Publicize through organization websites and newsletters (MA DMF, RI DEM, MLA, sector managers, NOAA port agents, Fishing Support Services navigators, etc.)
4. Publicize through boatracs and skymate
5. Maintain a list of fishermen who wish to receive updates via email or text
6. One week before offshore work begins send out an email/text to fixed gear permit holders reminding them that offshore work is about to begin
7. Three days before offshore work begins send out an email/text to fixed gear permit holders that offshore work is on schedule
8. During offshore work send out a regular email updates detailing progress, both for completed areas and areas next on the list. (DMF, MLA, NBPA, MVFPT).
9. Implement a text notification system where fishermen can sign up to receive daily texts of offshore work progress (i.e. more frequently than general updates, and specific to an area or time of work)
10. Attend fisheries trade shows and outreach events to encourage fishermen to sign up for alerts regarding the project's offshore work
11. Vineyard Wind will hire an OFL, preferably a fisherman, to be on project vessels to be on the lookout for gear and fishing activity in the area and to help facilitate communication via VHF radio during project activities.
12. Vineyard Wind will hire, with help from FRs, local fisherman respected among the fleet to help spread the word exactly when the project vessels will be in their immediate area, relay any work zone areas to stay clear of, and communicate when vessels have left the area.
13. Maintain an email (fisheries@vineyardwind.com) that is monitored by a team, so as to ensure timely response even if the FL is not immediately available. A fisheries team dedicated cell phone number will also be established.

In addition to the protocols listed above, in the time leading up to offshore construction we will hold regular meetings with fishing groups that will be affected during the construction phase to go over the timing of anticipated work, what to expect during construction, and how to best communicate. We will work with our FRs to help coordinate and reach the right fishermen to attend the meetings. Some of the small groups we've identified to date include squid vessels in Nantucket Sound, the conch fleet from the Cape and islands, and the squid fleet from Pt. Judith.

Additional groups or individuals who want to stay updated on vessel activity and construction plans please visit our website and sign up for email and /or text alerts at fisheries@vineyardwind.com.

c. Communication and Fisheries Protocols on Geological Survey Vessels Working for Vineyard

To help communicate with the fishing industry, Vineyard Wind will have an OFL to assist the Captain with communication and to document fishing gear in the area to help avoid interactions, as described above. Before the survey trip begins, the FL and OFL attends the pre-trip meetings with captain, and crew to go over specific fisheries active in the area. If the FL has known coordinates of fixed gear in the area, the information is shared with the captain and OFL. Captain and crew are instructed to communicate respectfully with fishing industries and to work around fishing gear to the greatest extent practicable.

Captain, crew chief, and OFL sign off on communication protocols and gear interaction protocols outlined below:

Vineyard Wind Protocols for Survey Vessel Captains:

- 1) Captains establish an agreed upon safety zone to relay to fishing vessels in the area
- 2) Any communication with fishing vessels is reported to the OFL and be conducted in a professional manner
- 3) Preferably the OFL will have their own VHF unit to monitor radio communications and communicate directly with fishermen, as may be necessary or agreed upon with the Captain, especially if language or accent may be a hinderance to communications with fishermen
- 4) Alert OFL to all gear interactions at the time it occurs, waking the OFL if necessary
- 5) Have one GPS unit in the wheelhouse set up for LORAN coordinates
- 6) Work around fishing gear to the greatest extent practicable
- 7) Plot fixed gear locations while onboard fisheries liaison is off watch and relay information when back on watch

Vineyard Wind Fixed Gear Interaction Protocols for Survey Vessels:

If an incident between a survey vessel and static fishing gear does occur, the following outlines the roles and procedures for such an event:

ON BOARD

- 1) Immediately alert OFL (wake if off watch)
- 2) Fishing gear interaction is logged in daily vessel report, recording time, location, photos, etc.

- 3) If feasible and safe, Vineyard Wind will attach a float or buoy to any gear that is brought on board a project vessel or moved, or if a line was cut, should the gear be returned or remain in the water. The buoy is intended to help the fishermen locate the gear, and is also marked with Vineyard Wind contact information so that communications can be readily established with the affected fishermen
- 4) GPS location and time of relocation is recorded
- 5) Buoy permit number and color is logged
- 6) Pictures are taken of the gear
- 7) FL on land is notified of incident as soon as possible

ON LAND

- 1) FL will cross reference buoy color and permit number with current fishing databases to identify owner of gear
- 2) If FL is unsuccessful in finding owner of gear, FL will give notice to FRs and other fishing organizations. If still unsuccessful in locating the owner, FL will send notice to the relevant state Environmental Police of gear entanglement
- 3) Once fisherman/owner of gear is identified, information regarding buoy location and timeline of interaction will be relayed
- 4) Follow up with fisherman to confirm gear was found
- 5) If gear is not found Gear Loss form will be filled out and processed

The above procedures will be updated prior to construction and will reflect any feedback and lessons learned on the Vineyard Wind projects or learned from other project experiences.

d. Communication during Operations / Safety Management System

An important objective of this plan is to use fisheries communications to enhance safety of all those who work on the ocean in the project area through construction, operations, and decommissioning. Vineyard Wind's Safety Management System (SMS) will outline clear communication protocols and procedures for emergency events such as: collision of a vessel with a turbine structure, gear entanglement, damage to cabling by fishing activity, catastrophic failure of a turbine, or other event. Safety planning will be further elaborated in this plan and the SMS will be a publicly available document that is completed prior to the start of project construction. Tower lighting and marking will adhere to US Coast Guard, Federal Aviation Administration, and Bureau of Ocean Energy Management requirements.

VIII. Financial Compensation

a. Overview

Vineyard Wind is developing and implementing procedures for handling compensation to fishermen for potential gear loss and the loss or reduction of income to fishermen. The level of financial support requires detailed discussions between the impacted fishing community and Vineyard Wind. To start the discussions and gauge the possible economic loss to the fishing fleet Vineyard Wind hired an economist to look at different data sets of fisheries landing values and to produce an economic exposure report. These reports can be found on Vineyard Wind's **website**: www.vineyardwind.com.

b. Gear Loss / Damage

We've heard from many fishermen and FRs that gear loss/damage claims should be simple and direct and be the same across lease holders. The Massachusetts Fishing Working group has created a small task force to start to work on this issue. Vineyard Wind has not yet implemented a gear loss/damage form, in the hopes that a standardized form and protocol will be established soon; however, this decision will be revisited depending on progress towards establishing a standardized form/protocol and the amount of offshore work planned. The Massachusetts Department of Marine Fisheries has a standardized form that Vineyard Wind can also utilize to a large extent.

The procedure for making gear loss/damage claims is expected to evolve as the first project moves through the development process into construction and operations.

c. Lost Revenue

Vineyard Wind will also create a process for filing fishery compensation claims. A third party fiduciary agent will handle claims, and a review board consisting of members from the fishing industry will assist with the claims process. Until this process is developed fishermen should make any such request through the FL whose contact information can be found at www.vineyardwind.com/fisheries. If fishermen are displaced at any phase during the construction term, fishermen will be required to submit evidence of income and fishing location(s) to Vineyard Wind to be compensated.

IX. Fisheries Initiatives

a. Overview

Vineyard Wind takes the concerns of the fishing community seriously and understands that while the conversations between stakeholders are not always easy, it is necessary. We understand the time it takes to meet with us or attend working groups is potentially time away from fishing and we have offered compensation for participation in project specific meetings and will continue to do so, if appropriate and helpful to the process. We recognize that continued engagement with the fishing industry improves the overall project and although it seems slow at times, it improves the understanding between industries.

Some of the key initiatives Vineyard Wind has engaged in as a result of consultations with the fishing industry include, but are not limited to:

- Providing thumb drive electronic charts, showing our lease area and areas of offshore survey work to area fishermen.
- Including Loran navigation lines and closed areas on project charts to facilitate discussion of fishing activities in the area.
- Orienting the wind turbines in a regular grid pattern to allow for navigable uninterrupted travel in multiple directions (to avoid 'zig-zagging').
- Committing to east/west alignment for future projects
- Selecting the largest commercially available turbine in order to reduce the overall area of the first project
- Removing turbine locations along the 20-fathom contour
- Installing AIS on turbines and Electrical Service Platforms (ESPs) to improve navigation and safety.
- Creating protocols for project vessels to adhere to when encountering fishing activity

- Dedicating a page on Vineyard Wind’s website for fishermen (www.vineyardwind.com/fisheries) to find the latest information on surveys and construction, and sign up to receive email or text message alert updates

b. Fisheries Research

FISHERIES RESEARCH

Vineyard Wind understands how important science and research is to the fishing community. Establishing relationships with academic institutions that engage in cooperative fisheries research is a high priority. Vineyard Wind has taken steps to address industry concerns by partnering with UMass Dartmouth’s School for Marine Sciences and Technology (SMAST), an academic institution trusted throughout the fishing community.

A video trawl survey of Vineyard Wind’s lease area OCS-A 0501 and an adjacent control area was completed in October 2018 by researchers from SMAST on the New Bedford-based Fishing Vessel Justice. The goal was to gather preliminary data and to determine the best methods for pre/during/post construction studies in the first project area. This video trawl was an innovative survey method that SMAST scientists wanted to test for use in surveys in the wind energy areas. The result of the test was that further improvements would be needed for the method to be effective, given the soft sea-bottom in the area causing sediment dispersal and hindering video observations.

Vineyard Wind also contracted with SMAST to actively engage with the fishing industry to provide feedback for the pre/during/post construction studies of the project. Four workshops were held in different ports during November and December of 2018 (New Bedford, MA; Kingston, RI; Chatham, MA; and West Tisbury, MA) to share results from the video trawl survey, discuss other potential survey methods, and to work with the fishing industry to help identify research questions for species of concern, both site-specific and regionally. Just over 100 people attended the workshops including over 75 active fishermen. Based on the feedback from the fishing industry, and state and federal regulators, SMAST produced a report with their research recommendations in early 2019. The complete report is available at <https://www.vineyardwind.com/document-room> (listed under Fisheries/Fisheries Studies). Vineyard Wind has adopted the recommendations and surveys began in Spring of 2019, which include a trawl survey, plankton survey, drop camera survey of macroinvertebrates and benthic communities, and a ventless lobster trap survey. The survey areas for trawl and drop camera include all lease areas in order to support baseline data collection for future projects. Data collected and reports from these studies will be used in future permit applications and will be made public through our website and shared with agencies and other institutions.

Recreational fishermen raised concerns that highly migratory species were not addressed in the SMAST research recommendations. Vineyard Wind reached out to recreational fishing groups and individual fishermen to understand their concerns and brainstorm what could be done to better understand recreational fishing in the area and potential impacts. This led to partnering with the New England Aquarium to initiate a study to document highly migratory species presence across all MA/RI lease areas with help from the pelagic recreational fleet. The results of this effort will be included in future permit applications and made publicly available through our website and shared with agencies and academic institutions.

Regional Studies

The need for a regional science approach to offshore wind development is an important component to understand how this new industry may be affecting fisheries and the environment. The absence of a regional science framework has made it challenging for developers and concerned stakeholders to design appropriate studies that can provide consistency across all lease areas. The organization Responsible Offshore Science Alliance (ROSA) is an attempt to fill that void and bring developers, fishing industry, state, and federal agencies together to develop a regional science framework. Vineyard Wind has been part of the working group to get the organization launched and is committed to regional fisheries science.

In engaging SMAST to design pre/during/post-construction studies, as described above, Vineyard Wind asked SMAST (at the suggestion of a comment from NMFS) to consider how these studies might contribute to both a regional and long-term approach to fisheries studies. The study protocol that was developed is considered to be “modular and nested,” allowing specific project studies to contribute to larger regional and longer-term study efforts.

c. Opportunities

At this stage, many in the fishing industry see offshore wind as a threat to their business. However, it is in the developer’s best interest for the fishing industry to thrive and grow. Vineyard Wind is in support of research development to help the fishing industry adjust to the changes offshore wind may bring, either by testing different gear to target species in the wind farm, or testing different technologies to fish more efficiently among turbines.

Vineyard Wind is not proposing to replace fishing jobs with wind development jobs, but there can be opportunities for fishing vessel owners, individual fishermen, and shore side businesses. Some examples include:

- 1) Fishing vessels as safety zone vessels and scout vessels during construction
- 2) Fishermen owned shore support businesses
 - a. sign up by emailing b2b@vineyardwind.com to be listed on the supply chain network and to learn about supply chain events
 - b. attend Meet the Buyer events that are intended to introduce local businesses to wind project contractors
- 3) Fishermen as OFEs on project vessels to help communicate with fishermen working in the vicinity.
- 4) Scholarship availability for fishermen and family members to get free training through the local community colleges and MMA for offshore wind technician certifications

Appendix 1 – Fisheries Liaison Roles and Responsibilities

The role & responsibilities of the Fisheries Liaison (FL) include but are not limited to:

- The FL represents the project to fishermen, on behalf of Vineyard Wind, and is the principal contact to the fishing community
- The FL is not someone currently actively engaged in commercial fishing
- The FL is responsible for the overall effective implementation of the fisheries communications plan
- During project pre-construction development, the FL will communicate directly with Fisheries Representatives (FRs) via email, in person meetings, and conference calls and will provide monthly written reports to management on this outreach. Project management will provide feedback, when necessary, to ensure timely dissemination of information regarding all project activities.
- During project construction, the FL will have direct access to the project management team in order to ensure updated project information is available to the fishing community. It should be noted that changes may take place in real time during construction. Vineyard Wind will endeavor to disseminate that information as quickly and widely as possible either through our website or a 24-hour phone line.
- Refine and enhance this communications plan, given learning experiences and new information received.
- Ensure the project's fisheries communication and communication strategy is effective across all relevant fishing communities, organizations, sectors, regions/ports, seasons, and gear types.
- Establish a clear line of communication with entities from affected fishing regions to ensure all states where the fishing industry could be impacted are well informed during all phases of development and through decommissioning.
- Maintain awareness of ongoing fishery management action development by the New England and Mid-Atlantic Fishery Management Councils and the Atlantic States Fisheries Commission.
- Help develop and refine communication materials in addition to communication plans to ensure effective messaging.
- Develop or recommend mitigation measures.
- Provide a record of relevant project information and communications, including presentations and individual conversations, but maintaining confidentiality as appropriate.
- Participate in BOEM, F-TWG, FAB and MA Fisheries Working Group Meetings
- Maintain a fishery stakeholder database and contacts list for all identified fisheries operating within the vicinity of the offshore development area and export cable corridor throughout all stages of the project.
- Investigate and follow-up on complaints and concerns received or heard about.
- The FL shall have a direct line of communication to the project company's senior management, through which to make recommendations for improvement and address complaints, concerns, and other input received.
- Pro-actively make fisheries aware of upcoming efforts and activities related to the project so as to facilitate shared use of the lease area(s).
- Be available to meet with fishermen representatives in person, via email or social media, phone, or radio outside of regular business hours and on weekends.
- Participate in weekly calls with the project team on conversations, activities, suggestions, questions, and concerns from the fishing community about the project.
- Coordinate and work with FRs, who are active fishermen and serve to facilitate communications between the project and specific fisheries sectors.

- Identify potential FRs and establish working relations; contract OFLs as needed.
- Attend meetings with fisheries groups, regulators, non-government organizations, policy makers, contractors working on the project, and other offshore wind project developers to best ensure shared use of the lease area(s) and good, working relations among the offshore wind industry, fisheries, government, and other stakeholders.
- Supervise and manage contracts as necessary for the effective fisheries surveys and science work undertaken by or on behalf of Vineyard Wind, and participate and provide input into relevant fisheries science initiatives.

Appendix 2 – Fisheries Representatives Roles and Responsibilities

An individual or group's time serving as the Fisheries Representative (FR) will be compensated by Vineyard Wind, but the FR is considered to be an independent, third party agent, serving the fisheries interests, not the project's interests. Role & responsibilities of FRs include but are not limited to:

- Be available to meet with fellow fishermen in person or via email, social media, phone, or radio.
- Pro-actively make the project team aware of fisheries practices, upcoming efforts, and seasons to facilitate shared use of lease area(s).
- Meet directly with the project team at least every quarter to help evaluate communication and outreach efforts, and learn more about project plans.
- Provide a monthly email report to the project team on conversations, activities, suggestions, questions, and concerns from the fishing community about the project; communicate with project management in real time, if needed.
- On occasion, FRs may be asked to serve as guides and points of contact during a particular activity offshore. This may involve, for example, using their own vessel as a guide or scout vessel to the survey vessels, helping to monitor for fishing activities in the area of operation, and communicating with fishing vessels working in the same area.
- Communicate directly with FL for the purpose of effectively disseminating project information to the FR's constituency.
- Disseminate project information to the fishermen who are based in or visit ports in Massachusetts, Rhode Island, Connecticut, New Jersey and New York and may fish in the Vineyard Wind lease area(s) and cable route area(s).
- Be available and accessible to their represented fishery.
- Communicate to FL any potential conflicts regarding surveys and project development.
- Assist FL to understand fishing activity in Vineyard Wind's lease area(s) and submarine cable routes (e.g. gear types, specific fisheries).
- Work with FL to develop and refine fisheries communication plan(s).
- Communication planning, identification of communication methods and frequency, outreach meeting facilitation and support, and other tasks, as needed, for engaging local fishermen during all project phases to ensure effective messaging.
- FR will meet directly with the FL and project management every quarter and evaluate communication and outreach efforts and review quarterly outreach and mitigation measures employed by Vineyard Wind
- Maintain awareness of ongoing fishery management action development by the New England and Mid-Atlantic Fishery Management Councils and the Atlantic States Fisheries Commission.
- Provide input to, or recommend, mitigation measures.
- Participate in working group meetings, such as the Massachusetts Fisheries Working Group, when appropriate for the fishery they represent.

Appendix 3 – Fisheries Representatives

New Bedford Seafood Consulting

Mr. Kendall is the Executive Director of New Bedford Seafood Consulting. He is a former scallop fisherman with over 50 years of experience in the fishing industry and with fisheries issues. Mr. Kendall was a member of a research team for the Commercial Fisheries Research Foundation that focused on discard mortality rates of Southern New England flatfish. Mr. Kendall served as a New England Fishery Management Council member for numerous terms. He has also served on the Massachusetts Fisheries Recovery Commission, the New England Commercial Fishing Law Enforcement Working Group, and is a founding member of the Massachusetts Fishermen's Partnership. Mr. Kendall was featured in the book *A Doryman's Reflection: A Fisherman's Life*. Additionally, Mr. Kendall has been interviewed on WBSM radio and by the New Bedford Standard Times, the Gloucester Times, and the Boston Globe on fisheries issues.

New Bedford Port Authority

The New Bedford Port Authority (NBPA) is the governing body for New Bedford's harbor and city-owned waterfront properties. It is chaired by the Mayor of New Bedford with six other members. The role of the NBPA is to support the Port of New Bedford by continually upgrading port resources; preserving its spot as the #1 U.S. fishing port; and expanding the New Bedford economy.

The NBPA oversees all the commercial and recreational vessel activity within New Bedford city limits, incorporating the city's entire coastline and harbor.

Massachusetts Lobstermen's Association

The Massachusetts Lobstermen's Association is a member-driven organization that accepts and supports the interdependence of species conservation and the members' collective economic interests. The Massachusetts Lobstermen's Association was established in 1963 by the fishermen, for the fishermen, and is presently one of the leading commercial fishing industry associations in New England. On behalf of the 1,800 members, the MLA works to maintain both the industry and the resource. The MLA strives to be proactive on issues affecting the lobster industry and is active in the management process at both the state and federal levels. The MLA communicates with its members through a monthly newspaper, weekly email, Facebook, Twitter and attendance at meetings. For the past 54 years, the MLA has become a trustworthy voice for the industry on important issues, and is looked to by both the fishing industry and the management community.

The Martha's Vineyard Fishermen's Preservation Trust

The Martha's Vineyard Fishermen's Preservation Trust is a Massachusetts 501(c)(3) non-profit corporation established in 2011 to: (i) Preserve the historic fishing fleets, communities, and economies of Martha's Vineyard; (ii) Protect the marine populations and fishing grounds off the coast of Martha's Vineyard and New England; (iii) Educate the community about its local fisheries.

Responsible Offshore Development Alliance (RODA)

RODA is a broad membership-based coalition of fishing industry associations and fishing companies with an interest in improving the compatibility of new offshore development with their businesses. Their approach is to directly collaborate with relevant regulatory agencies (e.g., National Marine Fisheries Service, Bureau of Ocean Energy management, U.S. Coast Guard, fishery management councils, and state agencies), offshore developers, science experts, and others to coordinate science and policy approaches to managing development of the Outer Continental Shelf in a way that minimizes conflicts with existing traditional and historical fishing.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

**ATTACHMENT 7.5-1 Vineyard Wind – NGO North Atlantic Right
Whale Agreement**



**Vineyard Wind – NGO Agreement
January 22, 2019**

This Agreement dated as of January 22, 2019, is made by and between VINEYARD WIND, LLC (“Vineyard Wind”), which has its principal place of business at Suite 510, Bank Plaza, 700 Pleasant Street, New Bedford, MA 02740, the NATIONAL WILDLIFE FEDERATION, the NATURAL RESOURCES DEFENSE COUNCIL, and the CONSERVATION LAW FOUNDATION (the “NGOs”) (collectively the “Parties”).

WHEREAS, the Parties are united in the belief that responsibly developed offshore wind power has a major role to play in America’s energy future;

WHEREAS, the Parties recognize that wind energy does not have the negative climate effects of carbon emissions from other generation sources, and wind power thus helps to ameliorate impacts like ocean acidification, loss of sea ice, sea level rise, more extreme weather, and many other climate effects;

WHEREAS, the Parties are committed to working together to ensure that the development of much-needed wind electricity generation capacity off the nation’s coasts will occur in a manner that avoids, minimizes, and mitigates adverse impacts on the health of our coastal and marine wildlife;

WHEREAS, the development of offshore wind energy provides a unique opportunity for offshore wind developers to collaborate with academic research institutions, government, environmental organizations, ocean user groups and other stakeholders to advance scientific research that enhances protections for the critically endangered North Atlantic right whale, including research on the effects, if any, of wind farm operations on right whale distribution and habitat use;

WHEREAS, Vineyard Wind is committed to developing offshore wind power projects in the U.S. with robust standards of environmental protection during pre-development, construction, and operations and maintenance activities, while making a meaningful contribution to science that can support the responsible development of America’s vast offshore wind resources;

WHEREAS, the protection of the North Atlantic right whale is a top priority, the Parties recognize and agree that protective actions set forth herein must be done in a manner that ensures human health and safety when working in the offshore environment;

WHEREAS, while this Agreement pertains to protections for the North Atlantic right whale specifically, the Parties agree that the measures set forth herein may also provide additional protections to other marine mammals and protected species;

WHEREAS, this agreement is intended to serve as a model for similar agreements pertaining to offshore wind projects along the East Coast;

WHEREAS, the Parties agree that the commitments made herein apply specifically and solely to Vineyard Wind's first 800 MW project located in the northern portion of the lease area OCS-A-501 (the "Project Area"), and as more fully described in the Construction and Operations Plan submitted to the Bureau of Ocean Energy Management ("BOEM") dated December 19, 2017, as supplemented thereafter (the "Project").

NOW THEREFORE, in consideration of the foregoing the Parties agree as follows:

I. Protective Measures for North Atlantic Right Whales

Vineyard Wind agrees to implement the following measures for responsible offshore wind development in constructing and operating the Project.

A. Construction Activities

Table 1. Seasonal Restrictions on Pile Driving Activities

Timeframe	Mitigation Protocol
Red Period: January 1 – April 30	No pile driving
Yellow Period: November 1 – December 31; May 1 – 14	Enhanced mitigation protocol required
Green Period: May 15 – October 31	Comprehensive monitoring / clearance zone protocol required

1. Red Period: No Pile Driving

During this period of most likely presence of North Atlantic right whales, as specified in Table 1, no pile driving shall occur.

2. Yellow Period: Enhanced Mitigation Protocol for Pile Driving

During the times of likely presence of North Atlantic right whales, as specified in Table 1, an Enhanced Mitigation Protocol will be implemented during each day that pile driving is scheduled to take place. This will include:

- a) Pile driving shall not be initiated at night or when the clearance zone cannot be visually monitored, as determined by the lead Protected Species Observer (hereafter, “PSO”)¹ on duty. Pile driving may continue after dark only if the action began during the day and must proceed for human safety or installation feasibility² reasons;
- b) A clearance zone for North Atlantic right whales shall extend 10,000 meters in all directions from the center of the pile. Pile driving activities shall not be initiated when there is either a visual observation or acoustic detection of one or more North Atlantic right whales within the clearance zone through (i.), (ii.), or (iii.) of this section, and shall be shut-down under either of these circumstances unless it must proceed for human safety or installation feasibility reasons.
 - i. Real-time passive acoustic monitoring (“PAM”)³, assuming a detection range of 10,000 meters, shall be undertaken from a vessel other than a pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving vessel or development-related noise and to ensure that the clearance zone is clear of North Atlantic right whales. PAM shall begin at least 60 minutes prior to commencement of pile driving and shall be conducted throughout the time of pile driving activity; and
 - ii. There shall be vessel-based PSOs stationed at the pile driving site. There shall be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° per pile driving event. Observation shall begin at least 60 minutes prior to the commencement of pile driving and shall be conducted throughout the time of pile driving activity; and
 - iii. Between May 1 – 14, a track-line survey fully covering the clearance zone to detect the presence of North Atlantic right whales must be completed prior to commencement of pile driving using at least one of the following methods:

¹ PSO refers to an individual with current National Marine Fisheries Service (“NMFS”) certification as a Protected Species Observer.

² Installation feasibility refers to ensuring that the pile installation event results in a usable foundation for the wind turbine (*e.g.*, installed to the target penetration depth without refusal and with a horizontal foundation/tower interface flange). In the instance where pile driving is already started and a PSO recommends pile driving be halted, the lead engineer on duty will evaluate the following: 1) Use the site-specific soil data and the real-time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling; and 2) Check that the pile penetration is deep enough to secure pile stability in the interim situation, taking into account weather statistics for the relevant season and the current weather forecast. Determinations by the lead engineer on duty will be made for each pile as the installation progresses and not for the site as a whole. This information will be included in the reporting for the Project.

³ Throughout this agreement “PAM” refers to a real-time passive acoustic monitoring system, with equipment bandwidth sufficient to detect the presence of vocalizing North Atlantic right whales.

- An aerial survey, weather permitting (based on safe flying conditions), conducted once the lead aerial observer⁴ determines adequate visibility based on standardized environmental parameters (*e.g.*, glare, sea state, wind speed, etc.); or
 - A vessel-based survey carried out by PSOs conducted during daylight hours.
- c) Pile driving may resume upon confirmation that all North Atlantic right whales have departed the clearance zone:
- i. May 1 – 14: after one day of monitoring using methods described in (b.i.), (b.ii.), and (b.iii.) of this section.
 - ii. November 1 – December 31: methods listed under (b.i.) and (b.ii.) of this section may be used by the lead PSO on duty to confirm that the whales have departed the 10,000 meter zone; if so, piling may commence following observance of the clearance zone monitoring protocol described in (b.i.) and (b.ii.).

3. Green Period: Comprehensive Monitoring / Clearance Zone Protocol for Pile Driving

During this period of less likely presence of North Atlantic right whales, as specified in Table 1, a Comprehensive Monitoring / Clearance Zone Protocol will be implemented during each day that pile driving is scheduled to take place. This will include:

- a) Pile driving shall not be initiated at night or when the clearance zone cannot be visually monitored, as determined by the lead PSO on duty. Pile driving may continue after dark only if the action began during the day and must proceed for human safety or installation feasibility reasons; and
- b) A clearance zone for North Atlantic right whales shall extend a minimum of 1,000 meters in all directions from the center of the pile. Pile driving activities shall not be initiated when there is either the visual observation or acoustic detection of one or more North Atlantic right whales within the clearance zone through (i.) and (ii.) of this section and shall be shut down under either of these circumstances unless it must proceed for human safety or installation feasibility reasons. If a shut-down is implemented, pile driving may resume upon confirmation that all North Atlantic right whales have departed the clearance zone after 60 minutes of monitoring through (i.) and (ii.) of this section.

⁴ The lead aerial observer shall be selected from a roster of qualified lead aerial observers who are available for duty with 12 hours' notice. This roster to be provided by either the New England Aquarium, the Center for Coastal Studies, National Oceanic and Atmospheric Administration ("NOAA"), or other organizations recommended by the organizations listed in this sentence. The Project will use only observers from this roster to the extent they are available at the time needed to perform the monitoring.

- i. Real-time PAM will be implemented at least 60 minutes prior to pile driving. PAM will be undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving or other development-related noise; and
- ii. There shall be a minimum of four PSOs stationed at the pile driving site, following a two-on, two-off rotation, each responsible for scanning no more than 180° per pile driving event. Observation will begin at least 60 minutes prior to the commencement of pile driving and shall be conducted throughout the period of pile driving activity.

4. Installation of Jacket Foundations

No more than two jacket foundations will be installed.

B. Geophysical Surveys During Construction and Post-Construction

This section does not refer to any geophysical surveys carried out as part of site assessment and characterization (“SAC”) stage of offshore wind development. The Parties believe further discussion is necessary to agree upon feasible protocols for SAC surveys that would allow Vineyard Wind to meet BOEM geophysical survey requirements.

Table 2. Seasonal Restrictions on Geophysical Surveys During Construction and Post-Construction

Timeframe	Mitigation Protocol
Red Period: January 1 – May 14	No geophysical surveys with RMS sound pressure levels > 180 dB re 1 uPa at 1 meter for equipment that operates between 7 Hz and 35 kHz unless with Enhanced Mitigation Protocol
Green Period: May 15 – December 31	Comprehensive monitoring / clearance zone protocol required

1. Red Period: No Surveys or Surveys with Enhanced Mitigation Protocol

During this period, as specified in Table 2, no surveys with RMS sound pressure levels > 180 dB re 1 uPa at 1 meter for equipment that operates between 7 Hz and 35 kHz shall occur. An exception can be made for infrequent geophysical surveys that are essential during the construction and micro-siting of the Project to ensure proper installation or maintenance of the Project post-construction. In these instances, the following enhanced mitigation protocol shall be implemented:

- a) A clearance zone for North Atlantic right whales shall extend 1,000 meters in all directions from the survey vessel;

- b) Surveys shall not be initiated at night or when there is either a visual observation or an acoustic detection (confirmed by visual observation) of one or more North Atlantic right whales within the clearance zone and shall be shut down under either of these circumstances. After daylight hours, surveys shall be shut down following an acoustic detection only. Observation and PAM shall begin at least 60 minutes prior to commencement of the survey and shall be conducted throughout the period of the survey activity. Surveying may resume upon confirmation that all North Atlantic right whales have departed the clearance zone after 60 minutes of both visual and acoustic monitoring; and
 - i. Real-time PAM shall be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise, including use of a system that is independent from the survey vessel if necessary; and
 - ii. There shall be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180°.
- c) Survey equipment will commence following a ramp-up procedure and will be operated at the lowest source level feasible to meet survey requirements.

2. Green Period: Comprehensive Monitoring / Clearance Zone Protocol for Surveys

During this period, as specified in Table 2, a Comprehensive Monitoring/ Clearance Zone Protocol will be implemented during all surveys with RMS sound pressure levels > 180 dB re 1 uPa at 1 meter for equipment that operates between 7 Hz and 35 kHz. This will include:

- a) A clearance zone for North Atlantic right whales shall extend 500 meters in all directions from the survey vessel and, to the extent feasible, shall be extended to 1,000 meters;
- b) Surveys shall not be initiated when there is either a visual observation or an acoustic detection of one or more North Atlantic right whales within the clearance zone and shall be shut down under either of these circumstances. After daylight hours, surveys shall be shut down following an acoustic detection only. Visual and acoustic surveys shall begin at least 30 minutes prior to commencement of survey activity and shall be conducted throughout the period of the activity. Surveying may resume upon confirmation that all North Atlantic right whales have departed the clearance zone after 30 minutes of visual or acoustic monitoring; and
 - i. Real-time PAM shall be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise, including use of a system that is independent from the survey vessel if necessary; and

- ii. The clearance zone shall be monitored by at least one PSO and at least two PSOs if feasible.
- c) Survey equipment will commence following a ramp-up procedure and will be operated at the lowest source level feasible to meet survey requirements.

C. Vessel Speed Restrictions

All Project-associated vessels shall adhere to the following speed restrictions:

1. A mandatory speed restriction of 10 knots shall be observed within Dynamic Management Areas (“DMAs”) established by National Oceanic and Atmospheric Administration (“NOAA”) Fisheries, with the exception of crew transfer vessels.⁵
2. A mandatory speed restriction of 10 knots shall be observed within DMAs established by NOAA Fisheries by crew transfer vessels, unless the following procedures result in confirmation that the North Atlantic right whales are clear of the transit route and Project Area for two consecutive days:
 - (a) Vessel based surveys carried out by PSOs conducted during daylight hours and real-time PAM shall be undertaken, in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise; or
 - (b) An aerial survey, weather permitting (based on safe flying conditions), conducted once the lead aerial observer⁶ determines adequate visibility based on standardized environmental parameters (*e.g.*, glare, sea state, wind speed, etc.) and real-time PAM shall be undertaken, when feasible, in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise.

⁵ A crew transfer vessel is a vessel whose principle purpose is to transfer technicians who work offshore, and the supplies and small-scale components used by these technicians, to and from a port facility and their offshore work location.

⁶ The lead aerial observer shall be selected from a roster of qualified lead aerial observers who are available for duty with 12 hours’ notice. This roster to be provided by either the New England Aquarium, the Center for Coastal Studies, NOAA, or other organizations recommended by the organizations listed in this sentence. The Project will use only observers from this roster to the extent they are available at the time needed to perform the monitoring.

- (c) Following clearance from C. 2. (a.) and (b.), vessel transits conducted within a DMA will employ at least two observers⁷ aboard the vessel to visually monitor for North Atlantic right whales. If a North Atlantic right whale is spotted within or approaching the transit route, vessels shall operate at less than 10 knots until the procedures in C. 2. (a.) and (b.) result in clearance of the transit route for two consecutive days.

3. From November 1 through May 14:

- (a) A 10-knot speed restriction shall be observed by all vessels, with the exception of crew transfer vessels operating within and transiting to/from the lease area and vessels operating in Nantucket Sound (which has not been demonstrated by best available science to provide consistent habitat for North Atlantic right whales).
- (b) A 10-knot speed restriction shall be observed by crew transfer vessels operating within and transiting to/from the Project Area (except while in Nantucket Sound, which has not been demonstrated by best available science to provide consistent habitat for North Atlantic right whales) unless the following measures are in place:
 - i. At least one observer,⁸ and two when personnel are available, aboard the vessel to visually monitor for North Atlantic right whales; and
 - ii. Real-time PAM shall be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise.
 - iii. If a North Atlantic right whale is detected as a result of the monitoring measures identified in (i.) and/or (ii.) of this section, a 10-knot speed restriction shall be in effect for the remainder of the day.
- (c) To the extent that a DMA occurs between November 1-May 14 the provisions in C. 1. and 2. apply.

D. Reporting

Vineyard Wind commits to report all visual observations and acoustic detections of vocalizing North Atlantic right whales to the National Marine Fisheries Service (“NMFS”) or the Coast Guard within two hours of occurrence when feasible and no later than the end of their shift.

⁷ During construction the observers shall be NMFS certified PSOs. During Project operations and maintenance, the observers shall have North Atlantic right whale observer training provided by a company utilized by NMFS for PSO training or recommended by the organizations listed in footnote 6. Two individuals shall be designated during each vessel trip to conduct monitoring.

⁸ See footnote 7.

E. Underwater Noise Reduction

Vineyard Wind is committed to employing technically and commercially feasible noise reduction and attenuation measures that minimizes impacts to North Atlantic right whales and other high-priority species. Vineyard Wind will implement attenuation mitigation to reduce sound levels by a target of 12 dB. A noise attenuation technology will be implemented (*e.g.*, Noise Mitigation System [NMS], Hydro-sound Damper [HSD], Noise Abatement System [AdBm], bubble curtain, or similar), and a second back-up attenuation technology (*e.g.*, bubble curtain or similar) will be on-hand, to be used if needed given results of field verification. For the Project, Vineyard Wind will not request Level A takes of a North Atlantic Right Whale. Vineyard Wind will inform and receive input from the other Parties as it identifies noise attenuation measures and technologies to be used for the Project.

F. Additional Mitigation Strategies

In addition to the above measures designed to avoid and minimize impacts to North Atlantic right whales, Vineyard Wind commits to considering other mitigation approaches aimed at overall species protection.

II. Commitment to Collaborative Science

Vineyard Wind has made a \$3 million commitment to develop and deploy technologies that ensure heightened protections for North Atlantic right whales and other marine mammals as the U.S. offshore wind industry continues to grow. Vineyard Wind commits to implement the following principles when undertaking marine science and science-based conservation efforts:

- A.** Plan and conduct science and science-based conservation efforts in a collaborative and transparent manner, utilizing recognized marine experts, engaging relevant stakeholders, and making results publicly available;
- B.** Contribute to the field of marine science and make efforts to address the priorities defined by regional and state ocean planning efforts; and
- C.** Advance understanding of the effects of offshore wind development on marine and coastal resources, the effectiveness of mitigation measures (*e.g.*, noise attenuation, thermal detection), and strategies to reduce other stressors facing affected species (*e.g.*, incidental fishing gear entanglement reduction), such as the North Atlantic right whale.

III. Inclusion of Protective Measures in Agency Submittals

Where Vineyard Wind seeks state and federal authorizations to conduct Project activities that may potentially affect the North Atlantic right whale, Vineyard Wind agrees to propose mitigation strategies

consistent with the protective measures set forth herein as they relate to the activity for which authorization is sought. Vineyard Wind will also inform the relevant state and federal agencies of Vineyard Wind's voluntary commitments under this Agreement. To the extent that a state or federal agency declines to adopt, for regulatory purposes, a protective measure specified herein, Vineyard Wind will nevertheless implement the measure provided it does not conflict with regulatory requirements.

IV. Modeling and Adaptive Management

The intent of this agreement is to minimize disruption of normal feeding, breeding and migratory behaviors and prevent injury to right whales. The mitigation measures of this Agreement aim to lower risk from injury to a level approaching zero and to reduce other effects caused by marine noise significantly below that estimated in BOEM's December 2018 Draft Environmental Impact Statement ("DEIS") for Vineyard Wind. The Parties' expectation is that the mitigation measures included in this agreement will meet these goals. To confirm this before construction, Vineyard Wind agrees to re-run and share with the Parties its piling noise exposure model to incorporate the execution of mitigation measures in this Agreement and the Project parameters (*e.g.*, number of monopiles, number of jackets) planned to actually be built (as opposed to the permitting envelope analyzed in the DEIS). Should the revised modeling not demonstrate that impacts from construction are reduced to the levels described in this paragraph, the Parties will consider additional mitigation measures.

While this Agreement applies only to Vineyard Wind's 800 MW project located in the northern portion of the lease area OCS-A-501, the Parties recognize that Vineyard Wind intends to propose future projects. In a good faith effort to continue to work collaboratively and evaluate lessons learned from the Project subject to this Agreement, every two years, or if one of the Parties so requests, the Parties agree to review the scientific data on the occurrence, abundance, habitat use, and conservation status of North Atlantic right whales, particularly in the vicinity of the Project Area, along with any other relevant data, including information on new noise attenuation and monitoring technologies or practices that have become available. This review will inform future projects and agreements between the Parties. To the extent that new protective measures are identified relevant to this Project, Vineyard Wind agrees to evaluate their technical and commercial feasibility and implement them if appropriate.

V. Dispute Resolution

In the event of a dispute among the Parties concerning implementation of or compliance with any aspect of this Agreement, the initiating Party or Parties shall provide the other Party or Parties with a written notice outlining the nature of the dispute and the remedy that is sought. The Parties shall meet and confer, either in person or over the telephone, to work in good faith to attempt to resolve the dispute, including by modification of the agreement if all Parties agree. If agreement on the appropriate resolution of the dispute cannot be reached, the Parties reserve their right to withdraw from the agreement as a last resort.

VI. Term of Agreement

The Parties agree that the protective measures set forth herein will remain in place for five years unless extended or modified by mutual agreement of the Parties.

[SIGNATURE PAGE TO FOLLOW]


Vineyard Wind, LLC

By: 

Name: Erich Stephens
Chief Development Officer

Date: January 22, 2019

Natural Resources Defense Council

By: 

Name: Katherine Kennedy
Senior Director, Climate & Clean Energy
Program

Date: January 22, 2019

National Wildlife Federation

By: 

Name: Collin O'Mara
President & Chief Executive Officer

Date: January 22, 2019
NWF ID: 1901-041

Conservation Law Foundation

By: 

Name: Priscilla Brooks, Ph.D.
Vice President and Director of Ocean
Conservation

Date: January 22, 2019



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

**ATTACHMENT 7.5-2 Table 6.6-1 of COP Volume III – Major Fish
and Invertebrate Species**

TABLE 6.6-1 OF COP VOLUME III FOR VINEYARD WIND 1

Table 6.6-1 Major Fish and Invertebrate Species Potentially Occurring in the Project Area (BOEM, 2014)

Species	EFH	Listing Status	Commercial / Recreational Importance	Habitat Association
Acadian Redfish (<i>Sebastes fasciatus</i>)			●	Demersal
Alewife (<i>Alosa pseudoharengus</i>)		C/S	●	Pelagic
American Lobster (<i>Homarus americanus</i>)			●	Benthic
American Sand Lance (<i>Ammodytes americanus</i>)			●	Demersal
Atlantic Albacore Tuna (<i>Thunnus alalunga</i>)	●		●	Pelagic
Atlantic Bluefin Tuna (<i>Thunnus thynnus</i>)	●	S	●	Pelagic
Atlantic Butterfish (<i>Peprilus triacanthus</i>)	●		●	Demersal / Pelagic
Atlantic Cod (<i>Gadus morhua</i>)	●		●	Demersal
Atlantic Mackerel (<i>Scomber scombrus</i>)	●		●	Pelagic
Atlantic Sea Herring (<i>Clupea harengus</i>)	●		●	Pelagic
Atlantic Sea Scallop (<i>Placopecten magellanicus</i>)			●	Benthic
Atlantic Surf Clam (<i>Spisula solidissima</i>)	●		●	Benthic
Atlantic Yellowfin Tuna (<i>Thunnus albacares</i>)	●		●	Pelagic
Basking Shark (<i>Cetorhinus maximus</i>)	●	C		Pelagic
Bay Scallops (<i>Argopecten irradians</i>)			●	Benthic
Beardfish (<i>Polymixia lowei</i>)				Demersal
Black Sea Bass (<i>Centropristis striata</i>)	●		●	Demersal
Blue Mussels (<i>Mytilus edulis</i>)			●	Benthic
Blue Shark (<i>Prionace glauca</i>)	●			Pelagic
Bluefin Tuna (<i>Thunnus thynnus</i>)			●	Pelagic
Bluefish (<i>Pomatomus saltatrix</i>)	●		●	Pelagic
Channeled Whelk (<i>Busycotypus canaliculatus</i>)			●	Benthic
Cobia (<i>Rachycentron canadum</i>)	●			Pelagic
Common Thresher Shark (<i>Alopias vulpinus</i>)	●			Pelagic
Dusky Shark (<i>Carcharhinus obscurus</i>)	●	S		Pelagic
Fourspot Flounder (<i>Hippoglossina oblonga</i>)			●	Demersal
Golden Tilefish (<i>Lopholatilus chamaeleonticeps</i>)			●	Demersal
Haddock (<i>Melanogrammus aeglefinus</i>)	●		●	Demersal
Horseshoe Crab (<i>Limulus Polyphemus</i>)			●	Benthic
Jonah Crab (<i>Cancer borealis</i>)			●	Benthic
King Mackerel (<i>Scomberomorus cavalla</i>)	●			Pelagic
Knobbed Whelk (<i>Busycon carica</i>)			●	Benthic
Lightning Whelk (<i>Busycon contrarium</i>)			●	Benthic
Little Skate (<i>Leucoraja erinacea</i>)			●	Demersal
Long-Finned Squid (<i>Loligo pealeii</i>)	●		●	Pelagic
Monkfish (<i>Lophius americanus</i>)	●		●	Demersal
Northern Quahog (<i>Mercenaria mercenaria</i>)			●	Benthic
Northern Sand Lance (<i>Ammodytes dubius</i>)			●	Demersal
Northern Sea Robin (<i>Prionotus carolinus</i>)			●	Demersal
Ocean Pout (<i>Macrozoarces americanus</i>)	●			Demersal
Ocean Quahog (<i>Artica islandica</i>)	●		●	Benthic
Pollock (<i>Pollachius pollachius</i>)			●	Demersal
Porbeagle Shark (<i>Lamna nasus</i>)	●	S		Pelagic
Red Hake (<i>Urophycis chuss</i>)	●		●	Demersal

Table 6.6-1 Major Fish and Invertebrate Species Potentially Occurring in the Project Area (BOEM, 2014) (Continued)

Species	EFH	Listing Status	Commercial / Recreational Importance	Habitat Association
Round Herring (<i>Etrumeus teres</i>)			●	Pelagic
Sand Tiger Shark (<i>Carcharias taurus</i>)	●	S		Pelagic
Sandbar Shark (<i>Carcharhinus plumbeus</i>)	●			Pelagic
Scup (<i>Stenotomus chrysops</i>)	●		●	Demersal/ Pelagic
Shortfin Mako (<i>Isurus oxyrinchus</i>)	●		●	Pelagic
Short-Finned Squid (<i>Illex illecebrosus</i>)	●		●	Pelagic
Shortnose Greeneye (<i>Chlorophthalmus agassizi</i>)				Demersal
Silver Hake (<i>Merluccius bilinearis</i>)			●	Demersal
Spanish Mackerel (<i>Scomberomorus maculatus</i>)	●			Pelagic
Spiny Dogfish (<i>Squalus acanthias</i>)	●		●	Demersal
Striped Bass (<i>Morone saxatilis</i>)			●	Pelagic
Summer Flounder (<i>Paralichthys dentatus</i>)	●		●	Demersal
Swordfish (<i>Xiphias gladius</i>)			●	Pelagic
Tautog (<i>Tautoga onitis</i>)			●	Demersal
Tiger Shark (<i>Galeocerdo cuvier</i>)	●			Pelagic
White Hake (<i>Urophycis tenuis</i>)			●	Demersal
Weakfish (<i>Cynoscion regalis</i>)			●	Demersal
Windowpane Flounder (<i>Scopthalmus aquosus</i>)	●		●	Demersal
Winter Flounder (<i>Pseudopleuronectes americanus</i>)	●		●	Demersal
Winter Skate (<i>Leucoraja ocellata</i>)			●	Demersal
Witch Flounder (<i>Glyptocephalus cynoglossus</i>)	●		●	Demersal
Yellowtail Flounder (<i>Limanda ferruginea</i>)	●		●	Demersal

*C= candidate, S= species of concern



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

**ATTACHMENT 7.5-3 Avian Species Most Likely to Occur in Lease
Area OCS-A 0501**

TABLE 6.2-6 OF COP VOLUME III FOR VINEYARD WIND 1

Table 6.2-6 Basic Ecological Traits of Marine Birds in the Region and Their Conservation Status at State, Federal, and Global Scales¹

Species	Scientific Name	Map	Regional Presence	Distribution		Diet		Conservation Status ²			Global Distribution	Breeding Region
				In/Offshore	At sea	Feeds at	Feeds on	State	Federal	Global		
Loons & Grebes												
Common Loon	<i>Gavia immer</i>	*	winter	pelagic	dispersed	mid-water	fish, inverts	SC	.	LC	circumpolar	temperate
Red-throated Loon	<i>Gavia stellata</i>	*	winter	inshore	dispersed	mid-water	fish, inverts	.	BCC	LC	circumpolar	subArctic
Horned Grebe	<i>Podiceps auritus</i>		winter	coastal	dispersed	surf-mid	fish, inverts	.	BCC	VU	circumpolar	temp-subArc
Red-necked Grebe	<i>Podiceps grisegena</i>	*	winter	coastal	dispersed	surface	fish, inverts	.	.	LC	circumpolar	temp-subArc
Seaducks												
King Eider	<i>Somateria spectabilis</i>		winter	coastal	aggregated	benthos	inverts	.	.	LC	circumpolar	Arctic
Common Eider	<i>Somateria mollissima</i>	*	year-round	coastal	aggregated	benthos	inverts	.	.	LC	circumpolar	Arc-subArc
Surf Scoter	<i>Melanitta perspicillata</i>	*	winter	coastal	aggregated	benthos	inverts	.	.	LC	N America	subArctic
White-winged Scoter	<i>Melanitta fusca</i>	*	winter	coastal	aggregated	benthos	inverts	.	.	LC	circumpolar	subArctic
Black Scoter	<i>Melanitta nigra</i>		winter	coastal	aggregated	benthos	inverts	.	.	LC	circumpolar	subArctic
Long-tailed Duck	<i>Clangula hyemalis</i>	*	winter	coastal	aggregated	benth-mid	inverts	.	.	VU	circumpolar	Arctic
Shearwaters, Petrels & Storm-Petrels												
Northern Fulmar	<i>Fulmarus glacialis</i>	*	winter	pelagic	disp-aggreg	surface	fish, squid	.	.	LC	circumpolar	Arctic
Cory's Shearwater	<i>Calonectris diomedea</i>	*	summer	pelagic	disp-aggreg	surface	fish, inverts	.	.	LC	circumpolar	subAntarctic
Great Shearwater	<i>Puffinus gravis</i>		summer	pelagic	disp-aggreg	surface	fish, inverts	.	BCC	LC	N & S Atlantic	subAntarctic
Sooty Shearwater	<i>Puffinus griseus</i>	*	summer	pelagic	disp-aggreg	surface	fish, inverts	.	.	NT	circumpolar	subAntarctic
Manx Shearwater	<i>Puffinus</i>	*	summer	pelagic	dispersed	surface	fish, inverts	.	.	LC	N & S Atlantic	temperate
Audubon's Shearwater	<i>Puffinus lherminier</i>		summer	pelagic	dispersed	surface	fish, inverts	.	BCC	LC	N America	temp-trop
Wilson's Storm-Petrel	<i>Oceanites oceanicus</i>	*	summer	pelagic	dispersed	surface	plankton	.	.	LC	circumpolar	subAntarctic

Table 7.5-3 Basic Ecological Traits of Marine Birds in the Region and Their Conservation Status at State, Federal, and Global Scales¹ (Continued)

Species	Scientific Name	Map	Regional Presence	Distribution		Diet		Conservation Status ²			Global Distribution	Breeding Region
				In/Offshore	At sea	Feeds at	Feeds on	State	Federal	Global		
Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>		summer	pelagic	dispersed	surface	plankton	E	.	VU	circumpolar	subArctic
Gannets & Cormorants												
Northern Gannet	<i>Morus bassanus</i>	*	winter	coast-pelagic	dispersed	mid-water	fish	.	.	LC	N Atlantic	subArctic
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	*	year-round	coast-inland	dispersed	mid-water	fish	.	.	LC	N America	subArc-temp
Great Cormorant	<i>Phalacrocorax carbo</i>		year-round	coast-inland	dispersed	benthos	fish	.	BCC	LC	Eurasia, Africa	subArc-subAnt
Gulls & Jaegers												
Black-legged Kittiwake	<i>Rissa tridactyla</i>	*	winter	pelagic	dispersed	surface	fish, inverts	.	.	LC	circumpolar	Arctic
Bonaparte's Gull	<i>Larus philadelphia</i>	*	winter	pelagic	dispersed	surface	fish, inverts	.	.	LC	N America	subArctic
Black-headed Gull	<i>Chroicocephalus ridibundus</i>		rare	coastal	dispersed	surface	fish, inverts	.	.	LC	W Europe	temperate
Little Gull	<i>Hydrocoloeus minutus</i>		rare	coastal	dispersed	surface	fish, inverts	.	.	LC	circumpolar	subArctic
Laughing Gull	<i>Larus atricilla</i>	*	summer	coastal	dispersed	surface	fish, inverts	.	.	LC	Americas	temp-trop
Ring-billed Gull	<i>Larus delawarensis</i>		year-round	coastal	dispersed	surface	fish, inverts	.	.	LC	N America	temperate
Herring Gull	<i>Larus argentatus</i>	*	year-round	coastal	dispersed	opportunistic		.	.	LC	circumpolar	temperate
Icelandic Gull	<i>Larus glaucoides</i>	*	winter	coastal	dispersed	opportunistic		.	.	LC	circumpolar	Arctic
Lesser Black-backed Gull	<i>Larus fuscus</i>		rare	coastal	dispersed	opportunistic		.	.	LC	W Europe	temperate
Glaucous Gull	<i>Larus hyperboreus</i>		winter	coastal	dispersed	opportunistic		.	.	LC	circumpolar	Arctic
Great Black-backed Gull	<i>Larus marinus</i>		year-round	coastal	dispersed	opportunistic		.	.	LC	circumpolar	temperate
Pomarine Jaeger	<i>Stercorarius pomarinus</i>	*	passage	pelagic	dispersed	surface	fish, inverts	.	.	LC	circumpolar	Arctic
Parasitic Jaeger	<i>Stercorarius parasiticus</i>		passage	pelagic	dispersed	surface	fish, inverts	.	.	LC	circumpolar	Arctic
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>		passage	pelagic	dispersed	surface	fish, inverts	.	.	LC	circumpolar	Arctic

Table 7.5-3 Basic Ecological Traits of Marine Birds in the Region and Their Conservation Status at State, Federal, and Global Scales¹ (Continued)

Species	Scientific Name	Map	Regional Presence	Distribution		Diet		Conservation Status ²			Global Distribution	Breeding Region
				In/Offshore	At sea	Feeds at	Feeds on	State	Federal	Global		
Terns												
Least Tern	<i>Sternula antillarum</i>		summer	coastal	dispersed	surface	fish, inverts	SC	SC	LC	N. America	temp-trop
Caspian Tern	<i>Sterna caspia</i>		summer	coastal	dispersed	surface	fish, inverts	.	.	LC	N Am, Eura, Afr	temp-trop
Black Tern	<i>Chlidonias niger</i>		passage	coastal	dispersed	surface	inverts, fish	.	.	LC	N/S Am, Euro, Afr	inland temp
Roseate Tern	<i>Sterna dougalli</i>	*	summer	coastal	dispersed	surface	fish, inverts	E	E	LC	N/S Am, Asia, Afr	temp-trop
Common Tern	<i>Sterna hirundo</i>	*	summer	coastal	dispersed	surface	fish, inverts	SC	.	LC	circumpolar	subArc-trop
Arctic Tern	<i>Sterna paradisae</i>		passage	coastal	dispersed	surface	fish, inverts	SC	BCC	LC	circumpolar	Arctic
Forster's Tern	<i>Sterna forsteri</i>		summer	coastal	dispersed	surface	fish, inverts	.	.	LC	N America	inland temp
Royal Tern	<i>Sterna maxima</i>		summer	coastal	dispersed	surface	fish, inverts	.	.	LC	N/S Am, Africa	temp-trop
Auks												
Dovekie	<i>Alle alle</i>	*	winter	pelagic	dispersed	mid-water	plankton	.	.	LC	circumpolar	Arctic
Common Murre	<i>Uria aalge</i>	*	winter	pelagic	dispersed	mid-water	fish, inverts	.	.	LC	circumpolar	Arc-subArc
Thick-billed Murre	<i>Uria lomvia</i>		winter	pelagic	dispersed	mid-water	fish, inverts	.	.	LC	circumpolar	Arctic
Razorbill	<i>Alca torda</i>	*	winter	pelagic	dispersed	mid-water	fish, inverts	.	.	NT	N Atlantic	sub-Arctic
Black Guillemot	<i>Cephus grylle</i>		year-round	coastal	dispersed	benth-mid	fish, inverts	.	.	LC	circumpolar	Arc-temp
Atlantic Puffin	<i>Fratercula artica</i>		winter	pelagic	dispersed	mid-water	fish	.	.	VU	N Atlantic	subArc-temp
Shorebirds												
Red-necked Phalarope	<i>Phalaropus lobatus</i>		passage	pelagic	dispersed	surface	plankton	.	.	LC	circumpolar	Arctic
Red Phalarope	<i>Phalaropus fulicarius</i>	*	passage	pelagic	dispersed	surface	plankton	.	.	LC	circumpolar	Arctic

¹ Adapted from eBird data (from BOEM, 2014) and cross-referenced with the US Fish and Wildlife Service ("USFWS") IPaC database (<https://ecos.fws.gov/ipac/>)

² Conservation Status: E = Endangered, T = Threatened, SC = Special Concern, BCC = Bird of Conservation Concern, VU = Vulnerable, NT = Near Threatened, LC = Least Concern.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.6-1

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.6-2

REDACTED



ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.6-3 Vineyard Wind Letters of Support



VINEYARD WIND

Letters of Support

1. **Mark S. Ells**, *Barnstable Town Manager*-The Town of Barnstable
August 21, 2019
2. **Steve X. Cadrin**, *Chair of the Department of Fisheries Oceanography*, Umass Dartmouth
School for Marine Science and Technology
August 21, 2019
3. **Wendy K. Northcross**, *Chief Executive Officer*- Cape Cod Chamber of Commerce
January 18, 2019
4. **Andrew Gottlieb**, *Executive Director*, **Don Keeran**, *Assistant Director*- Association to Preserve
Cape Cod
January 17, 2019
5. **Carl K. Borchert**, Nantucket MA Resident
January 9, 2019
6. **State Senators**-Cape and Islands, Plymouth and Barnstable, **State Representatives**- First,
Second, Third, Fourth, and Fifth Barnstable Districts; Falmouth, Martha's Vineyard, and
Nantucket
January 22, 2019
7. **Moncrieff M. Cochran**, *Executive Director*- Cape Cod Climate Change Collaborative
January 22, 2019
8. **Christian Roselund**, Rhode Island Resident
January 21, 2019
9. **Alex Papali**, Clean Water Action-Massachusetts
January 25, 2019
10. **Don Mallinson**, East Falmouth Resident
January 25, 2019
11. **Ben Hellerstein**, *State Director*-Environment Massachusetts Research & Policy Center
January 22, 2019

- 12. Carol Oldham, *Executive Director***- Climate Action Project
January 22, 2019
- 13. Dorothy McIver, Greening Greenfield (Environmental Citizens Group) member**
January 19, 2019
- 14. Nicole DiPaolo, Rhode Island Resident**
January 21, 2019
- 15. Gregory Garrison, *President***-Northeast Solar
January 13, 2019
- 16. Ann Rosenkranz, Vineyard Haven MA Resident**
January 23, 2019
- 17. Carol Shweder, Chilmark MA Resident**
January 24, 2019
- 18. Nicholas Christ, *Co-Chair* -Southcoast development Partnership, *President and CEO*, BayCoast Bank; Dave Slutz, *Co-Chair*- SouthCoast Development Partnership, *Managing Director***- Potentia Business Solutions
January 22, 2019
- 19. Alan and Kirsti Strahler, Edgartown MA Residents**
January 20, 2019
- 20. Brendan O'Neill, *Executive Director***-Vineyard Conservation Society
January 25, 2019



The Town of Barnstable

Office of Town Manager

367 Main Street, Hyannis, MA 02601
Office: 508.862.4610
Fax: 508.790.6226
www.town.barnstable.ma.us
Citizens' Resource Line: 508.862.4925



Mark S. Ells, Town Manager
mark.ells@town.barnstable.ma.us

M. Andrew Clyburn, Assistant Town Manager
andy.clyburn@town.barnstable.ma.us

August 21, 2019

Erich Stephens, Chief Development Officer
Vineyard Wind
700 Pleasant Street
New Bedford, MA 02740

RE: Vineyard Wind Phase II Letter of Support

Dear Erich,

I am pleased to submit this letter of support for your Phase II project which you are currently developing for the Commonwealth of Massachusetts as part of their on-going offshore wind Request for Proposals (RFP). Vineyard Wind has demonstrated its willingness and commitment to developing community benefits on a collaborative basis, listening to community concerns, and developing offshore wind in a manner that delivers significant benefits to the Commonwealth. The constructive relationship Vineyard Wind has built with our community in Phase I is a positive indicator that Phase II will proceed in a similar manner.

With the support of Town Council and the commitment of staff, the last two years of effort have resulted in a Host Community Agreement that reflects the needs of the community while satisfying requirements of Vineyard Wind and the broader regulatory community. Our relationship has been built on common objective such as providing a clean form of energy while being aware of and sensitive to our community's needs and the sensitive environment upon which we reside have resulted in our further support for your Phase II project.

The positive working relationship that we have developed has allowed us to find mutually beneficial areas of cooperation, including collaboration on important sewer expansion in conjunction with the work on Vineyard Wind Phase I. That collaboration will achieve significant savings, minimize community disturbance and help to address our water and wastewater infrastructure needs in Barnstable. We recognize that any onshore transmission project will present logistical challenges, and the standard of communication and coordination that we have achieved so far in Phase I will serve the Town of Barnstable well as you pursue Vineyard Wind Phase II.

We look forward to working with you to set an example of responsible project management that is responsive to neighborhood, municipal and environmental concerns. We remain supportive of Vineyard Wind in this and future projects that will benefit our community, the Commonwealth, and the environment.

Respectfully,


Mark S. Ells
Barnstable Town Manager



UMass

Dartmouth

SCHOOL FOR MARINE SCIENCE AND TECHNOLOGY

Steven X. Cadrin, Professor
Chair of the Department of Fisheries Oceanography

August 21, 2019

Cristiana Bank, Fisheries Liaison
Vineyard Wind
700 Pleasant Street, Suite 510
New Bedford, MA 02740

Dear Crista:

Based on our experience in collaborating with Vineyard Wind to develop a fisheries monitoring plan for Offshore Wind Lease OCS-A-0501, the Department of Fisheries Oceanography at the UMass Dartmouth School for Marine Science and Technology supports Vineyard Wind's second bid to produce offshore wind energy. Our support is consistent with our current Letter of Intent, the Massachusetts Energy Diversity Act, Ocean Management Plan, and Clean Energy Center as well as the University's Blue Economy initiative. Our Department looks forward to future opportunities for collaborating with Vineyard Wind on expanded fisheries monitoring and research to understand the impacts of offshore wind energy on fisheries (including fish populations, essential habitat, environments, ecosystems and fishing communities).

The Letter of Intent between the University and Vineyard Wind (December 11 2017) formalized a collaboration to plan and conduct pre- and post-construction assessments of fisheries, associated ecological conditions, and socio-economic aspects of fisheries, in and around the Vineyard Wind offshore wind lease area, as designated by the US Bureau of Ocean Energy Management, on the US Outer Continental Shelf. The purpose of this assessment was to help answer questions and provide information that can further the public understanding of potential impacts of offshore wind development and possible means of mitigation of any such impacts. This information is now available to help inform future permitting and public policy decisions.

From my experiences and interactions with Vineyard Wind on the development of a fisheries monitoring program, you have collaborated in good faith with SMAST, government scientists, fishermen, and the general public. Your efforts to actively reach out to diverse fishery communities and to consider their input is appreciated. Our Department would welcome further collaborations.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Steven X. Cadrin'.

Steven X. Cadrin





January 18, 2019

Mr. Matthew Beaton
Secretary of Energy and Environmental Affairs
Massachusetts Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office Purvi Patel, EEA No. 15787 (Vineyard Wind Connector)
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Beaton,

On behalf of the more than twelve hundred-member businesses and organizations in the Cape Cod Chamber of Commerce, I wish to lend our strong support to Vineyard Wind's proposed wind energy facility off the Massachusetts coastline and offer these comments on the recently submitted Final Environmental Impact Report.

Since 1921, the Cape Cod Chamber of Commerce has worked to strengthen and promote the economic viability, cultural richness, environmental sensitivity and the social needs of Cape Cod. The Cape Cod region is grounded in a Blue Economy – one where its water resources drive economic prosperity. This acknowledgement forces recognition that the environment is our economy, and that balancing both is critical to our region's health and wellness. Investment in sound energy policy is a critical component to the region's health and prosperity.

While the construction of offshore wind infrastructure in federal waters is new, the preparation for this day has been underway for over a decade. With the creation of the Massachusetts Task Force in 2009, the State and Federal Government have been engaged in an organized and collaborative effort with local stakeholders to identify the most advantageous wind development areas, while at the same time minimizing adverse impacts on other commercial uses and the marine environment. The submission of a Final Environmental Impact Report by Vineyard Wind represents an important milestone in the nation's progress towards the birth of a new and important industry off our Commonwealth's coastline.

The environmental review process is a critical one, and although arduous, aims to protect the health of our ocean ecosystems – something very important to coastal regions such as ours. We are encouraged by the findings developed in Bureau of Ocean Energy Management's (BOEM) Draft Environmental Impact Statement (BOEM-2018-0069) that show either negligible or minor impacts for nearly all categories reviewed, and moderate but mitigatable impacts to the fishing industry. For certain, fishing is one of our most historic and important coastal industries from an economic and cultural heritage standpoint. We are encouraged by Vineyard Wind's commitment to working with the fishing industry to hear its concerns and find ways to minimize impacts to the extent possible. As an example, Vineyard Wind has an on-staff Fisheries Liaison, as well as Fisheries Representatives who represents the interests of fishermen to the project and help make sure the project is getting the information it should have about the fishing industry.

Vineyard Wind represents an opportunity to end our long-held designation as the terminus of the energy supply pipeline in the United States and would tie directly into the Cape Cod power grid, powering over 400,000 homes. This can result in improved resiliency and emergency planning in the region's historically unreliable electric grid,

and the addition of new storage capacity through distributed projects on the Cape Cod, Martha's Vineyard and Nantucket.

In term of economic development, Vineyard Wind's represents \$1.87 billion in direct economic benefits to Massachusetts including 3,600 new jobs and its development will spur the development of a domestic supply chain for the offshore wind industry to support the many other wind areas currently under lease by the Federal Government as they move into construction.

The creation of a major new industry such as offshore wind in the public domain is a major undertaking for sure. It is impossible to predict any and all circumstances that will occur as we launch this new industry. For that reason, we believe that Vineyard Wind is an excellent partner. They have demonstrated a sound commitment to incumbent industries, the environment, and minimizing impacts to the ocean environment. We believe they will continue this commitment throughout the project's development and operation.

It's time we move forward toward a new energy future focused on clean sources that provide the power we need as a society and minimize impacts on the natural environment and global climate.

Sincerely,

A handwritten signature in dark ink, appearing to read "Wendy Northcross", written in a cursive style.

Wendy K. Northcross, CCE
Chief Executive Officer



Andrew Gottlieb *Executive
Director*

BOARD OF DIRECTORS

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Taryn Wilson

January 17, 2019

Mr. Matthew Beaton

Secretary of Energy and Environmental Affairs

Massachusetts Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office Purvi Patel, EEA No. 15787 (Vineyard Wind Connector)

100 Cambridge Street, Suite 900

Boston, MA 02114

RE: Vineyard Wind Final Environmental Impact Report, EEA No. 15787

Dear Secretary Beaton:

Founded in 1968, the Association to Preserve Cape Cod (APCC) is the leading nonprofit environmental advocacy and education organization for the Cape Cod, Massachusetts region. APCC works for the adoption of laws, policies and programs that preserve, protect and enhance Cape Cod's natural resources and quality of life.

On December 19, 2018, APCC issued a public statement endorsing the Vineyard Wind project. The decision to support the project followed comprehensive review by APCC of the project's multiple state regulatory filings through the Massachusetts Environmental Policy Act (MEPA) process, including the project's Final Environmental Impact Report (FEIR), as well as the release of the Bureau of Ocean Energy Management's Draft Environmental Impact Statement (DEIS).

APCC believes Vineyard Wind has largely addressed the major issue areas associated with the project through proposed actions that would avoid, minimize or mitigate most of the potential environmental impacts in the offshore and onshore aspects of the project. In the analysis provided in the DEIS and the FEIR, it was determined that where environmental impacts may be unavoidable, those impacts are likely to be minimal.

APCC recognizes that any project of such a large scale will inevitably have some impacts, and Vineyard Wind is no exception. However, APCC is also keenly aware that impacts to the environment and to humans will be catastrophically more significant if nothing is done to address climate change, and if projects such as Vineyard Wind do not move forward. As the first major offshore wind project in the United States,



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Vineyard Wind will be a significant step forward in the effort to shift our reliance from greenhouse gas-causing fossil fuels to clean renewable energy sources.

While APCC has expressed support for the project, we recognize that some aspects of project planning are yet to be finalized. Therefore, further project scrutiny in those areas is called for. We also believe there are opportunities to improve proposed mitigation to further protect environmental resources. We encourage Vineyard Wind to continue to work with BOEM, state regulatory agencies and others in addressing the key environmental issues associated with the project. Three areas on which APCC urges particular focus are:

- Protection of marine mammals, especially the critically endangered North Atlantic right whale (*Eubalaena glacialis*).
- Protection of offshore avian species, including federal and state listed species.
- Protection of groundwater at the proposed substation site in Barnstable.

Marine Mammals: APCC supports the package of mitigation proposed by Vineyard Wind to protect marine mammals, including the proposed \$3 million contribution for creation of a Wind and Whales Fund to develop innovative methods and technologies that will maximize protections for marine mammals as the U.S. offshore wind industry becomes established. But, in addition to Vineyard Wind's mitigation proposals, APCC recommends that BOEM require the implementation of other mitigation measures described in Appendix D of the DEIS, including long-term passive acoustic monitoring, daily pre-construction passive acoustic monitoring and visual surveys, and the prohibition of pile driving from sunset to sunrise during construction. Protection of marine mammals must be a fundamental component of this project, and APCC calls on BOEM, the National Marine Fisheries Service, state permitting agencies and Vineyard Wind to continue to seek additional mitigation strategies to further reduce the potential for adverse impacts, especially potential impacts to North Atlantic right whales.

Avian Species: The analysis of potential avian impacts conducted for the DEIS concluded that any offshore impacts would likely be negligible to minor. APCC recommended that BOEM require additional mitigation measures it has considered in its analysis that would further reduce potential for impacts to avian species during construction as well as during ongoing operation phases of the project, particularly mitigation that could help reduce the potential for fatalities of federally listed bird species. According to the FEIR, Vineyard Wind is also continuing its consultations with the Massachusetts Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program (NHESP) regarding potential impacts to federal and state listed avian species, including roseate tern (*Sterna dougallii*), least tern (*Sternula Antillarum*) and piping plover (*Charadrius melodus*). In its written comments on the project's Supplemental Draft Environmental Impact Report (SDEIR), NHESP noted Vineyard Wind's comprehensive mitigation strategy to protect marine mammals and recommended that a similar approach be implemented for listed avian species. APCC supports NHESP's recommendation and looks to further coordination between Vineyard Wind and NHESP, along with BOEM's input, to develop a strategy to maximize protection of listed avian species.



Substation: APCC applauds the efforts of Vineyard Wind and the town of Barnstable to develop a Host Community Agreement that facilitates the use of Covell's Beach as the cable landing site, enables onshore underground cable routing to be located entirely within existing roadway layouts, and establishes coordination between Vineyard Wind and the town on protecting groundwater at the substation site through a spill containment system, stormwater management plan and other mitigation. APCC strongly encourages the project applicant to continue to pursue the possibility of using biodegradable dielectric fluids for the substation's main transformers, as described in the FEIR. Vineyard Wind stated in the FEIR that a Spill Prevention Control and Countermeasures Plan will be developed but will likely not be ready for the upcoming Cape Cod Commission Development of Regional Impact (DRI) review process. Ensuring that water supplies are protected from hazardous material spills is of paramount importance, and APCC therefore recommends that DRI approval be conditioned on the Commission's and the town of Barnstable's review and approval of a completed plan.

APCC is confident that appropriate, comprehensive strategies and mitigation can be devised through continued consultation between Vineyard Wind, BOEM, state permitting agencies and other sources that will help protect rare species and vital natural resources, both offshore and onshore.

Sincerely,



Andrew Gottlieb
Executive Director



Don Keeran
Assistant Director

From: Carl Borchert
To: [Patel, Purvi \(EEA\)](#)
Subject: Vineyard Wind Energy Project
Date: Wednesday, January 09, 2019 7:20:55 PM

To Whom It May Concern,

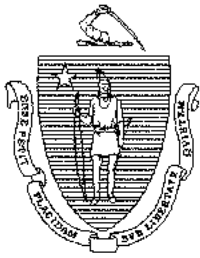
I write in support of the Vineyard Wind Energy Project proposed for federal waters southwest of my home on Nantucket Island. With a power rating of roughly 800 megawatts the project would displace over 2 million tons of carbon dioxide from the atmosphere annually. It would be like taking over 350,000 cars off the roads of Massachusetts every year. I live 30 miles out to sea and we are on the front lines of climate change with more powerful storms, rising sea levels and coastal flooding. Offshore wind projects like Vineyard Wind would help us reduce our carbon emissions and help to mitigate these devastating effects.

I write in total support of this viable clean renewable energy project. Please do all that is in your power to advance it and see it to the construction phase and project completion.

Thank you for your attention to this important matter.

Sincerely yours,

Carl K. Borchert
Nantucket Island



COMMONWEALTH OF MASSACHUSETTS
THE GENERAL COURT
STATE HOUSE, BOSTON 02133-1053

January 22nd, 2019

Program Manager
Office of Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road, Sterling, Virginia 20166

To the Program Manager,

We write to submit comments in support of the Vineyard Wind offshore wind farm proposal. As the United States' first large-scale offshore wind farm, this project will deliver invaluable benefits to our districts by protecting our environment and creating a new green economy for the Cape and the Islands. Since 2010, Vineyard Wind has worked extensively within our communities to increase local involvement in the planning and development process through dozens of forums and public events. Vineyard Power Cooperative signed the first offshore Community Benefits Agreement with Vineyard Wind in January of 2015. Since then, the Vineyard Wind Connector Project has conducted extensive and sustained outreach, seeking input from local residents, elected and appointed officials, local tribes, fishing and marine interests, environmental advocacy groups, and other relevant stakeholder groups. We are confident that this collaborative spirit will continue as the project advances.

In addition, Vineyard Wind recently signed a Host Community Agreement (HCA) with the Town of Barnstable. This agreement establishes a cooperative relationship between the town and the Company to bring power to shore on the Cape, and to provide resiliency in one of the grid's most vulnerable areas in the Commonwealth, while providing extensive economic benefits to the host community. Furthermore, the HCA also ensures the town's active involvement in reviewing Vineyard Wind's onshore infrastructure and construction operations, ensuring protection of local environmental resources.

We are pleased with Vineyard Wind's commitment to developing their Operations & Maintenance facility on Martha's Vineyard, as well as their commitment to providing \$12 million in funding, through their Offshore Wind Accelerator Fund and Windward Workforce Fund. This will ensure the offshore wind industry is anchored in Southeastern Massachusetts and employs and trains local residents for high skilled careers. We are impressed that Vineyard Wind has already begun to work in partnership with local higher education institutions such as Cape Cod Community College, Massachusetts Maritime Academy, and the University of Massachusetts, Dartmouth to implement important workforce and education programs.

We all share concerns about the effects of climate change, but none more so than the residents of the Cape and Islands, who are impacted by these effects on a routine basis. Approving and implementing the Vineyard Wind project will be a tangible demonstration of our commitment to chart a clean energy future. Vineyard Wind's 800 MW offshore wind project will produce enough clean, renewable electricity to power approximately 400,000 homes, and will reduce

CO2 emissions from the ISO New England system by approximately 1,680,000 tons per year – the equivalent of taking 325,000 cars off of state roads. This will be a vital step in meeting our renewable energy and greenhouse gas reduction targets, and protecting our fragile coastal environment. Our coastal communities are particularly vulnerable to climate disruption and ocean acidification, and this project will not only help transition our energy supply to renewable sources and support our local economy, but will critically enhance the reliability of power supply across the Cape and Islands, whose vulnerability was highlighted this past winter when parts of the Cape and Islands lost power for nearly a week during the violent Nor'easters that hit our shores. Supporting this project is an opportunity to take concrete steps toward combatting climate change on a state and local level.

We recognize that with any construction project there will be short-term disturbances to residents along the land cable routes, but Vineyard Wind has actively engaged public works and public safety officials in Barnstable as well as state transportation officials to minimize disturbance. Affected streets will be restored and repaved, leaving them in "like new" condition. Furthermore any temporary local inconveniences should be weighed against the large-scale benefits of this project.

Vineyard Wind has also committed to a Resiliency and Affordability Fund in coordination with local partner Vineyard Power and Citizen's Energy Corporation. This fund will contribute \$1 million annually for 15 years to provide substantial and self-sustaining benefits to local towns that host the off-shore wind project. The company has additionally made an unprecedented commitment to protecting endangered species including the critically endangered North Atlantic Right Whale, through their establishment of a \$3 Million "Wind and Whales" fund to support innovations in marine mammal protection.

According to a study conducted by the Public Policy Center at the University of Massachusetts, Dartmouth, the Vineyard Wind project will generate up to \$17 million annually in new state and local tax revenue beginning in 2021 as a direct result of the development, construction, and annual operation of the project. We cannot afford to overlook the enormous economic benefits of this project, which will help sustain a year-round economy for the Cape and Islands, as well as work to safeguard our communities against the increasingly severe impacts of climate change.

Massachusetts has been a leader in clean energy policy, starting with the 2008 Global Warming Solutions Act which mandated carbon reductions in the Commonwealth and the 2016 Energy Diversity Act which seeks to grow renewable energy in Massachusetts' energy mix. These policies give us a roadmap to a clean energy future in Massachusetts, but their passage must be followed by thoughtful and prompt pursuit of renewable energy projects. Vineyard Wind's successful development is crucial to fulfilling those ambitious goals and our moral obligations.

Once again, we thank you for your consideration of our comments.


Yours,



Julian Cyr
State Senator
Cape and Islands



Vinny deMacedo
State Senator
Plymouth and Barnstable



Dylan Fernandes
State Representative
*Falmouth, Martha's Vineyard, and
Nantucket*



David Vieira
State Representative
Third Barnstable District



Timothy R. Whelan
State Representative
First Barnstable District



Sarah Peake
State Representative
Fourth Barnstable District



William Crocker
State Representative
Second Barnstable District



Randy Hunt
State Representative
Fifth Barnstable District



January 22, 2019

Dr. Walter Cruickshank, Acting Director
Bureau of Ocean Energy Management
Attention: Program Manager, Office of Renewable Energy
45600 Woodland Road
Sterling, VA 20166

RE: Vineyard Wind COP Draft EIS (Docket No. BOEM-2018-0069)

Dear Dr. Cruickshank:

On behalf of the board of trustees of the Cape Cod Climate Change Collaborative (5Cs), I am writing to strongly endorse the proposed Vineyard Wind project, the nation's first large-scale offshore wind energy project. Proposed for siting 14 miles off the coast of Martha's Vineyard, the project intends to bring 800 megawatts of electricity to the Cape and Islands and generate clean, renewable, cost-competitive energy for 400,000+ residents of the Commonwealth of Massachusetts.

Established in 2015, the 5Cs is a consortium of Cape Cod-based organizations whose mission is to unite available resources, organizations and intelligence to mitigate climate change impacts on Cape Cod, reduce greenhouse gas emissions, and work toward achieving "net zero"-based goals for the region. Board members include community leaders from across the region representing organizations such as the Association to Preserve Cape Cod, Cape Air, Cape Light Compact, Center for Coastal Studies, Friends of Pleasant Bay, Outer Cape Energize, Woods Hole Research Center, and numerous faith-based, educational, non-profit and business entities.

On January 15, 2019, the 5Cs issued a public statement endorsing the Vineyard Wind project. We did so in recognition that climate change poses the biggest global threat of our time. Recent federal reports describing acceleration and increased severity of climate change underscore the need for immediate action to generate clean renewable energy for the Cape Cod region, Massachusetts, and beyond. We believe the Vineyard Wind project will make major strides in advancing this goal.

The waters off New England are warming at an alarming rate, much faster than scientists thought just four years ago. Climate change has also created more extreme weather events and unpredictable storms. Climate change poses existential threats to our environment, human health, and the economy—indeed, our entire way of life on Cape Cod. The Cape's fishing industry will be especially

Cape Cod Climate Change Collaborative PO Box 1092, South Orleans, MA 02662
www.capecodclimate.org Phone 607.351.8681 capecodclimate@gmail.com

impacted by warming water, which means cold water fish species will leave the area in search of cooler water or become extinct. It's imperative that we change our energy sources to a low-carbon mix containing a significant amount of renewable energy, starting yesterday.

The 5Cs board has carefully followed and been impressed by Vineyard Wind's efforts to mitigate project impacts and address community concerns. The project, for example, has developed community agreements with municipal partners on the Vineyard and town of Barnstable, committing \$15 million for numerous initiatives which benefit Cape and Islands residents including programs to recruit, mentor and train Massachusetts workers, particularly those in southeastern Massachusetts, for careers in the new offshore wind industry.

The 5Cs also supports comments submitted by the Association to Preserve Cape Cod (APCC) on January 17, 2019. Specifically, we endorse its recommendation that the Bureau of Ocean Energy Management work closely with Vineyard Wind and state agencies to ensure that proposed project mitigation protect the following important environmental resources:

- Marine mammals, especially the critically endangered North Atlantic right whale
- Offshore avian species, including federal and state listed species
- Groundwater at the proposed substation site in Barnstable

We are confident that appropriate regulatory conditions and mitigation will be developed through continued consultation among Vineyard Wind, BOEM, state agencies and other entities charged with protecting rare species and natural resources, both off- and onshore.

Sincerely,

Moncrieff M. Cochran

Moncrieff M. Cochran, Executive Director
Cape Cod Climate Change Collaborative

Letter in support of the Vineyard Wind project

by Christian Roselund

January 21, 2019

I am writing as a resident of Rhode Island in support of Vineyard Wind's proposed off-shore wind project to be located in the Atlantic Ocean south of Martha's Vineyard.

Climate change represents an existential threat to our civilization and our species, and as such we must move as rapidly as possible from burning fossil fuels to non-emitting technologies including renewable sources to meet our energy needs. However, not all forms of renewable energy are equal in terms of their ability to meet demand in New England. Our greatest challenge in this region is not meeting peak electricity demand - it is in meeting demand for the combination of electricity and heat which reaches its highest levels on winter evenings and during very cold weather.

As New England is dependent on imported natural gas for the majority of our electric and heating needs, the limited supply of gas in the winter drives higher electricity prices as well as the burning of dirtier fuels (coal and petroleum) to provide electricity. This is not only an environmental problem, but an economic one for this region. The higher price of electricity during the winter puts stress on residents and businesses, which is further compounded by the lack of visibility into prices due to the uncertain nature of gas markets.

These unique circumstances make offshore wind an ideal solution for New England. A recent study by Massachusetts Clean Energy Center for our regional grid operator indicated that measured wind speeds in the areas for which offshore wind is planned could have enabled a 70% capacity factor during the entire period of the "bomb cyclone" storm last January - a very high level of availability. Furthermore, as the cables for offshore wind farms are underwater, they are less prone to interruption than are those connecting large land-based power plants to the grid.

And while electricity prices are always a factor, building large projects with larger turbines, such as Vineyard Wind proposes, is the best way to bring down prices both for this project and future projects. This project not only provides benefits on its own, but is an important step towards scaling New England's nascent offshore wind industry.

As for coastal resources, I am a resident of Rhode Island who frequently spends time in the summer with my son on beaches on Long Island Sound and on Block Island, and I do not feel that the presence of wind turbines in any way interferes with my enjoyment of these areas. Many who I have spoken to share the same opinion.

Any economic or personal enjoyment concerns regarding the impact of offshore wind development pale in comparison to those stemming from the future impacts of climate change on the coast of Rhode Island, the waters of Long Island Sound and the coastal Atlantic. As one example, warmer waters have already brought invasive species into

Narragansett Bay. Furthermore, no one will be able to enjoy beaches which are underwater, which is a reality which we will face in coming decades if we do not rapidly transition away from fossil fuels.

As for fishing, given the very small portion of the near-coastal Atlantic waters that this project represents, I cannot see how it would have too significant an effect on fishing in any circumstance. The location of this lease was awarded by the state and not by the developer I trust that it is the most suitable location. Additionally, I would like to draw your attention to the Environmental Impact Statement, which also notes that offshore wind projects create artificial reefs which can stimulate a number of species.

And while there still may be concerns for maritime industries, this project will use some of the largest wind turbines commercially available, which will result in both a smaller footprint, and less impact on other uses of the ocean.

Finally, offshore wind development will bring significant jobs and economic opportunities for coastal communities, and will enable a portion of our energy dollars to stay in this region.

Given all of these factors, I strongly support this project, and feel that either the main proposal or options B or C would be good solutions for this state, the region, our nation, and particularly our children who will inherit the world that we leave them.

Christian Roselund

Christian Roselund
842 Hope Street #3
Providence, RI 02906



January 25, 2019

Mr. Matthew Beaton, Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
MEPA Office/ Purvi Patel, EEA No. 15787 (Vineyard Wind Connector)
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Vineyard Wind Connector Final Environmental Impact Report

Dear Secretary Beaton and Ms. Patel,

Clean Water Action (CWA) submits the following letter in support of the Vineyard Wind Connector project. CWA has been working since 1972 to protect the environment, public health, economic well-being and community quality of life. CWA's clean energy campaigns in Massachusetts support efforts to fight climate change and work to bridge racial and economic gaps that sometimes limit the ability of low-income residents and communities of color to benefit directly from the transition to a clean energy future.

CWA supports the Vineyard Wind Connector project for several reasons. First, the project will deliver 800 MW of emission-free electricity to Massachusetts from the nation's first large-scale offshore wind farm. The greenhouse gas emission reductions benefits of the offshore wind farm are estimated to be avoided emissions of 1.6 million tons of carbon dioxide per year.

Second, Vineyard Wind Connector will reduce Massachusetts' reliance on natural gas and lower electricity bills. The Massachusetts Department of Energy Resources projects that Vineyard Wind's 800 MW project will save electricity customers \$1.4 billion over 20 years.

Third, Vineyard Wind has worked closely with local communities in developing Vineyard Wind Connector and has made improvements to the project based on community and other stakeholder

88 Broad Street, Lower Level, Boston MA 02110
617 338 8131 / bostonCWA@cleanwater.org
www.CleanWaterAction.org/MA

input. The Host Community Agreement that Vineyard Wind has signed with the Town of Barnstable ensures the town will directly benefit from the project, and the project more than addresses the limited community concerns about noise and light pollution.

In addition to the above, Vineyard Wind is committed to responsible renewable energy project development as evidenced by the recently announced agreement with environmental organizations to protect the critically-endangered North Atlantic right whale (NARW). This historic agreement sets a strong standard of protection for this species and will help Massachusetts achieve its climate change and renewable energy goals without further endangering the NARW.

For all of these reasons, CWA supports the Vineyard Wind Connector and respectfully requests that you approve it.

Thank you, and please do not hesitate to reach me with any further questions.

Sincerely,

Alex Papali
Energy and Zero Waste Programs
Clean Water Action- Massachusetts
617 338 8131 x212
apapali@cleanwater.org

From: Don Mallinson
To: [Patel, Purvi \(EEA\)](#)
Subject: Vineyard Wind's Report
Date: Friday, January 25, 2019 11:23:53 AM

Saving our environment from polluting fossil fuels is priority one. Offshore wind turbine farms will go a long way to establishing this priority.

I am pleased that Vineyard Wind in its final environmental impact report has been making accommodations to help save right whales and commercial fisheries, for examples. They have even accommodated several Cape towns by having their cable come ashore at a local beach rather than environmentally and commercially sensitive Lewis Bay.

These kinds of accommodations make Vineyard Wind a thoughtful landlord for this local part of the planet.

Respectfully,

Don Mallinson

746 Carriage Shop Rd

E Falmouth MA 02536

dfmallinson@gmail.com

774-255-1745



294 Washington St., Ste. 500
Boston, MA 02108
www.EnvironmentMassachusettsCenter.org

info@EnvironmentMassachusettsCenter.org
(617) 247-4400 (ph)
(617) 292-8057 (fx)

January 22, 2019

To whom it may concern:

I am writing on behalf of the Environment Massachusetts Research & Policy Center in support of the proposed Vineyard Wind offshore wind project.

The Environment Massachusetts Research & Policy Center is dedicated to protecting Massachusetts' air, water, and open spaces. We investigate problems, craft solutions, educate the public and decision-makers, and help Bay Staters make their voices heard in local, state, and national debates over the quality of our environment and our lives.

We support the use of our offshore wind resources to provide limitless, pollution-free energy for Massachusetts and other East Coast states.

In Massachusetts, offshore wind is the largest renewable energy resource we have. Last March, we released a report, *Wind Power to Spare: The Enormous Energy Potential of Atlantic Offshore Wind*, documenting the potential for offshore wind energy along the Atlantic coast. Our report found that Massachusetts has the highest offshore wind potential of any state in the nation. Massachusetts' technical potential for offshore wind is equivalent to more than 19 times the state's annual electricity consumption. Even if our heating and transportation are converted to electric power — a trend that is already underway, and a necessary step toward decarbonizing our economy and preventing the worst impacts of global warming — offshore wind will still be sufficient to power Massachusetts eight times over. I have included a copy of the report along with these comments.

Massachusetts' offshore wind resources, along with our potential for other forms of renewable energy like solar, give us confidence that a future powered by 100 percent clean, renewable energy is feasible. When we achieve 100 percent renewable energy, our air will be cleaner, our communities will be healthier, and we'll be doing our part to avoid devastating climate change.

In Massachusetts, public support for clean energy is strong, and state and local officials are responding to this support with ambitious commitments. In 2016, state officials passed a law committing to 1,600 megawatts of offshore wind energy within 10 years. Two years later, legislators opened the door to doubling that commitment to 3,200 megawatts, and Governor Baker promised he would do so.

Once completed, the Vineyard Wind project will produce approximately 6 percent of the electricity consumed in Massachusetts while avoiding 1.6 million tons of carbon dioxide annually, the equivalent of taking 325,000 cars off the road. The project will also result in a significant reduction in other pollutants, like nitrogen oxides and sulfur dioxide, that harm public health.

We are especially excited to see the Vineyard Wind project move ahead because it represents the launching point for the American offshore wind industry. Once this project is underway, we will soon see offshore wind farms providing power to states up and down the East Coast. Because this is the first large-scale offshore wind farm in the United States, it is critical for this project to move ahead in a timely fashion.

There has been an extensive process to gather input on the Vineyard Wind project from key stakeholders, beginning with the selection of lease area sites and continuing through multiple stages of the project's design. Vineyard Wind has responded to this input by making adjustments in the project plans, including reducing the number of turbines and moving the site of the cable landing.

Vineyard Wind has shown a commitment to building a cooperative relationship with the project's host communities. Vineyard Wind is partnering with Vineyard Power, an energy cooperative, to ensure that residents of Martha's Vineyard experience the economic benefits of offshore wind. The company has also committed to significant investments in renewable energy and resiliency in communities throughout Southeastern Massachusetts.

In conclusion, I ask you to do everything in your power to advance the development of the Vineyard Wind project as the first major step toward tapping into the tremendous offshore wind potential of the Atlantic coast. This project is a key component of the clean, healthy, renewable future that Massachusetts deserves.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Hellerstein", written over a horizontal line.

Ben Hellerstein

State Director

Environment Massachusetts Research & Policy Center



January 22, 2019

Program Manager, Office of Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road,
Sterling, Virginia 20166

To Whom It May Concern,

Please accept the following letter on behalf of the Massachusetts Climate Action Project (MCAN) in support of Vineyard Wind's offshore wind project. MCAN is a 501(c)(3) non-profit that works on the state and municipal level with 51 chapters representing more than 70 communities in Massachusetts to fight climate change by promoting clean energy and educating the public on the dangers of dirty energy. MCAN strongly supports recent efforts in Massachusetts and at the federal level to foster the development of offshore wind in the US, a renewable energy resource that has the potential to substantially reduce greenhouse gas emissions.

Vineyard Wind's proposed 800 MW offshore wind farm is an example of a responsibly-sited renewable energy project. As demonstrated by the draft Environmental Impact Statement (DEIS), the company has taken steps to minimize potential negative impacts to the environment and local communities. Vineyard Wind has also invested significant time and resources in local community outreach and education efforts and is a local company with strong ties to the region.

From a climate change perspective, Vineyard Wind's project will avoid approximately 1.6 million tons of CO₂ pollution annually. This is equivalent to removing 3250,000 off the road. Perhaps more important than the project's direct pollution reductions, however, is the role Vineyard Wind's project will play in launching the country's offshore wind industry. As the first commercial-scale offshore wind farm in the US, this project will set the standard for future projects and represents a significant milestone in the transition to a renewable energy future.

The success of Vineyard Wind's project is critical in light of recent news of rising climate change causing pollution and rapidly warming oceans. In 2018, after three years of decline, CO₂ pollution increased in the US by more than 3%. A large portion of the pollution increase came from the power sector, where natural gas met most of the increase in electricity demand. This unfortunate development underscores the need to do more and move faster to support renewable energy and energy efficiency. Given what's at stake, if we fail to rapidly reduce pollution in the coming years, the federal government must take immediate steps to reduce our dependence on fossil fuels.

For all of the reasons listed above, BOEM should grant this project all the necessary approvals and allow it to move forward.

Thank you for your consideration.

Sincerely,

Carol Oldham
Executive Director

From: Dorothy McIver
To: [Patel, Purvi \(EEA\)](#)
Subject: Comments on Vineyard Wind's Final Environmental Impact Report
Date: Saturday, January 19, 2019 8:43:11 PM

Dear Ms Patel,

We are writing to you to convey our comments about the Final Environmental Impact Report for the Vineyard Wind Connector, which would bring electricity from Vineyard Wind's offshore wind farm to shore in Massachusetts.

This project is important to us because it will help alleviate our dependence on fossil fuels while providing a clean renewable source of energy. Vineyard Wind will become the first commercial scale off shore wind farm in the country and we hope it will be the first of many such projects because we have no time to waste. We must drastically reduce our use of fossil fuels and reduce climate change emissions and the resulting impacts on our environment and Vineyard Wind will help us meet our state's remission reduction goals.

We are pleased to see that Vineyard Wind has made every effort to reduce the environmental impacts on local communities and to address the concerns of those in the fishing industry who feel they might be adversely affected. Vineyard Wind has listened to these concerns and taken steps to alleviate them.

Using wind power will also result in health benefits as it will improve our air quality and result in fewer cases of asthma and other respiratory illnesses which are prevalent in our region.

And we will see a growth of well paying green jobs (more than 3000) and lower electrical rates for consumers. Wind power is a resource our coast line is well suited for and we need to take advantage of the opportunities awaiting us. There is very little time left to mitigate the effects of climate change and we need to make changes at a much accelerated rate if we are to leave a habitable planet for our descendants.

So we urge you to approve this valuable project and continue to support the development of renewable energy projects in our state.

Sincerely,

Dorothy McIver

Member of Greening Greenfield (a grassroots environmental citizens group of 11 years)

88 Columbus Ave

Greenfield,MA 01301

413-772-3747

Nicole DiPaolo
2 Castle Drive
Hope, RI 02831
401-440-0665

January 21, 2019

Coastal Resources Management Council
Stedman Government Center
4808 Tower Hill Road
Wakefield, RI 02879
Attn: Executive Director Fugate and Chair Cervenka

Subject: Vineyard Wind LLC Consistency with OceanSAMP

Dear Mr. Fugate and Ms. Cervenka,

Last year was the fourth warmest year on record. 20 of the warmest years on record were in the last 22 years. The wildfires in California almost *doubled* in severity, will continue to grow every year, and become a trend even in the southeast. Over a 1.5 *million* acres burned in 2018. Almost 20 million people were displaced due to climate change in 2017 and experts predict we will see up to 200 million displaced in the next 30 years. In that same time frame, sea level rise will cause up to 311,000 homes to be flooded biweekly. NOAA predicts RI will see 8 ft of sea level rise by 2100 based on emission levels that have increased since the 2017 study. Our predictions consistently fall short of capturing the true severity of the climate crisis. Impacts are always compounding and the interdependence of plant and animal species result in a domino effect that is based on a system so large and complex that it is nearly impossible to predict. Distinguished professor of atmospheric science and the director of the Earth Systems Science Center at Penn State University says its like a minefield that we're stepping out onto as we continue to warm the planet.

To limit the impacts of catastrophic climate change, we must not exceed 1.5C of warming which requires 45% carbon pollution reduction by 2030, a feat likely unachievable without offshore wind. We've known the value of offshore wind development, which is why in 2008 the serious undertaking of the RI Ocean Special Area Management Plan was initiated so that the ocean waters off RI coasts could be used, according to the Plan's Practitioner's Guide, "collaboratively and openly as possible." The consistency of Vineyard Wind's 800-MW offshore wind project and CRMC's jurisdiction over it's issuance is the topic of this letter, which I hope you consider thoroughly and with a view that captures the pivotal nature of what would be the nation's first large-scale offshore wind project.

The region obtained by Vineyard Wind for it's offshore wind project was established as suitable for development by the Federal Government by a process that included extensive stakeholder

engagement that resulted in extreme reductions to the parcels deemed available for lease. The reductions were so prime fishing ground would be avoided and as such, if fishing were to stop altogether in that area, (which is not necessary or likely), would only represent 2% of the total RI fishing landings value. Still, Vineyard Wind began engagement with the Fisherman Advisory Board (FAB) in 2017, before they even started the permitting process for the project. This foundation of this project is one of due consideration, compromise, and collaboration on the part of the company that is seeking to develop federal waters off the shore of RI in consistency with Ocean SAMP goals to mitigate greenhouse gas pollution that causes climate change.

Since Vineyard Wind has been meeting with FAB in 2017 it has had hundreds of meetings with fisherpeople but has only heard about the east-west alignment request in 2018 after extensive geological research had already been done to design each turbine in a way that would be optimal for anchoring to the ocean floor in each specific location. The east-west alignment is not mentioned in the Ocean SAMP, which also included thorough, comprehensive, and meaningful involvement of stakeholders. Still, Vineyard Wind responded to FAB's request and has found a way to decrease the number of turbines that cannot be aligned in an east-west direction by securing the *largest turbine commercial available in the world today*. Under all options for turbine placement options proposed by Vineyard Wind, only about 6% of the entire combined Wind Energy Areas (WEA) would not have east-west rows. Further, Vineyard Wind has committed to orienting all future turbine installations in east-west rows and include a 1 nm separation distance between each row, as requested by the FAB.

In addition to reconfiguration of the turbine arrangement, Vineyard Wind offered a robust compensation package that demonstrates sincere commitment to the fishing industry in our state. While the recent article in the Providence Journal paints a picture that the compensation package came late, I would like to highlight that fisherpeople were not engaging in discussions of mitigation while the package was being developed. Likewise, Governor Raimondo's staff discouraged Vineyard Wind from meeting with FAB while the company met with RI DEM to gather information about fisheries value. I think it is understood that such a package is considered a delicate legal process that requires both parties to audit independently the revenue that is at stake.

Vineyard Wind has proposed a \$30 million comprehensive funding package for the RI Fishing Industry that is based on a study conducted by Dennis M. King, Ph.D., a leading expert in this field with a 20 page Curriculum Vitae of relevant experience. The study includes data and reports from RI DEM. The compensation package consists of \$6.2 million to compensate fishermen for direct impacts which, if not used, can be applied to fishing industry programs. The remaining \$23.8 million is for a fund to support fisheries driven programs to further develop ways for the commercial fishing and offshore wind to coexist.

The old proverb goes, "give a man a fish and he will eat for a night, teach a man to fish and he will eat for a lifetime." Well, these people know how to fish! But with the acidification of the ocean, sea-level rise, change in migration patterns of fish, overpopulation that increases food

demand and results in overfishing, extreme-weather, and other intricacies I fail to mention, the integration of offshore wind power to the grid is an essential component for remediating other grave impacts of climate change. What Vineyard Wind offers is a project that moves us forward in achieving our emission reduction goals, goals that we are not on track to achieve and that are no longer pipedreams but necessary for sustained survival on this planet, while providing resources to the fishing industry so they can adapt and flourish as the energy sector of our economy necessarily transforms to include large-scale renewable energy.

In the Ocean SAMP Practitioner's Guide, on page 48, it says "through the Ocean SAMP, the CRMC commits itself to evaluating the feasibility, safety, and effectiveness of proposed Ocean SAMP area uses under projected conditions in a climate changed world." On the same page, the need to be flexible in the face of climate change is noted as impacts are "occurring at rates faster than originally predicted and that management must adapt in response."

Whether or not this precedent-setting project is deemed consistent by your board will have a significant impact on whether or not we, as state and as a nation, will be able to limit the catastrophic impacts of climate change. Given the extraordinary commitment Vineyard Wind has demonstrated to the fishing industry, the precedent should be set that these commendable mitigation measures that have been taken in this process is the standard for offshore wind development moving forward.

RI was the first to have offshore wind. Don't let us be the state that prevents the first large-scale offshore wind project. Not after we have seen sealife flourish at the base of our turbines. Not when we have 12 years to limit the impacts of climate change that are already catastrophic and put in grave danger the Ocean State. Not when extraordinary measures have been taken to accommodate the fishing industry that requires a transformation of our energy economy if sea-life is to survive the rising temperatures of the ocean which has already risen 2.2F since the 1970's. Not when the project is consistent with the Ocean SAMP.

I urge you to act in accordance with your role in this process and issue the Consistency Certification to Vineyard Wind. Your support will go down in history as a launchpad for large-scale wind energy to be brought to the grid at a competitive price and put us in the right direction for securing a livable future for current generations and generations to come.

Most Sincerely,

Nicole DiPaolo



January 13, 2019

Program Manager, Office of Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road,
Sterling, Virginia 20166

To Whom It May Concern,

Please accept the following comments in support of Vineyard Wind's offshore wind project. The draft Environmental Impact Statement (DEIS) issued by your agency clearly demonstrates that the project has taken the necessary steps to minimize potential negative impacts to the environment and local communities. I also support the project because it's being developed by a local company with strong ties to the community. The Bureau of Ocean Energy Management (BOEM) should approve this project and allow it to move forward.

As a Massachusetts resident and owner of a solar energy installation company, I can speak directly to the need to encourage the development of responsibly-sited and managed renewable energy projects in our region. Properly executed, renewable energy projects have the potential to deliver substantial local economic and environmental benefits while joining the global effort to combat climate change. The DEIS provides an overview of a project that will do far more good than harm. Vineyard Wind is committed to working with local communities as the project moves into the construction phase and beyond.

It is imperative that we transition to 100% renewable energy systems to mitigate climate change, but we also need to pay attention to who is able to participate in the transition as well as who receives the benefits. As a locally owned solar installer, we are focused on returning energy dollars back to the local economy, unlike national third party owned developers that export our dollars to investment groups. The same is likely to be true in the emerging offshore wind sector with companies that have local ties to the community showing interest in developing projects in a responsible manner to ensure the communities where they are based receive a large share of the benefits.

As the first commercial-scale offshore wind farm in the country, Vineyard Wind's project has the potential to set the standard for an industry that is at risk of being dominated by multi-national oil and gas giants with a less than stellar environmental protection and community outreach track record. Allowing this project to proceed will put the other offshore wind developers on notice and let them know what steps they will need to take to obtain the necessary permits for their projects.

For all the reasons listed above, BOEM should grant this project all the necessary approvals.

Thank you for your consideration.

With kind regards,

Gregory Garrison, President
Northeast Solar January 13, 2019

From: Ann Rosenkranz
To: [Patel, Purvi \(EEA\)](#)
Subject: Vineyard Wind project: Public Comment
Date: Wednesday, January 23, 2019 7:27:54 PM

Dear Sir/Mme;

In light of the three recent reports on climate change issued by the Intergovernmental Panel on Climate Change, the UN Environmental Programme and the US Federal government, it is critical that we make a swift transition to renewable energy and abandon our reliance on fossil fuels. The Vineyard Wind offshore wind project will help us do just that.

According to the facts, the wind project will help reduce our MA carbon emissions by over 1.6 metric tons per year (apparently the equivalent of taking 325,000 vehicles off the road). It will provide 400,000 homes with wind power energy and would meet the MA goal of 3200 MW of offshore wind, meeting 25% of the state's energy needs with the clean, renewable, locally sourced energy. The fact that it is locally sourced with a community oriented development approach is an important aspect of this well thought out project. The project has sought to be transparent with frequent public input at every step of the way. Special attention has been focused on the needs and concerns of the fishing industry, indigenous tribal interests, the protection of endangered and local wildlife species, and the minimizing of environmental impacts.

We cannot risk a poor prognosis for environmental, social and economic outcomes by failing to move quickly to renewable energy in an effort to reduce greenhouse gases.....and the window of opportunity to abate global warming is closing rapidly. The Vineyard Wind project offers one path to a sustainable future, a healthy planet and provides a plan to nurture the continuation of life on earth as we know it.

Vineyard Wind will be the US's first large offshore wind farm. I hope it will be a model for others to follow. I highly support this worthwhile and much needed endeavor.

Sincerely,

Ann Rosenkranz
102 Skiffs Lane
Vineyard Haven, MA 02568
antigoneroose2@gmail.com

From: Candy Shweder
To: [Patel, Purvi \(EEA\)](#)
Subject: Vineyard Wind Support
Date: Thursday, January 24, 2019 4:58:56 PM

To Whom it May Concern:

The people at Vineyard Wind have been working diligently to provide renewable off-shore wind energy for the Cape and Islands. They have met with many concerned groups including fishermen, homeowners, etc.

In the last few months we have been apprised of the dire situation-- much worse than was previously known-- about the CO2 levels. We must wean ourselves from fossil fuels!

Vineyard Wind is a good start. They have done their homework and I trust they have the best interests of the Cape and Islands at heart.

With this project, Massachusetts will become a national leader in the off-shore wind energy field. They have the support of Environment Massachusetts, the MA Climate Action Network, the Association to Preserve Cape Cod, the Cape Cod Climate Change Collaborative and the entire Cape and Islands state legislative delegation.

Please support this project.

Sincerely,

Carol Shweder
4 Fulling Mill Hill
PO Box 316
Chilmark, MA 02535
cshweder@gmail.com



SouthCoast Development
Partnership
151 Martine Street
Fall River, MA 02723
P: 508-910-9816
E: SCDP@umassd.edu
southcoastpartnership.org

January 22, 2019

Program Manager
Office of Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Dear Program Manager,

We are writing you today to provide comment in support of the Draft Environmental Impact Statement for the 800 Mega Watt Vineyard Wind offshore wind project.

The SouthCoast Development Partnership is a business led coalition that represents the largest employers, non-profit, and higher education institutions in the SouthCoast region. Offshore wind development continues to be a top economic development priority for this Partnership due to its ability provide employment opportunities to our region's residents, while helping diversify the Commonwealth's energy portfolio.

The Southeastern region of Massachusetts has not experienced the same robust economic growth that greater Boston's innovation economy has achieved. However, we believe that our region's "blue economy" will help catalyze this region's economic trajectory. As the United States' first utility scale offshore wind project, it will brand this region as a hub for renewable energy and marine science and technology.

In particular, we are writing in support of the 3,600 full-time jobs that Vineyard Wind is committing to creating, primarily located in the Southeastern Massachusetts region. Beyond the direct employment, we look forward to working with Vineyard Wind to identify supply chain opportunities for our region's existing businesses. This project can also promote the creation or relocation of related industry partners and employers to our region. We believe that offshore wind can become one of this region's next "anchor" industry, and we support this project.

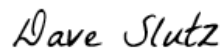
Please contact SCDP Executive Director, Hugh Dunn, with any questions at (508) 910-9816 or hdunn1@umassd.edu.

Sincerely,

SouthCoast Development Partnership Co-Chairs:

A handwritten signature in black ink, reading "Nicholas M. Christ". The signature is fluid and cursive, with the first name "Nicholas" being more prominent than the last name "Christ".

Nicholas Christ,
Co-Chair, SouthCoast Development Partnership
President and CEO, BayCoast Bank

A handwritten signature in black ink, reading "Dave Slutz". The signature is written in a cursive style, with "Dave" and "Slutz" clearly legible.

Dave Slutz,
Co-Chair, SouthCoast Development Partnership
Managing Director, Potentia Business Solutions

From: Strahler, Alan
To: [Patel, Purvi \(EEA\)](#)
Subject: EEA No. 15787 Vineyard Wind Connector
Date: Sunday, January 20, 2019 2:53:24 PM

To:

Mr. Matthew Beaton, Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
MEPA Office Purvi Patel, EEA No. 15787 (Vineyard Wind Connector)
Via Electronic Delivery

January 20, 2019

Dear Mr. Beaton:

We write today in support of the Vineyard Wind Project, which will provide 84 powerful wind turbines to generate more than 800 MW of carbon-free, renewable energy -- enough to power over 400,000 homes in Massachusetts. This power will reduce emissions of CO₂ by 1.6 million tons per year, as well as significantly ease regional air pollution by NO_x and SO₂. Since our global climate is rapidly changing in the face of increasing atmospheric concentrations of CO₂ and other greenhouse gases, the project will make a very significant contribution to moderating climate change.

In review of the Draft Environmental Impact Statement, the BOEM has found mostly negligible or minor negative impacts to Massachusetts' environment and communities, based on extensive research, data collection, and stakeholder input. Their process has been comprehensive and inclusive, and has included reducing the number of turbines and re-routing the cable landing at Barnstable to provide less impact.

As a coastal island community, Martha's Vineyard is particularly vulnerable to climate disruption and ocean acidification. Our home community, Edgartown, has already experienced impacts of sea level rise and more severe storms. As a result, climate change is very important to us and our community. The Vineyard Wind project will pioneer our local and regional action to reduce our own contribution to greenhouse gas emissions, and help us sustain our community in the face of this change.

Economic impacts of the project for our state will be overwhelmingly positive. Southeastern Massachusetts will reap the equivalent of over 3,600 full-time jobs; our island alone will reap 50 additional jobs in hosting and administering project maintenance and planning. Massachusetts ratepayers will save \$1.4 billion over the 20 year life of the project. Multiplier effects will support small businesses on our Island, and supply chains will provide opportunities for existing Massachusetts companies to feed into offshore wind industry.

Our island cooperative, Vineyard Power, is the local partner for the Vineyard Wind project, and has provided liaison services to Vineyard Wind to mitigate possible environmental and economic impacts as viewed by Island towns. Vineyard Wind has been very responsive and arranged to utilize our Island expertise and capabilities during all phases of the project.

In summary, we strongly support the Vineyard Wind project and find no fault with the MEPA Final Environmental Impact Report.

Sincerely yours,

Alan H. Strahler
Kristi S. Strahler
21 Brushy Lane
PO Box 9000
Edgartown, MA 02539



Vineyard Conservation Society

CONNECT PROTECT REFLECT

P.O. Box 2189, Vineyard Haven, MA 02568

Phone (508) 693-9588 | Fax (508) 693-0683

www.vineyardconservation.org

info@vineyardconservation.org

January 25, 2019

RE: Public comment on EEA No. 15787 (Vineyard Wind Connector)

Dear Ms. Patel,

The Vineyard Conservation Society (VCS) is a 54-year old non-profit environmental organization dedicated to conserving the natural resources of Martha's Vineyard – including conservation of energy resources.

VCS strongly believes that, (1) reducing the worst impacts of global climate change requires deployment of an arsenal of renewable energy technologies including wind, and (2) that if we are to succeed, we must simultaneously address conservation and efficiency. Global energy demand is rising rapidly and will continue to do so; for renewable energy to significantly supplant fossil fuels it is essential that we slow the growth in demand. In addition, conservation and efficiency measures are highly cost effective, reduce the impact of peak demand on the grid, and provide carbon reduction benefits immediately.

For the last 15 years, VCS has taken the position that development of renewable energy sources is fundamental to protection of the environment and the public interest, provided it is part of a coherent regulatory framework addressing all offshore wind facilities, which the MEPA unit ensures.

VCS promotes the broadest possible definition of conservation, including habitat, biodiversity, open space, and community character. Therefore, we believe that for offshore wind to succeed, the process must promote the protection of marine resources and provide a net benefit to host communities' local environments. To this end, we were very pleased to learn this week of the agreement with conservation groups to take measures to protect the endangered North Atlantic right whale. We also applaud the plans to allow our emergency management services to use Vineyard Wind's storage batteries, reducing local carbon emissions and air pollution.

Stabilization of atmospheric greenhouse gas emissions is a global environmental priority; yet, renewable energy projects are not without environmental costs. To the greatest extent possible, MEPA regulatory oversight of this project should seek to protect biodiversity and habitat, and to facilitate local benefit for host communities in the form of dollars for energy conservation and efficiency programs.

While we support this project in concept, we would like to see it take the lead, and vigorously initiate and underwrite additional community benefits that promote energy conservation and improved efficiency in its many forms: from earmarking dollars for non-polluting transportation and improving efficiency of machines, to improving energy efficiency of homes and businesses. Development of new energy without an equally forceful effort at energy conservation will undercut the magnitude of change required, and we will lose a pivotal opportunity. With emissions and temperatures rising nearly every year, time is of the essence.

Thank you for the opportunity to comment.

Brendan O'Neill,
Executive Director



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.6-4 Vineyard Wind Newsletters



NEWS

July/August 2018

A New Course for Renewable Energy

BUILDING AN OFFSHORE WIND INDUSTRY

Officially awarded the opportunity to construct 800MW of offshore wind for the Commonwealth, Vineyard Wind actively seeks contractors and suppliers

Working alongside the Massachusetts Clean Energy Center, Vineyard Wind participated in its first of a series of “Meet the Developer” supply chain events, aimed at connecting developers with local businesses capable of performing the necessary work to construct the nation’s first large-scale offshore wind farm.

The company envisions wide-ranging mutual benefits between local businesses, workforce, and the burgeoning offshore wind industry – the project has a great need for labor, expertise, ports and other infrastructure, and plans to work locally to fill those needs wherever possible. Said Erich Stephens, Chief Development Officer of Vineyard



Wind: “It may seem like uncharted territory for the US, but Southern New England has a wealth of talents and resources that Vineyard Wind needs, from established construction companies, to marine trades and other support services. We are committed to hiring locally wherever possible because it benefits both the local communities and the project to have local talent and know-how on the team.”

VINEYARD WIND OFFICIALS TOUR CAPE, NEW BEDFORD, AND BRAYTON POINT; Site Of Former Coal-Fired Power Plant May Have New Role As Staging Area For Wind Farm Construction

Vineyard Wind officials toured the site of the former Brayton Point coal-fired power plant last month, as part of efforts to explore the potential role of the 300+ acre coastal facility in Vineyard Wind's construction, which is scheduled to begin in 2019. The company has committed \$30 million to community programs and infrastructure investment intended to help build an offshore wind industry along the East Coast. That commitment includes a \$10 million Offshore Wind Accelerator Fund for infrastructure needed to develop the offshore wind industry in the Commonwealth.

With its position on the water and access to major transportation infrastructure, Brayton Point is an appealing location for staging construction of the nation's first utility-scale offshore wind farm. While New Bedford commerce terminal retains its primary role, it's clear that there is a great opportunity for economic development throughout the South Coast.

Pederson indicated that the site could be used for manufacturing of turbine foundations or other parts of the project. "As we build this first project, we're also building the crucial components of a supply chain that will serve a new industry into the future," Pederson said. "While New Bedford provides the important main staging port, there will be a significant need for sites like Brayton Point to support construction and fabrication work for our project and future projects, and we hope to cultivate a sustained partnership in these areas."

Executive board members of Vineyard Wind also toured several sites in early July, including the New Bedford Commerce Terminal, identified as the project's central shoreside construction and staging area, cable landfall locations in Barnstable and Yarmouth, and the site of Vineyard Wind's future substation in Barnstable's Independence Park.



Vineyard Wind CEO Lars Pedersen and Chief Development Officer Erich Stephens toured the site at the end of June, along with State Senator Michael Rodrigues, State Representative Patricia Haddad, and members of Commercial Development Company Inc., the owner of the Brayton Point site.

COMMONWEALTH ANNOUNCES CONTRACT BETWEEN VINEYARD WIND AND UTILITIES

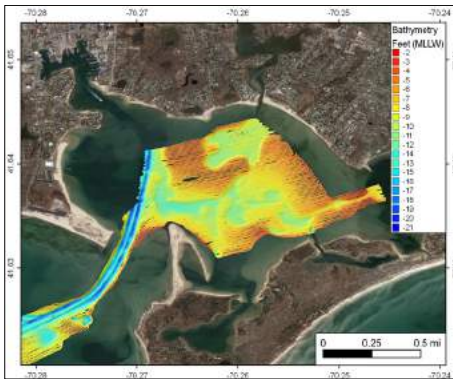
On August 1, the Massachusetts Division of Energy Resources (DOER) announced the execution of a long-term contract between Vineyard Wind and the Commonwealth's electric utilities. According to DOER, the Vineyard Wind project will deliver electricity at a levelized price of 6.5 cents per kilowatt hour, saving Massachusetts ratepayers \$1.4 billion over the anticipated 20-year life of the project.

"Today's historic filing represents the start of an industry, one that will assure access to abundant clean energy resources for decades to come, and Vineyard Wind is pleased to offer a competitive price to energy consumers in the Commonwealth of Massachusetts while continuing to advance the clear environmental and economic benefits associated with offshore wind," said Lars Thaaning Pedersen, CEO of Vineyard Wind. "By utilizing Federal Investment Tax Credits within the structure of a long-term power purchase agreement, Vineyard Wind was able to offer an attractive price to the benefit of consumers while creating value for its shareholders. This long-term investment and commitment to Massachusetts will stimulate job growth, economic development and acceleration of an emerging offshore wind industry in the United States."

The contract is now before the MA Department of Public Utilities for final approval.

LEWIS BAY SURVEY CONDUCTED; DATA ANALYSIS TO PROVIDE PROJECT REFINEMENTS FOR PROPOSED YARMOUTH LANDFALL

Vineyard Wind completed its second marine survey of Lewis Bay this spring and is finalizing data analysis for its most recent bathymetric mapping and analysis of Lewis Bay's seabed. Preliminary results confirm that seabed conditions of the bay where Vineyard Wind plans to install two transmission cables are appropriate for a target burial depth of 6 to 8 feet.



Vineyard Wind's surveys are thought to be the most comprehensive oceanographic study of Lewis Bay ever conducted. Instrumentation includes sidescan sonar, sub-seafloor seismography, high resolution bathymetry, and high-definition video. The analysis will be used to confirm the stability of the seabed, identify any sensitive resources (including eel grass), and will identify any obstructions to be avoided in order to achieve sufficient depths. The company is also analyzing core samples and benthic grabs from the Lewis Bay seabed which constitute the geotechnical analysis of the bay.

PROJECT PERMITTING

STATE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT REPORT UNDERWAY

Vineyard Wind is in the process of drafting a supplement to the Draft Environmental Impact Report submitted to the state in April. As Vineyard Wind was selected as the sole winner of the Commonwealth's first offshore wind procurement and asked to supply the full 800MW solicited by the state's utilities, the document will establish several project specifications unique to the 800MW bid, including refinement of the offshore cable route and confirming the need for only two export cables.

Once supplemental material is submitted, state environmental regulators will open a second 30-day public comment period. All comments on the Draft Environmental Impact Report will be considered as Vineyard Wind drafts the Final Environmental Impact Report, which will provide reference information for the many state agencies reviewing the project.

ENERGY FACILITIES SITING BOARD (EFSB) PROCEEDINGS TO CONTINUE THIS FALL; VINEYARD WIND SUBMITS RESPONSES TO SEVERAL HUNDRED QUESTIONS POSED BY CITIZENS, AGENCIES, AND OTHER INTERESTED PARTIES

The Energy Facilities Siting Board, currently reviewing Vineyard Wind's petition to connect the nation's first utility-scale wind generation facility to the grid, has been consolidating and submitting inquiries to Vineyard Wind in advance of proceedings expected in September. The several hundred questions relate to all aspects of the project, and were generated by comments from residents, inquiries from state agencies and local governments, and other correspondence submitted to the Board.

The Energy Facilities Siting Board reviews proposed electricity generation facilities in the Commonwealth, evaluating proposals on the basis of environmental impact, cost and feasibility. Responses to their questions, called "information requests" touch on the many financial, environmental, planning, and other aspects of the project.

Final determination from the EFSB is expected by spring of 2019.

FALL RELEASE ANTICIPATED FOR BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM) DRAFT ENVIRONMENTAL IMPACT STATEMENT

After Vineyard Wind's federal filing in March 2018, BOEM held a series of public scoping meetings throughout southeastern New England, and a public comment period, to gather information from stakeholders on the Vineyard Wind proposal. The agency has compiled these comments, received any necessary clarification from Vineyard Wind, and is expected to release its Draft Environmental Impact Statement (DEIS) this fall. The DEIS will be open for public comment and BOEM will hold a series of public hearings to gather further input.

IN THE COMMUNITY

Vineyard Wind focuses on concerns of Yarmouth residents in most recent outreach efforts

After over a dozen community events in Barnstable and Yarmouth starting in 2017, including open houses, office hours and public forums, Vineyard Wind participated in two community meetings in July. A meeting with neighborhood associations held at an association member's home on July 2 preceded a public forum hosted by the Yarmouth Board of Selectmen at the Dennis-Yarmouth High School on July 16. Both events focused largely on issues surrounding Lewis Bay, and the questions posed by Yarmouth residents over the long-term health of Lewis Bay.

Erich Stephens, Vineyard Wind's Chief Development Officer who has been with the company since its inception, is optimistic about the recent dialogue with residents and town officials. "We feel that by working together, the town can support an important renewable energy project, have full assurance that the bay is getting all the protection it needs, and receive an additional, long-term revenue stream that will ease the tax burden in the town, and even enhance the condition of the bay," Stephens said. "It's now a matter of striking the balance that achieves all those shared goals."

Spring 2018 also featured several public events hosted by state and federal agencies seeking input to their permitting processes as Vineyard Wind works towards securing more than two dozen permits and authorizations from a range of agencies at the local, regional, state, and

federal level. The Federal Bureau of Ocean Energy Management held a series of public meetings on the Cape, Islands, New Bedford and Rhode Island this spring in order to hear from the public. In April, the State Energy Facilities Siting Board held a hearing at Barnstable High School. Several other similar events will be scheduled by various agencies in the coming months.

HCA negotiations continue with Barnstable; Yarmouth MOU in process

Since Fall 2017, Vineyard Wind has worked to develop Host Community Agreements (HCAs) with the towns of Barnstable and Yarmouth. HCAs offer host towns clarity on the project, establish working partnerships, and provide guarantees and protections for the towns.

Vineyard Wind is in ongoing and productive negotiations towards an agreement with the Town of Barnstable to provide compensation and legal assurances to the town as part of the

company's planned installation in the fall of 2019. The company will locate its substation and grid interconnect in Independence Park, adjacent to an existing substation owned by Eversource.

Vineyard Wind has also resumed dialogue with town officials in Yarmouth to negotiate an agreement with the town. Yarmouth officials are working with Vineyard Wind on structuring an initial payment to the town to support efforts to evaluate and negotiate an agreement on the project's preferred landfall at New Hampshire Avenue. "We want to be a good partner in this process, so making a good faith payment that can be used for preliminary technical or legal review makes sense for everyone," said Nate Mayo, Vineyard Wind's Manager of Development and Policy. "We want to ensure that the town is not incurring unreasonable costs or burdens as it works toward partnering with the project."

The HCAs could include commitments from Vineyard Wind to confine construction to off-season months, accommodate for and assist with local infrastructure needs, support restoration efforts in Lewis Bay, and provide a stable, long-term funding stream for the town. The towns have the opportunity to negotiate additional benefits including financial protections to protect the town from incurring costs, guarantee mitigation for any temporary impacts, and ensure that future dredging, sewerage or wastewater remediation will not be impeded by construction or operations.

The company's proposed primary route begins at New Hampshire Avenue in West Yarmouth, running under Berry Avenue and Higgins Crowell Road, and into Barnstable via one of several potential underground pathways off public roads.



Sampling Work in Barnstable evaluates feasibility of Covell's Beach landfall

Vineyard Wind contractors worked with the Town of Barnstable on a small but important step in their design of a potential cable landfall in Centerville: a core-sampling to provide confirmation of the soil makeup deep under Covell's beach. Initial findings indicated favorable conditions should the company employ horizontal-directional drilling (HDD) to run its cable deep below the beach as one of two options to bring Vineyard Wind's 800 MW of power to land from its project 30 miles south of Cape Cod.



VINEYARD WIND ENGAGES IN PUBLIC POLICY INITIATIVES

MASSACHUSETTS LEGISLATURE PROPOSES EXPANDED OFFSHORE WIND DEVELOPMENT FOR COMMONWEALTH; STATE COMMITS \$15 MILLION TO REDEVELOPMENT OF BRAYTON POINT SITE

As part of the usual flurry of legislative activity on Beacon Hill this summer, Vineyard Wind has been involved in a number of efforts, including a push to protect Nantucket Sound from wind turbine development, and initiatives that would increase renewable energy in the Commonwealth.

The State Senate and House passed legislation with a number of clean energy initiatives, including authorizing a doubling of offshore wind in the Commonwealth to 3200MW. The legislation is expected to be signed by the Governor, who signed the first offshore wind mandate as part of the 2016 Energy Diversity Act.

The legislature also included \$15 million for the redevelopment of Brayton Point in economic development legislation passed in late July. Brayton Point is the site of a former coal-fired power plant, and the area is slated to serve an important role in future offshore wind construction projects.

Vineyard Wind's \$10 million Offshore Wind Accelerator Fund and other potential commitments will form the base of shoreside modifications that developers and policymakers in the Commonwealth hope will anchor southeastern Massachusetts as the next global hub for offshore wind.



VINEYARD WIND WORKS TOWARD PROTECTION FOR NANTUCKET SOUND

This year, Vineyard Wind has been pursuing legislative, regulatory and other policy solutions to secure long-term protection of Nantucket Sound in support of the Alliance to Protect Nantucket Sound and other advocacy groups. Vineyard Wind officials have participated in a meaningful dialogue over the past several months to help protect Nantucket Sound from the siting of wind turbines, and the company plans to continue to be a partner in these important efforts.

While the economics and policy priorities for offshore wind have shifted to the deep ocean, Cape and Islands residents and other stakeholders remain uneasy about industrial development in Nantucket Sound, a legacy left by the failed Cape Wind proposal. Vineyard Wind's priority is to ensure offshore wind development is not pursued in Nantucket Sound, and the company is committed to helping develop a policy structure that supports responsibly-sited offshore wind areas defined through an established process built on stakeholder input.

VINEYARD WIND IS GROWING

Vineyard Wind hires New Bedford-based Fisheries Liaison Crista Bank to head up efforts to connect with fishing industry on project development



Vineyard Wind is thrilled to announce Crista Bank as its latest addition to the team. Vineyard Wind's new Fisheries Liaison, Crista will lead the project's regional engagement with fishing industry representatives on Cape Cod, the South Coast, Rhode Island, Connecticut and New York. A fisheries scientist, Bank brings extensive local, regional, national and international experience and deep knowledge of marine science and fisheries issues to her role at Vineyard Wind.

"For fishermen in the region, offshore wind is something new and unfamiliar, so we have to grow together," Bank said. "It will take a lot of work, thought and compromise, but we can coexist and thrive if we do it right. We need renewable energy, but just as much we need to be a good neighbor, supporting and engaging a valuable industry – I'm excited for the opportunity to play a part in connecting these two important national priorities."



Vineyard Wind seeks to build out its team; several positions recently posted

Ramping up efforts to begin construction in the fall of 2019, Vineyard Wind is seeking to fill crucial construction, management, permitting, and engineering roles. A unique range of talents are needed to build the nation's first large-scale wind farm. Roles include a Quality, Health, Safety and Environmental Manager, as well as several supervisory roles for project construction, engineering, media and finance.

"These roles represent the beginning of an American offshore wind industry," said Vineyard Wind CDO Erich Stephens. "Building a project like this is an enormous undertaking and assembling local talent to support our efforts is no small task. We're focused squarely on the challenges of the project before us, and are confident we can assemble and grow a skilled workforce in Southeastern MA that will support this new industry in the decades to come."

For more information on employment opportunities, please go to: vineyardwind.com/employment

VINEYARD WIND



NEWSLETTER

Fall 2018

A New Course for Offshore Wind

BARNSTABLE SIGNS HOST COMMUNITY AGREEMENT WITH VINEYARD WIND;

Town Council Approves Offshore Wind Farm Cable Landfall In Centerville

Vineyard Wind's offshore wind project achieved a major milestone on October 18 when the Barnstable Town Council voted unanimously to approve Vineyard Wind's proposal to bring its offshore cable onshore at Covell's Beach. This cable will bring the project's emission free electricity to the mainland and deliver it into the grid. The Town's approval of the cable landing supports the project's on-going permitting process at the state level.

The vote comes two weeks after the Town entered into a Host Community Agreement with

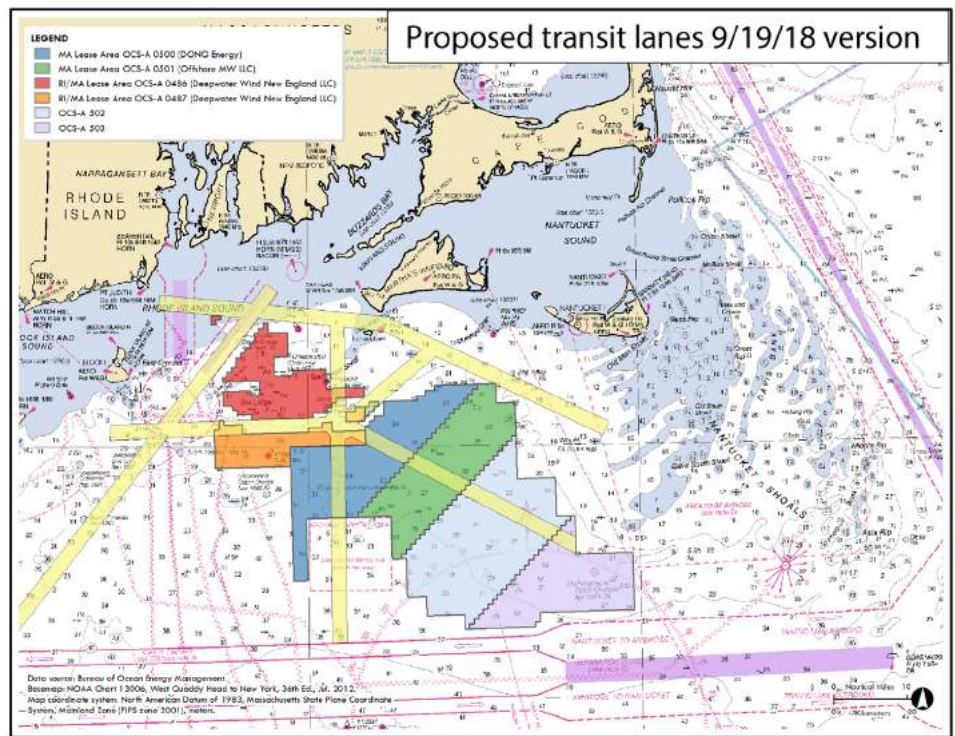
Vineyard Wind. The agreement provides a number of benefits to the Town in exchange for agreeing to "host" parts of Vineyard Wind's project. Among other things, the agreement will provide over \$35 million for the Town, provides for highest protections for the Town's water resources, and ensures that Vineyard Wind's cables will never be used for a wind project in Nantucket Sound. Because Vineyard Wind's cables will be using limited grid connection space on the Cape, this last provision means that as a practical matter, no wind projects will ever be built in Nantucket Sound.

CONTINUED ON NEXT PAGE

Vineyard Wind's project has received strong support from Barnstable residents, with many highlighting the important opportunity Vineyard Wind's project presents for the Town to take action on climate change and secure a major source of new revenue. "I want to commend Town Manager Ells and Charlie McLoughlin, our attorney, and Vineyard Wind as a whole for the cooperative spirit that I've seen," said Councilor John Flores at the October 18 Town Council meeting. "We're taking into account what's in the best interest of the Town and the safety of the community which is critical, and again protecting our water and our aquifer to make sure that there's never going to be an issue for us."

As a result of the Host Community Agreement, Vineyard Wind has designated the Town of Barnstable as its preferred cable landing site under the state's permitting process. Vineyard Wind originally sought to bring its cable on shore at New Hampshire Avenue in Yarmouth, with the Covell's Beach site serving as an alternative. However, in light of the productive negotiations with Barnstable councilors and staff, the company changed its preferred cable route to Covell's Beach on October 2, in advance of the state's Energy Facilities Siting Board (EFSB) proceedings.

The EFSB is responsible for reviewing and approving aspects of Vineyard Wind's project that will be located near- and onshore in Massachusetts as part of the state's permitting process. Both of the proposed project's cable landings, including their respective routes from the wind turbines to the shore, have been heavily researched and surveyed by Vineyard Wind and will be fully evaluated by the EFSB before it issues its final decision on the project.



Vineyard Wind and the Fishing Community Collaborate on Safe Navigation

Vineyard Wind is committed to ensuring wind and the fishing community can safely co-exist offshore. As a result, Vineyard Wind has recently announced its intention to implement a two nautical mile wide transit corridor through its offshore wind lease area. The transit corridor, which has broad support from a variety of fishermen from different ports across the region, will further ensure safe transit of vessels through the wind farm to important fishing grounds and safe passage home for mariners during inclement weather.

Governor Baker Ceremonial Lease Signing



On October 22, Governor Baker and Vineyard Wind representatives participated in a ceremonial lease signing for the New Bedford Marine Commerce Terminal, which will be the main port that Vineyard Wind uses to build its offshore wind farm.

VINEYARD WIND HOSTS LOCAL STUDENT GROUPS

High schoolers from across Massachusetts learn about careers in offshore wind.

On August 1, over 100 high school students from across Massachusetts gathered in New Bedford for an event co-organized by Vineyard Wind to learn about future career opportunities in the rapidly emerging US offshore wind sector.

Students in attendance are enrolled in the “Learn and Earn” summer internship program run by the Massachusetts Clean Energy Center (MassCEC).

The event was organized in cooperation with Bristol Community College and Mass Maritime Academy. Speakers included Steve Pike and Bill White from MassCEC, Anthony Ucci from Bristol Community College and Megan Amsler from Mass Maritime, as well as Vineyard Wind’s Nate Mayo. Students also toured the New Bedford Commerce Terminal, a port that Vineyard Wind will use to build its offshore wind project.

Presentations at the event focused on the growing demand for a talented local workforce to support the offshore wind industry in the coming years. Speakers highlighted the need for specialized skills in marine trades, environmental engineering, and a range of other disciplines. Students eagerly participated in the discussions, asking presenters technical questions and expressing interest in internships at Vineyard Wind.

Events like these are part of a larger effort that the event organizers and others in the region have undertaken to create a strong institutional base in southeastern Massachusetts to expand and support the region’s offshore wind workforce. Additional initiatives include outreach to secondary schools, expanding curriculum at local colleges, coordinating with offshore wind developers, and building the physical infrastructure necessary for technical training programs, such as Mass Maritime’s planned wind turbine base.



Photo (above): Over 100 students toured the New Bedford Commerce Terminal after a presentation on the career opportunities of offshore wind.



Photo (left): Nate Mayo of Vineyard Wind speaks to students about the project and the need for a variety of skilled workers in the offshore wind industry.

VINEYARD WIND SPONSORED EV CAR DAY SPARKS INTEREST ON MARTHA’S VINEYARD



Erik Peckar and Richard Andre of Vineyard Power along with State Representative Dylan Fernandes show support for electric vehicles on Martha’s Vineyard.

On September 8, Vineyard Wind co-sponsored Martha’s Vineyard Electric Vehicle (EV) Plug-In Day, which was hosted by Vineyard Wind’s community partner, Vineyard Power, at the Oak Bluffs Library.

The annual, local community event, held in conjunction with National Drive Electric Week, was an opportunity for Islanders to learn about the benefits and advantages of electric vehicles and gather information about available EV incentives.

This event is aimed at increasing awareness about EVs and supports Vineyard Power’s vision to make the island of Martha’s Vineyard carbon neutral, in domestic electricity, transportation and home heating by 2050. Vineyard Wind is proud to support events which help our island partner achieve their renewable energy goals.

IN THE DISTANCE:

WIND PROJECT VISUAL SIMULATION ON DISPLAY IN NANTUCKET

Local residents invited to view what offshore wind project will look like from shore

Ever wonder what wind turbines look like from 15 miles away?

Vineyard Wind encourages curious Nantucketers to stop by the Shanty on South Beach Street to see a visualization of the proposed Vineyard Wind project as it will look from the Nantucket coastline. Tobias Glidden, a local renewable energy advocate and owner of the Shanty, hopes that the display will help to educate locals and visitors about the importance of renewable energy on the Island.

The visualization is in good company, as Glidden's converted scallop shanty is also home to ACK Smart Energy - Glidden and business partner Zach Dusseau's solar installation business - as well as their electric bicycle showroom. A "solar terrace" supplies clean energy to the building and into the grid.

**VINEYARD WIND**

**NANTUCKET
OFFICE HOURS**

Come view visualization simulations and learn more about our efforts to build the nation's first large scale offshore wind energy project 15 miles south of Nantucket

**Monday through Friday
1:00 PM - 4:00 PM**
The Shanty
4 South Beach St Ext
(Behind The Juice Bar)

"The technology is here, and now it's a matter of education," said Glidden, a former member of the Nantucket Select Board. "We're excited to play a part in communicating with Islanders on a range of clean energy efforts, and Vineyard Wind is among the most important for Nantucket and beyond."

Residents are encouraged to view the visualization, learn about the project, and offer comments. The Shanty is also hosting regular office hours for Vineyard Wind throughout the fall to allow Islanders the opportunity to discuss the project, ask questions, and connect with the developer.

PERMITTING UPDATE:

VINEYARD WIND PROJECT CONTINUES ADVANCING THROUGH STATE PERMITTING PROCESSES

October marks two important achievements for the project on the permitting front in Massachusetts. First, on October 15, the Massachusetts Environmental Policy Act Office (MEPA) issued a certificate of completion to Vineyard Wind's Supplemental Draft Environmental Impact Review (SDEIR). This allows Vineyard Wind to proceed with development of a Final Environmental Impact Review for consideration by MEPA.

Second, the Energy Facilities Siting Board (EFSB) proceedings for the project were held throughout October. The EFSB held these hearings during several days throughout the month on Vineyard Wind's proposed cable route. The purpose of these proceedings is to allow the EFSB members and intervenors to ask Vineyard Wind questions and gather testimony on the proposal. The EFSB is anticipated to announce its decision on the cable route in Spring 2019.

VINEYARD WIND IN THE COMMUNITY

A summary of recent and upcoming local events sponsored or supported by Vineyard Wind.

Vineyard Wind is honored to have participated in several community events in Massachusetts this fall:

Net Zero Cape & Islands Roundtable:

Vineyard Wind was proud to be a sponsor of the Cape Cod Climate Change Collaborative on September 27, at the Cape Cod Resort & Conference Center.



Localizing Benefits from Offshore Wind: Energy, Economy & Environment:

Organized by the Cape Cod chapters of Sierra Club and 350.org, and hosted at the Cape Cod Community College, this October 1 event broadened the discussion about the benefits offshore wind can deliver to the region. Nate Mayo (Vineyard Wind) and Richard Andre (Vineyard Power) both participated in the panel pictured above.

Greater Hyannis Civic Association:

Vineyard Wind provided a presentation to the association board and attendees regarding the project's implications for Barnstable, including benefits that will be delivered by the Host Community Agreement and the project's construction timeline. This event follows a similar presentation to the Centerville Civic Association earlier in the year.

Commercial Marine Fishing Expo:

Vineyard Wind participated in the October 17-18 expo in Providence as part of our ongoing efforts to connect with Rhode Island fishermen.

Mark your calendars for 2019!



WaterWorks Career Day:

On **January 8, 2019** the Cape Cod Chamber of Commerce is organizing a career day to introduce students from all over the Cape, Islands, and South Shore to the opportunities available in the Cape's rapidly growing Blue Economy. Vineyard Wind is honored to be partnered with the Chamber on this event as a Premier Sponsor to teach high school students about the many opportunities to participate in burgeoning ocean-based industries in the area, with a special focus on the near-term need for a local workforce trained in offshore wind.



Massachusetts Lobstermen's Association (MLA) Annual Weekend & Trade Show:

On **January 17-19, 2019**, the MLA is hosting its annual gathering of over 1,800 commercial fishermen.

Vineyard Wind will be participating in the event as a Platinum Sponsor and is eager for the opportunity to engage with some of New England's most iconic fisheries at this event.

If you're interested in having Vineyard Wind participate in an event, please contact Nate Mayo at nmayo@vineyardwind.com.



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NEWSLETTER
Winter 2019

A New Course for Offshore Wind

Leading Cape Environmental Advocacy Organization Endorses Vineyard Wind

On December 19, the Association to Preserve Cape Cod (APCC) held a press event to announce their enthusiastic support of the Vineyard Wind project.

“We have reached a point where we are confident the project has worked diligently and successfully to avoid the potential for most environmental impacts,” said APCC Executive Director Andy Gottlieb. “Where environmental impacts may be unavoidable, those impacts are likely to be minimal, and they are proposing comprehensive mitigation to address those potential impacts.”

Gottlieb went on to say that recent climate reports and the Cape’s vulnerability to climate change impacts were the driving reasons behind this timely endorsement.

APCC’s support comes after an exhaustive review of state and federal environmental analyses and in advance of multiple opportunities for the public to weigh in on Vineyard Wind’s permitting through federal and state comment periods. Local permitting will begin in early 2019.

VINEYARD WIND WILL REDUCE CARBON EMISSIONS EQUIVALENT TO TAKING 325,000 CARS OFF THE ROAD.



Photo Credit: Gerald Beetham

PERMIT UPDATE:

Federal and Massachusetts Agencies Ask for Public's Input on Vineyard Wind's Project

Vineyard Wind enters final phase of MEPA permitting; Federal Government releases draft environmental analysis.

Vineyard Wind encourages everyone with an interest in fighting climate change, the business and job opportunities of a new offshore wind industry, energy security and costs, and environmental protection to submit written comments and/or attend one of five public meetings being hosted in January, and to submit written comment to both the federal and state agencies that will be accepting public comment during January.

Please stay tuned for the rescheduling of public meetings due to the federal government shutdown. Details on how to submit comments, along with public meeting dates and locations, are available on Vineyard Wind's website.

The Vineyard Wind project needs to receive permits and approvals from over 30 different government agencies.

On the federal level, the current public comment period focuses on the project's potential environmental benefits and impacts, detailed in the project's Draft Environmental Impact Statement, which was prepared by the Bureau of Ocean Energy Management. On the state level, public comments are being accepted for the project's Final Environmental Impact Report (FEIR), which was drafted by Vineyard Wind and submitted to the Massachusetts Executive Office of Energy and Environmental Affairs. The FEIR represents one of the last steps in Massachusetts' permitting process and review of the project.

VINEYARD WIND TO USE WORLD'S LARGEST WIND TURBINE

The 9.5 MW turbine reduces project's offshore footprint

In November, Vineyard Wind announced it will be using the world's largest and most powerful commercially available offshore wind turbine for its Massachusetts project. The MHI Vestas 9.5 MW turbine is the most world's most efficient, with each unit capable of providing enough energy for over 8,000 homes.



Photo Credit: MHI Vestas Offshore Wind

This turbine is so new to the market, the project team will have to work hard to make sure the turbine receives engineering certifications in time. But Vineyard Wind is glad to be able to use the turbine, as it is one of the ways in which the project is responding to concerns raised by the fishing industry. With this turbine model, Vineyard Wind is able to reduce the total number of turbines for the project from 106 to 84 while at the same time decreasing the project's footprint by more than 20%. Reducing the number of turbines and the overall area of the project, along with several other measures, is designed to make efficient use of the area leased to Vineyard Wind in 2015. "A key to coexistence with the many interests and industries in our oceans is to minimize impacts," Vineyard Wind CDO Erich Stephens said. "We are committed to putting as few structures in the water as possible, and the Vestas 9.5 allows us to do exactly that."

Recent Climate Reports Emphasize Urgent Need to Cut Carbon Emissions, Point to Renewable Energy as Key Solution

As world leaders convened in Poland for an international climate summit in December, three major reports- released by the Intergovernmental Panel on Climate Change, United Nations Environment Programme, and the US federal government- outlined the dire environmental, social, and economic consequences if the world fails to make dramatic progress in the coming decade to limit carbon emissions. These reports also point to the rapid deployment of renewable energy as an essential measure to avoid the worst impacts of climate change.

Fortunately, recent efforts by several Northeastern states, including Massachusetts, to jumpstart the US offshore wind sector promise to deliver thousands of megawatts of climate-friendly power in the coming years. Vineyard Wind's first-in-the-nation large-scale offshore wind project will reduce Massachusetts' carbon emissions by over 1.6 million metric tons per year, the equivalent of taking 325,000 cars off the road while providing over 400,000 homes with fossil-free wind power. Massachusetts' goal of 3,200 MW of offshore wind would meet roughly 25% of the state's energy needs with clean, renewable, locally sourced energy.

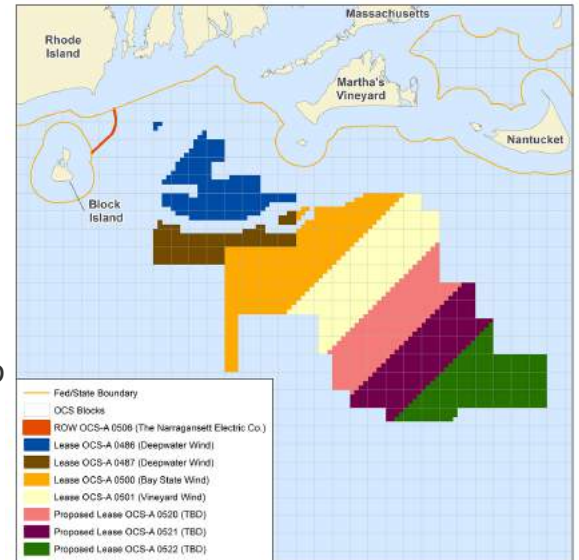
VINEYARD WIND SECURES SECOND LEASE AREA IN LATEST FEDERAL AUCTION

Vineyard Wind continued its path as a leader in the burgeoning US offshore wind industry with the acquisition of a second Offshore Wind Lease area, 30 miles south of Nantucket. The federal government conducted an auction in mid-December to allocate three lease areas off the southeast coast of Massachusetts to project developers via a competitive bidding

process. After 31 rounds of bids over the course of two days, Vineyard Wind was among three winners. Equinor and Mayflower Energy (a joint venture between Shell and EPDR) each acquired a lease area. This record setting auction netted the federal government over \$405 million.

The lease areas auctioned were identified by BOEM through a multi-year, intergovernmental and stakeholder process. The process was fully transparent, and included numerous public meetings held throughout the region. Fishing activity and endangered species were key factors considered when the areas were deemed appropriate for offshore wind development at the conclusion of the process.

Vineyard Wind is committed to continue working with all stakeholders – including the fishing industry, environmentalists, wildlife experts, and local communities – BOEM, and tribal and state agencies — in continuing to build a new industry for the region and making substantial contributions to fighting climate change. This new project lease area will allow us to grow our existing local partnerships, as we continue to apply a community-oriented development approach to our activities.



Want to learn more about the project?

Vineyard Wind staff stand ready to answer your questions and are available to give a presentation to local organizations and community groups that want to know more about offshore wind and the on-going permitting process.

Send questions or presentation requests to info@vineyardwind.com, and one of our staff will get back to you quickly.

VINEYARD WIND IN THE COMMUNITY

New Bedford High School Career Fair

On November 27, Vineyard Wind participated in the annual New Bedford High School Career Fair, alongside many other exhibitors including the Marion Institute and Bristol Community College. This event provided youth in attendance the opportunity to learn about a variety of careers that they could pursue, including careers in the offshore wind sector, along with the skills they will need to acquire to be successful.



Nantucket Christmas Stroll

Vineyard Wind joined the Nantucket Christmas Stroll on December 1 and spent time talking to residents and visitors about how offshore wind can play a role in local efforts to reduce the effects of climate change. Visual simulations of Vineyard Wind's offshore wind farm that were on display during the event will remain available for public viewing downtown at the Shanty (4 Beach Street Ext.) and the Nantucket Planning and Economic Development Office throughout next summer.



Millennial Leadership Summit

On December 3, representatives from Vineyard Wind and community partner Vineyard Power participated in the 100% Renewable Energy for Massachusetts Millennial Leadership Summit, an event organized and hosted by young leaders from environmental organizations, local governments, and renewable energy startups throughout the state. The summit served as a forum for the more than 80 participants representing various non-profits, businesses, and communities to celebrate the Commonwealth's renewable energy achievements to-date and identify areas where millennials are uniquely suited to push harder for a truly equitable shift to 100% renewable energy.



Cape Cod Maritime History Symposium

Vineyard Wind also participated in the Cape Cod Maritime History Symposium, held at the Cape Cod Museum of Natural History in November. Nate Mayo, Manager of Development and Policy, delivered a lecture on the centuries-long relationship between wind resources and maritime commerce and energy. "Our earliest maritime commerce was powered by wind," said Mayo. "We are in a position to use the same resource that powered ships for centuries to start a new industry, one that will provide a local source of energy and help meet our ambitious environmental goals here in Massachusetts."



WaterWorks Career Day

Vineyard Wind was honored to serve as the Premier Sponsor of the Cape Cod Blue Economy's WaterWorks Career Day. Over 300 students from the Cape, Islands, and southern Plymouth County visited Cape Cod Community College to learn more about the many career opportunities presented by offshore wind and other marine industries in Southeastern Massachusetts.



SMAST and Vineyard Wind Host Fisheries Studies Scoping Meetings

As part of Vineyard Wind's on-going commitment to support independent science and fisheries research, Vineyard Wind partnered with the the School for Marine & Science Technology (SMAST) at UMass-Dartmouth to perform pre-and post-construction fisheries assessments that will be key in informing the industry in its future efforts to minimize impacts to marine resources.

As part of this effort, SMAST recently hosted to a series of workshops for fishermen to identify what questions and information would be most valuable for pre- and post-construction assessments of fisheries, ecological conditions, social, and economic aspects of commercial fishing in and around Vineyard Wind's lease area. Input from the fishing community will help define research priorities and shape these important monitoring plans. Stakeholder engagement and environmental stewardship have been core values for Vineyard Wind. Vineyard Wind anticipates working with SMAST and other research organizations, guided by fishermen and other fishing community stakeholders on other collaborative science efforts, so that the best information is available in making future plans and permitting decisions.

Vineyard Wind has organized a network of fishermen and fishing organizations to provide input in the design and operation of the project. Fisheries representatives include the Port of New Bedford and the Massachusetts Lobstermen's Association.

Upcoming Events:

TBD:

BOEM Public Meetings

In December 2018, the Bureau of Ocean Energy Management released its Draft Environmental Impact Statement on Vineyard Wind's project. **Due to the government shutdown, public meetings will be rescheduled.**

Vineyard Wind encourages the public to submit comments online. Please visit, www.VineyardWind.com/DEIS for the most up-to-date information and to learn more about upcoming public meetings.

January 17-20:

Mass Lobstermen's Association Annual Weekend and Trade Show

Vineyard Wind will be sponsoring MLA's annual weekend as part of our efforts to connect with the fishing industry in New England. Representatives from Vineyard Wind will be available during the multi-day event to answer questions about our project and solicit input from fishermen to further inform our project development process.

March 12:

Barnstable Public Forum

Join Vineyard Wind and Barnstable town officials for a presentation about Vineyard Wind's construction plans to bring power to shore at Covell's Beach and connect to the Cape's electrical grid in Hyannis. This forum is open to the public. Vineyard Wind encourages area residents to attend to learn more about the project and ask questions.

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VINEYARD
WIND



North Atlantic Right Whale Protection Agreement Reached

NEWSLETTER
Spring 2019

In January, Vineyard Wind joined the Conservation Law Foundation, Natural Resources Defense Council, and the National Wildlife Federation to announce a landmark agreement to ensure protection of the critically endangered North Atlantic Right Whale.

“This innovative agreement is proof that we can grow the clean energy we need to power our homes and businesses and at the same time protect vulnerable wildlife...”




The agreement stipulates enhanced monitoring and vessel speed restrictions, as well as significant seasonal restrictions on installation activities. Specifically, pile-driving will not occur during January through April, when Right Whales are most likely to be in the area, and significant

monitoring enhancements and restrictions on installation extending from November to Mid-May.

“Scaling up offshore wind in wildlife-friendly ways is essential to confronting the climate crisis,” said Collin O’Mara, president and CEO of the National Wildlife Federation.

The groups had been discussing Right Whale protections for over a year, with each party sharing the understanding that the pursuit of renewable energy is essential to environmental protection, but that offshore wind must be pursued with marine species protection as a top priority.

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Right Whale Protection Agreement Reached *(continued...)*

“This innovative agreement is proof that we can grow the clean energy we need to power our homes and businesses and at the same time protect vulnerable wildlife like the iconic North Atlantic right whale,” said Nathanael Greene, Senior Renewable Energy Advocate at NRDC.

With approximately 410 North Atlantic Right Whales remaining, this protection agreement is lauded as the most significant of its kind, coming at a pivotal time for offshore wind development in the US.

“As we ask more of our oceans, we must ensure that we balance the critical need for clean energy with the protection of our majestic right whales and other marine species,” added Dr. Priscilla Brooks, Director of Ocean Conservation at CLF. “This agreement marks a significant step forward in responsible development of offshore wind energy.”

STATE LEGISLATIVE HIGHLIGHTS

• *H.2920 Massachusetts Rep. David Rogers filed a bill to authorize coordination by New England states to procure additional offshore wind energy. Up to 9 gigawatts of fossil fuel and nuclear power plants are scheduled to go offline in coming years and this bill would establish a regional priority to replace it with clean, renewable offshore wind energy.*

• *H.832 Massachusetts Rep. Joan Meschino seeks to amend the Global Warming Solutions Act (GWSA) to require carbon neutrality by 2050. The bill includes measures for carbon pricing, carbon reduction across industries, and benchmarks in 2030 and 2040.*

VINEYARD WIND RECEIVES KEY STATE APPROVALS

Moves to local, regional permit review

In February, Vineyard Wind received certification of its final Environmental Impact Report (EIR) from Massachusetts Energy and Environmental Affairs Secretary Matthew Beaton. State review began in April 2018 and included an extended public comment period, and supplemental filings after Vineyard Wind was awarded a contract to sell 800 megawatts to Massachusetts public utilities. The Massachusetts Environmental Policy Act Office (MEPA) issued its final certification to Vineyard Wind in February, authorizing the company to seek state and local permits.

“The MEPA environmental review process provided a significant benefit to the project, allowing numerous stakeholders, advocacy groups, and interested citizens to help identify and address impacts so they can be effectively managed or mitigated,” said Erich Stephens, Chief Development Officer for Vineyard Wind. “Our team will continue to work collaboratively with state, regional and local regulatory agencies – as well as all stakeholders- as the project moves forward.”

Vineyard Wind has since filed with the Martha’s Vineyard and Cape Cod Commissions, with approvals from those agencies expected this spring.

The project also received a key approval from the state of Rhode Island via that state’s Coastal Resource Management Council (CRMC) which reviewed whether the project was consistent with the Rhode Island Ocean Special Area Management Plan. Vineyard Wind filed with CRMC in April 2018, but both parties agreed to extend the process by five months so that CRMC’s Fisheries Advisory Board could discuss the project and reach agreement on mitigation measures. CRMC approved the project as consistent on February 28, 2019.

RESCHEDULED FEDERAL PUBLIC MEETINGS COMPLETED

February meetings held on Cape, Islands, New Bedford and Rhode Island

Delayed by the January shutdown of the federal government, the Bureau of Ocean Energy Management rescheduled and held public meetings across Southern New England in February. The opportunities for public input on the agency's Draft Environmental Impact Statement received largely positive comments from the public. Main topics included job creation, marine fisheries impacts, and the urgent need for the region to respond to climate change.

Environmental activists, fishermen, and labor unions were well represented at the meetings, which offered a venue for representatives from the Conservation Law Foundation, National Wildlife Federation, Cape Cod Chamber of Commerce, Association to Preserve Cape Cod, Vineyard Power Cooperative, and other groups to speak in support. The Environmental League of Massachusetts and the Mass Climate Action Network also submitted comments to BOEM in support of the project.



JULIUS LOWE

MARTHA'S VINEYARD RESIDENT

"The forward thinking of a project like this is going to inspire people to think about a greener future."



MELINDA LOBERG

MEMBER OF THE SELECTBOARD,
TOWN OF TISBURY

"This project will have a positive impact on year round jobs for our young people. We are enthusiastic. We cannot wait for this to happen."



BILL LAKE

MARTHA'S VINEYARD RESIDENT

"Few things could be as important as reducing carbon emissions by moving from fossil fuels to renewable energy, and this project will be a huge step in that direction."





FORUM FOR BARNSTABLE RESIDENTS DISCUSSES LOCAL IMPACTS, BENEFITS

Vineyard Wind staff provide project update and timeline for construction at Covell's Beach

The Town of Barnstable hosted a public forum on March 12th at which Vineyard Wind staff gave a brief presentation about the construction schedule and onshore cable route before conducting a Q&A session with the more than forty residents in attendance. Residents asked about traffic mitigation plans and impacts to public access at Covell's Beach (described below), as well as more technical details pertaining to electrical engineering and installation methods.

"It's a big project," said Nate Mayo, who gave the opening presentation on behalf of Vineyard Wind. "But while climate change, marine protections and energy issues are often the focus, we're glad to have a dialogue about how this is going to affect Barnstable residents during construction".



The project is on schedule for construction in Barnstable in the Fall, which will include cable landfall at Covell's Beach, cable routing under Barnstable streets, and substation construction in the Independence Park industrial area. "We will eliminate impact to the beach and nearshore area by using horizontal directional drilling from the parking lot going deep beneath the beach and emerging a thousand feet out," Mayo said. "Construction under roads will move at 100-200 feet per day, and we're minimizing roadwork by coordinating with the town's planned utility maintenance." Construction in roadways and parking lots will be done outside the busy summer months. Portions of the beach parking lot will be available throughout construction, and all disturbed roadways will be repaved. The company is also supporting reconstruction of the Covell's Beach bath house.

Also highlighted at the Barnstable forum was the Host Community Agreement that Vineyard Wind and Barnstable entered into in October. The agreement guarantees \$16 million in mitigation payments for local water resource protection and new drinking water wells, all under control of the town.



(February 15, 2019) Liberty Wind, a partnership of Vineyard Wind and Anbaric, announced a proposal to bring between 400-1200 megawatts of offshore wind energy to New York's electric grid.

The proposal was submitted in response to New York's request to procure offshore wind energy and is part of the Empire State's goal to add 9 gigawatts of wind energy by 2035. The proposed project is 85 miles off the coast of New York and would provide electricity for up to 750,000 homes.

VINEYARD WIND, UMASS TO IMPLEMENT FISHERIES MONITORING STUDIES

Seeks collaboration with Massachusetts, Rhode Island-based vessels to collect data

Vineyard Wind recently announced it will implement recommendations from the University of Massachusetts Dartmouth's School for Marine Science and Technology (SMAST) to guide the project's fisheries monitoring studies during construction, as well as to initiate longer-term studies as part of a regional approach to fisheries studies. SMAST's recommendations were based on its expertise as a leading fisheries research center as well input from active fishermen, government agencies, and academia.

Vineyard Wind and SMAST began work in 2017 to design a broad-based approach for long-term, regional studies in addition to monitoring during construction. SMAST's recommendations were informed by workshops held with fishermen in Rhode Island, New Bedford, Martha's Vineyard,

and Cape Cod last November and December.

The fishing industry raised important questions about the impacts of offshore wind development on the marine environment and on sea life. Based on input from more than 75 commercial and recreational fishermen who participated in the workshops as well as academics and government agencies, SMAST recommended a series of methodologies for fisheries monitoring and research which Vineyard Wind will adopt. SMAST's studies will begin later this spring. The study design includes collaborating with Rhode Island and Massachusetts-based fishermen to collect data.

The comprehensive research effort by SMAST will help establish a robust body of knowledge to benefit the American offshore wind industry and the fishing community long after the first Vineyard Wind project is completed.

Vineyard Wind Celebrates a New Arrival

The Vineyard Wind Team proudly welcomed its newest member this January. Chloe Cullen, the first child of permitting and Outreach Specialist Jen Cullen and her husband Marc arrived happy and healthy in the early morning of January 26. We will miss Jen's dedication and intellect while she is on leave, but Chloe's healthy arrival makes us even more motivated and optimistic about the future. The Vineyard Wind community sends our congratulations and best wishes to Jen and the entire Cullen family!

Upcoming Events:

April 8 - 10: **IPF19**

Vineyard Wind is proud to be participating and sponsoring the Business Network for Offshore Wind's International Partnering Forum (IPF) in New York. This is one of the offshore wind industry's leading technical conferences

May 23: **UMASS DARTMOUTH CIE WORKSHOP**

Save the date for a one-day workshop "Pioneering Ocean Energy Innovation in New England: Wind and Water" hosted by the UMass Dartmouth Center for Innovation & Entrepreneurship

April 13: **TOWN HALL DISCUSSION ON ENERGY & ENVIRONMENT**

Vineyard Wind joins Rep. Sarah Peake, Sen. Julian Cyr, and the Environmental League of Massachusetts at Nauset Middle School on Saturday April 13 to discuss energy and environmental topics. Join us!

June 10-11: **US OFFSHORE WIND 2019**

Join us in Boston for one of the leading supply chain conferences for the offshore wind industry. This is a great event for matchmaking between the developers and local suppliers and contractors.

 #USOW19

VINEYARD WIND IN THE COMMUNITY



New England Saltwater Fishing Show

Vineyard Wind had a booth at the annual New England Saltwater Fishing Show hosted by the Rhode Island Saltwater Anglers Association (RISAA) March 22-24. Over 300 exhibitors and 15,000+ attendees filled the Rhode Island Convention Center in Providence throughout the weekend. Vineyard Wind staff were on hand to talk with visitors of all ages and to answer questions about the project. A frequent question was about whether fisherman will be able to fish near the turbines. The answer is: Yes! Fishing activities can occur as close to the base of the turbines as safety allows.



Massachusetts Lobstermen's Association Annual Weekend and Trade Show

Vineyard Wind staff were on hand at the Mass. Lobstermen's Association Trade Show to speak with and obtain feedback from lobstermen. Common questions included whether fixed gear can be placed within the turbine array (yes, average spacing between turbines is 0.86 nautical miles) and what electromagnetic fields (EMF) the buried transmission cables emit (less than a common magnet and <10% of the earth's own magnetic field).



The Future of Offshore Wind hosted by ELM + SHNS

Vineyard Wind's VP of Permitting Rachel Pachter discussed "The Future of Offshore Wind" before a packed auditorium at a forum cohosted by The Environmental League of Massachusetts (ELM) and the State House News Service on March 6th. Governor Charles Baker gave a keynote address highlighting the importance of offshore wind for combatting climate change.



Mass. Maritime Spring Career Fair

On March 28th, Vineyard Wind staff and community partner Vineyard Power spoke with cadets and alumni at the Massachusetts Maritime Academy about careers in offshore wind and summer internship opportunities. MMA is a state university renowned for its marine-oriented academic programs including Marine Energy Systems Engineering, Marine Safety & Environmental Protection, and others.



BHS STUDENTS STAGE WALK OUT

BARNSTABLE - On March 15, Barnstable High Students joined a global school strike to promote swift actions to address climate change. Inspired by Swedish activist Greta Thunberg, who in recent months spoke at UN Climate Talks in Poland and the World Economic Forum in Davos, students held signs reading "There is no Planet B" and "Make Earth Great Again". A crowd gathered at Craigville Beach, echoed rallying cries, and picked up garbage along the beach. Craigville Beach is adjacent to Covell's Beach, the site where the Vineyard Wind transmission cable will make landfall to deliver renewable electricity to 400,000 Massachusetts homes.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.6-5

REDACTED



ATTACHMENT TO:

**SECTION 7 OF APPENDIX A TO THE RFP
ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND
NEW CLASS I RPS CERTIFICATION**

ATTACHMENT 7.6-6 Vineyard Wind in the Media



VINEYARD WIND

Media Coverage

1. **Nantucket Inquirer & Mirror:** *Letter to the Editor-A sailor speaks up for Vineyard Wind*
August 1, 2019
2. **Cape Cod Times:** *Opinion- As stewards of the land we must embrace wind*
July 31, 2019
3. **Cape Cod Times:** *Opinion- Vineyard Wind pledges to protect right whales*
July 16, 2019
4. **Cape Cod Times:** *Vineyard Wind moves turbines to aid fishing vessels*
June 24, 2019
5. **Windpower:** *Vineyard Wind celebrates opening of Boston office*
June 19, 2019
6. **Cape Cod Times:** *Opinion- Region lucky to work with Vineyard Wind*
June 17, 2019
7. **Wicked Local Orleans:** *Training an offshore wind workforce*
June 10, 2019
8. **Cape Cod Times:** *Vineyard Wind seeks proposals for whale-detection technology*
May 21, 2019
9. **SouthCoast Today:** *Offshore wind project wins Oks for transmissions*
May 9, 2019
10. **Vineyard Gazette:** *MVC approves undersea cable for Vineyard Wind*
May 4, 2019
11. **Wired:** *Offshore wind farms are spinning in the US- at last*
April 17, 2019

- 12. Cape Cod Times:** *DPU approves Vineyard Wind contracts*
April 17, 2019
- 13. Cape Cod Times:** *Vineyard Wind commits to fisheries monitoring*
April 7, 2019
- 14. MV Times:** *Vineyard Wind and RI strike bargain*
March 4, 2019
- 15. MV Times:** *Overwhelming support for Vineyard Wind at hearing*
February 13, 2019
- 16. SouthCoast Today:** *State: Vineyard Wind can seek local permits for cable*
February 6, 2019
- 17. Bloomberg:** *Whales Will Get Right of Way at Huge Martha's Vineyard Wind Farm*
January 23, 2019
- 18. Wicked Local Cape Cod:** *Climate collaborative endorses Vineyard Wind*
January 18, 2019
- 19. North American WindPower:** *MHI Vestas Offshore Wind Sets up Shop in Boston*
January 14, 2019
- 20. Bloomberg:** *Martha's Vineyard Wind-Farm Sites Spur \$405 Million Bids*
December 14, 2018
- 21. Windpower:** *Vineyard Wind enters host community agreement with the Town of Barnstable*
October 5, 2018
- 22. The Boston Globe:** *Vineyard Wind has a big selling point for its power: cheaper prices*
August 14, 2018
- 23. Bloomberg:** *First Big U.S. Offshore Wind Farm Offers \$1.4 Billion savings to Customers*
August 1, 2018
- 24. CommonWealth:** *Study gauges economic impact of offshore wind*
March 12, 2018

- 25. Cape Cod Times:** *Vineyard Wind to hold open houses in Barnstable, Yarmouth*
November 6, 2017
- 26. SouthCoast Today:** *New Bedford meeting brings wind, fishing industries together*
October 4, 2017
- 27. The Inquirer and Mirror:** *Wind-farm survey vessels off Nantucket for next two weeks*
August 8, 2017
- 28. SouthCoast Today:** *Dartmouth man joins Vineyard Wind management*
July 12, 2017
- 29. Windpower:** *Avangrid acquires big stake in Massachusetts offshore wind project with Vineyard Wind*
May 11, 2017
- 30. North American WindPower:** *Martha's Vineyard Offshore Wind Project Acquired by Danish Company*
August 26, 2016

The Inquirer and Mirror

Letter to the Editor

A sailor speaks up for Vineyard Wind

August 1, 2019

To the Editor: I have been following the articles and discussions at civic events regarding the Vineyard Wind project. A few years ago, I was a member of the energy committee on the island that reviewed solar, wind and co-generation possibilities for the island. Very little got done. All of the possible solutions brought lots of controversy out.

Most people on the committee were against a wind farm in Nantucket Sound, as was I. I did support a wind generator at the dump and could see the benefits. Studies costing over \$300,000 were done to see the impacts on the airport, birds, endangered species and noise. All these studies cleared the way for a generator but controversy remained and it never became a reality. Many of us said, "the proper place for a wind farm is off the coasts of our islands where there is almost no commercial traffic."

Now that idea is becoming a reality and there is again controversy. I have sailed past the wind generators off Block Island. I have spoken to islanders there and they like them. I was just in Vinalhaven Island in Maine where there are three big ones on the island. I could not find a single person who was not in support of them on the island. I have visited giant wind fields in the middle of Ireland and spoken to the maintenance people that support the fields. All of the generators were in working order and there were over 40 of them. Some of them were over 30 years old.

I understand that the closest generator in the Vineyard Wind field is 14.5 miles from the tip of Madaket. I am on the car ferry top deck now as I write this and have just passed the Tuckernuck Shoal buoy, which is seven miles north of the Island. That means that I am 15 miles from Hyannis, the same distance as the wind farm will be from Madaket. It is a very clear day. The only thing I can see is the faint outline of three water towers and they are specks on the horizon. I can only deduce that a wind generator 14.5 miles away will look like a mosquito that you faintly see on a white wall from a distance of 10 feet. Most days you won't even know it's there.

Before we condemn this offshore farm, we should remember that we had windmills on our island. The offshore farm will generate enormous clean power that will make our lives better. It is a good place to start moving forward.

Chris Magee



CAPE COD TIMES

Opinion

As stewards of the land we must embrace wind

July 31, 2019

I am afraid of the climate crisis bearing down upon us.

One of my greatest joys while raising my daughters was taking them to the beautiful outdoor places all over Cape Cod. The joy of climbing trees at Wellfleet Bay, fishing for crabs at Dowses Beach and planting a community garden in Marstons Mills. If we don't immediately respond to the changing climate now we may move beyond the tipping point where ecosystems cannot recover.

Scientists suggest we have 12 years to act. I attended five community information sessions hosted by Vineyard Wind so I could learn about its proposed wind farm and its impact on our beloved environment. Each time I came away impressed by the group's integrity and willingness to work cooperatively with environmental organizations, fishing communities and educational institutions.

Individuals can only do so much. We need to move to large-scale renewable energy sources to stop greenhouse gas emissions. I fully support Vineyard Wind and hope the shortsighted opposition by some on Nantucket does not slow down this vital project. We are the stewards of this land and we need to ensure that our children and our children's children enjoy it also.

Michelle Sgarlat

Centerville



CAPE COD TIMES

Vineyard Wind moves turbines to aid fishing vessels

By **Mary Ann Bragg** June 24, 2019

NEW BEDFORD — Vineyard Wind announced Monday that it has adjusted the layout for its 84-turbine wind farm to give more room for fishing vessels operating south of the Islands.

The company has moved the planned location of three 9.5 megawatt turbines farther away from the Nantucket Historic District and Chappaquiddick to create additional distance between the wind farm and commercial fishing areas just south of Martha's Vineyard and Nantucket. The redesign also aids fishing vessels traveling around Nomans Land and heading toward fishing grounds southeast of the wind farm, the company said.

The project's plan to deliver 800 megawatts of electricity annually to three Massachusetts utilities is not affected by the adjustments, according to the company.

"Where possible, we have a responsibility to minimize the project's footprint with respect to the history and culture of the Cape and Islands, and existing uses of these waters," said Erich Stevens, Vineyard Wind's chief development officer.

The company has proposed to install an automatic detection and lighting system that would reduce the use of red, flashing aircraft warning lights to what would amount to a few hours per year, according to Monday's statement. The company also has agreed to reduce the visibility of the turbines during daylight hours through the use of white-gray paint.

The company, currently in the midst of federal permitting for the \$2 billion construction project and a long-term operations and maintenance plan for the wind farm, has said it expects to begin construction later this year.



CAPE COD TIMES

Opinion

Vineyard Wind pledges to protect right whales

July 16, 2019

Given the precarious nature of the North Atlantic right whale and the potential harm to these majestic creatures from loud underwater noise and ship strikes, it makes perfect sense for Nantucket residents to ask for a close examination of offshore wind projects ("Islanders challenge Vineyard Wind authorization," July 10, Page One).

But it's a mistake to ask for a delay of the Vineyard Wind project because of those concerns.

Vineyard Wind signed a landmark agreement to institute a comprehensive suite of measures to protect right whales during construction and maintenance of its much-needed offshore wind farm. It pledged to limit boat speeds and curtail underwater construction noise. These commitments are being incorporated into its official agreement with the federal government, which will ensure they are enforced. These are historic and necessary steps that other wind developers should also take.

We need Vineyard Wind up and running to protect our climate and demonstrate that right whale protection and wind development can go hand-in-hand.

Nathanael Greene

Natural Resources Defense Council

New York, New York

This letter was also signed by Amber Hewett with the National Wildlife Federation and Priscilla Brooks with the Conservation Law Foundation.



Vineyard Wind celebrates opening of Boston office

By Michelle Froese | June 19, 2019

Vineyard Wind, which is developing the United States' first-utility-scale wind farm, celebrated the opening of a permanent Boston office yesterday. The company's new, larger workplace, located in the historic Back Bay neighborhood, will accommodate a growing staff and provide a range of offshore wind services.

These include contractor management, regulatory affairs, and financing — and similar activities needed to support construction of a proposed offshore wind farm that will be located 15 miles south of Martha's Vineyard, as well as other projects in earlier stage of development.

The 800-MW wind farm, under development by Vineyard Wind, will be the first utility-scale wind farm in the U.S. It remains on schedule to begin on-shore construction in 2019 and become operational by 2022.

The Vineyard Wind project continues to move ahead with public and regulatory review through more than 25 federal, state, and local approval processes. These include US Bureau of Ocean Energy Management (federal Environmental Impact Statement), Massachusetts Department of Environmental Protection and Coastal Zone Management, as well as local and regional conservation commissions.

Yesterday's opening event featured a ribbon-cutting and remarks by Massachusetts Governor Charlie Baker, AVANGRID CEO James P. Torgerson, and Vineyard Wind CEO Lars Pedersen.



CAPE COD TIMES

Opinion

Region lucky to work with Vineyard Wind

June 17, 2019

I write in response to the June 7 front-page article “Vineyard Wind makes late pitch to residents,” which discussed an informational meeting held in Centerville June 6 by Vineyard Wind to keep residents up-to-date on the progress of the offshore wind project.

I attended this meeting and I would like to applaud the Vineyard Wind team for its diligence through every step of this process to make sure that the concerns of all stakeholders are addressed and that residents are informed about what is happening. I have met and communicated with several of the staff members over the past few months, and they are always happy to talk to me and answer questions.

The June 6 meeting reinforced that, and those at Vineyard Wind continue to make themselves available by holding office hours at Centerville Library for any residents who still have questions.

We are fortunate that our region has the chance to be a leader in offshore wind development, and even more so because of the amazing work Vineyard Wind has done to come to a mutually beneficial agreement with the town and to ensure that residents are receiving as much information as possible.

Lindsay Crouch

Hyannis



Training an offshore wind workforce

By Bronwen Howells Walsh

6/10/19

Vineyard Wind is partnering with regional colleges to train an offshore wind workforce on the Cape and Islands, and it's getting a funding boost from the Commonwealth.

Stephen Pike, executive director and CEO of the Massachusetts Clean Energy Center (MassCEC), recently announced a state award of \$721,500 in educational seed money. That's in addition to \$2 million that the Vineyard Wind contract committed to workforce development and public safety.

"The offshore wind industry is poised to create new renewable energy jobs, and these programs represent an important development as the Commonwealth readies for the first large-scale project in the nation," Pike said. "With Massachusetts' proud maritime heritage, robust innovation economy and academic and training assets, the state is very well positioned to grow a workforce that will contribute to this new American industry for years to come."

Proposed for siting 14 miles off the coast of Martha's Vineyard, the Vineyard Wind project intends to bring 800 megawatts of electricity to the Cape and Islands and generate clean, renewable, cost-competitive energy for 400,000 residents of the Commonwealth. Its staging area is being constructed in New Bedford.

Grant funding recipients include:

Bristol Community College – \$200,000 to establish basic safety training and basic technical training to Global Wind Organization standards at its campus in New Bedford.

Cape Cod Community College – \$66,570 to develop and deliver a suite of courses to introduce students and workers to careers in offshore wind.

Massachusetts Maritime Academy – \$184,000 to establish all five modules of GWO basic safety training at its campus and develop an “introduction to offshore wind” course for MMA cadets. A crew transfer training facility, supported by MassCEC, will be operational in Summer 2019.

UMass Amherst – \$105,500 to complete initial design and develop most of an offshore wind professional certificate program to be offered at the Mt. Ida campus in Newton.

Pile Drivers and Divers Local 56 – \$100,000 to sponsor trade union members for GWO basic safety training at Massachusetts Maritime Academy.

Adult Continuing Education – Martha’s Vineyard (ACE MV) – \$65,000 to partner with BCC and MMA to provide on-island courses and training that supports basic safety and technical certification, as well as offshore wind technician certificates.

In April 2018, MassCEC released a report on the workforce needs and economic impact of the emerging offshore wind industry, finding that the deployment of 1,600 MW of offshore wind is estimated to support between 2,300 and 3,100 direct job years over the next 10 years and generate a total economic impact in Massachusetts of between \$678 million and \$805 million.

The investments will help ensure that the Commonwealth’s thriving green economy has access to workers with the skills and training necessary to facilitate growth in this high-demand job sector, said Rosalin Acosta, Massachusetts Labor and Workforce Development Secretary. “That’s good for the environment and good for the health of the Massachusetts economy.”

The funding builds on the state’s efforts to support a clean energy industry, including recently securing 9,450,000 MW of hydroelectric energy and 800MW of offshore wind energy, the largest procurement in offshore wind by any state in the country.

“Vineyard Wind is proud to support this significant next step forward in preparing Massachusetts workers for construction of the nation’s first commercial scale offshore wind farm,” said Erich Stephens, Vineyard Wind Chief Development Officer. “The

programs announced today provide a strong foundation to our commitment that every Massachusetts' resident will have a meaningful opportunity to access careers in the Commonwealth's newest industry, offshore wind."

State Sen. Julian Cyr (D-Truro) said the grant is "a clear indication that Vineyard Wind is following through on its promise to be a responsible partner to our community."

"By working together with the Commonwealth to provide workforce training that will create good-paying, year-round, high-skilled jobs on Cape Cod and Martha's Vineyard, the economic benefit of Vineyard Wind's investment in the new off-shore wind industry is an important piece of economic development that will strengthen our local economy for the foreseeable future,." he added.



CAPE COD TIMES

Vineyard Wind seeks proposals for whale-detection technology

By Mary Ann Bragg 5/21/19

NEW BEDFORD — Offshore wind developer Vineyard Wind announced Tuesday it is seeking proposals from universities, technology companies and others to implement acoustic monitoring along the company's transit routes off Southeastern Massachusetts to help protect critically endangered North Atlantic right whales.

The organizations submitting the proposals would be asked to provide and operate the equipment, which would detect the presence of right whales and immediately transmit the information to Vineyard Wind.

The acoustic monitoring is part of the company's Jan. 22 agreement with three conservation groups to adopt seasonal restrictions on pile driving when right whales are likely to be in the area, based on on-board observers, acoustic monitoring and boat and airplane surveys.

The company agreed to seasonal restrictions on geophysical surveys during and after construction, and slower boat speeds, all tied to the presence of right whales in the area. The company also committed to report observations and acoustic detection of right whales to federal officials and to use technology that minimizes noise.

In the agreement, Vineyard Wind also committed \$3 million to develop and use technologies to protect the whales and other marine mammals that could be adopted for future offshore wind projects. The company is on track to start construction this year on an 84-turbine wind farm about 15 miles south of Martha's Vineyard, according to company officials.

The right whales, estimated with a total population of 411, migrate annually along the East Coast from Florida to Canada and are considered at risk of extinction within several decades due to injuries and deaths from ships strikes and becoming wrapped in fishing rope, according to researchers and federal regulators responsible for the whales' protection.

Offshore wind project wins OKs for transmission

By Colin A. Young / State House News Service

5/9/19

BOSTON — The 84-turbine wind farm planned for waters off Martha's Vineyard on Thursday secured approval from the state board that reviews proposed energy facilities for the transmission cables that will deliver its renewable energy and the substation that will connect the project to the power grid.

Vineyard Wind said the Massachusetts Energy Facilities Siting Board approved the three petitions it filed to construct and operate 27 miles of on- and off-shore 220-kilovolt electric transmission line, a substation in Barnstable and a 0.1-mile 115 kV underground transmission line between the substation and an existing facility in Barnstable.

“Approval by the Massachusetts EFSB is another affirmation of the collaborative, community-focused approach that Vineyard Wind has taken in designing and developing the nation's first commercial scale offshore wind project,” Erich Stephens, chief development officer of Vineyard Wind, said. “We want to thank the residents and officials of the Town of Barnstable who took the time to explore opportunities to address local concerns while simultaneously delivering enough cost-competitive, carbon-free energy to serve six percent of the Commonwealth's electricity demand, making the project a real win-win-win.”

In its notice advising the public that it would consider Vineyard Wind's petitions, the EFSB said its role was “to determine whether the Project would provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost ... whether the proposed Project is necessary, serves the public convenience, and is consistent with the public interest ... whether zoning exemptions are required for the Project and whether the present or proposed use of the land or structures is reasonably necessary for the convenience or welfare of the public.”

Officials at the Energy Facilities Siting Board were not immediately available Thursday to confirm the approval, and the ruling was not listed among the agency's recent decisions on its website.

According to the agency's notice, Vineyard Wind was seeking approval of two proposed routes and variations for transmission cables though it plans to ultimately build only one. Both proposed routes "begin at the outer limit of Massachusetts waters approximately six miles southeast of Chappaquiddick Island, and six miles southwesterly of Muskeget Island, and run northerly to shoreline landing areas in Yarmouth or Barnstable," the EFSB said.

Depending upon which offshore route Vineyard Wind selects, it identified two possible routes to carry the power generated at sea from the shoreline to a substation Vineyard Wind plans to build 5.5 to 6 miles inland at the Independence Park commercial/industrial area in Barnstable.

EFSB said the proposed onshore routes "are all entirely underground and are located primarily within public roadways, with some shorter stretches in existing utility transmission rights-of-way ('ROW'), a MassDOT-owned railroad ROW, and, in some instances, along a MassDOT-proposed bike path corridor and/or unpaved access roadways."

Utility companies and the state tapped Vineyard Wind to construct an 800-megawatt wind farm 15 miles south of Martha's Vineyard and 34 miles from the mainland to fulfill the first half of a 1,600 MW procurement called for in a 2016 clean energy law.

Massachusetts environmental officials completed their review of the Vineyard Wind project, which is expected to be operational by 2022, in February. The EFSB was looking only at the transmission aspects of the project, not the wind farm itself.

Vineyard Wind is planning to financially close on its project and begin on-shore construction work this year, put the first turbine into the seabed in 2021 and have the 84-turbine wind farm operational in 2022.

MVC Approves Undersea Cable for Vineyard Wind

[Holly Pretsky](#)

Saturday, May 4, 2019

Vineyard Wind, the company that plans to build a massive offshore wind farm south of the Vineyard, won approval from the Martha's Vineyard Commission Thursday night for its undersea cables that will transmit electricity to mainland.

The commission was reviewing the project as a development of regional impact (DRI) because part of the cable will through Vineyard waters off the eastern shore of Chappaquiddick. A [public hearing](#) opened in February.

The approval comes with two conditions: the company must return to the commission if it decides to decommission the wind farm, and the commission reserves the right to require a modification if there are unforeseen environmental impacts.

Out the outset of deliberations Thursday night, MVC executive director Adam Turner urged continued oversight of the cables, which will be buried five to eight feet deep about 1.2 miles from the Edgartown shoreline. He said he supports Vineyard Wind, but he expressed doubts that federal agencies including the Bureau of Ocean Energy Management (BOEM) could be trusted to adequately protect the ocean and its wildlife.

“[BOEM] consistently puts the natural environment and sea animals way behind the economic development of energy,” Mr. Turner said. “We are the ones responsible to protect this place, whether BOEM protects it or not.”

Commissioners agreed.

“It may be that evidence comes back that is inconsistent with what their proposal and their testimony said,” said commissioner Joan Malkin of information provided by the company. “If it turns out there are impacts, that would constitute a change.”

Responding to concerns raised during the hearings, Vineyard Wind has promised to share approvals from federal and state agencies with the commission, including a copy of BOEM’s federal environmental impact statement. The company also committed to modifying the cable installation process to protect the North Atlantic Right Whale. In a final offer Thursday night, Vineyard Wind committed to continued monitoring of the benthic habitat to document potential disturbances and recovery.

Based in New Bedford, the company was formed through a partnership between Avangrid Renewables and the Danish company Copenhagen Infrastructure Partners.

The Cape Cod Commission also approved underground cables Thursday in Barnstable. The regional decisions marked a milestone for the proposal, but by no means conclude the permitting process. The project still awaits a sign-off from the Edgartown conservation commission among other local authorities. And multiple state and federal regulatory agencies, most prominently BOEM, still need to grant approvals before the project can begin. In the end, the vote to approve the project was 14-0-1. Clarence A. (Trip) Barnes 3rd abstained, citing concern for wildlife.

Chairman Douglas Sederholm acknowledged Mr. Barnes’s concerns, but said the conditions are designed to monitor unforeseen impacts.

“I think a lot of this is, we don’t know, but we’re going to keep our hook in.” Mr. Sederholm said.



OFFSHORE WIND FARMS ARE SPINNING UP IN THE US—AT LAST

CHRISTOPHER FURLONG

4/17/19

ON JUNE 1, the Pilgrim nuclear plant in Massachusetts will shut down, a victim of rising costs and [a technology](#) that is struggling to [remain economically viable](#) in the United States. But the electricity generated by the aging nuclear station soon will be replaced by another carbon-free source: a fleet of 84 offshore wind turbines rising nearly 650 feet above the ocean's surface.

The developers of the [Vineyard Wind](#) project say their turbines—anchored about 14 miles south of Martha's Vineyard—will generate 800 megawatts of electricity once they start spinning sometime in 2022. That's equivalent to the output of a large coal-fired power plant and more than Pilgrim's 640 megawatts.

"Offshore wind has arrived," says Erich Stephens, chief development officer for Vineyard Wind, a developer based in New Bedford, Massachusetts, that is backed by Danish and Spanish wind energy firms. He explains that the costs have fallen enough to make developers take it seriously. "Not only is wind power less expensive, but you can place the turbines in deeper water, and do it less expensively than before."

Last week, the Massachusetts Department of Public Utilities [awarded](#) Vineyard Wind a 20-year contract to provide electricity at 8.9 cents per kilowatt-hour. That's about a third the cost of other renewables (such as Canadian hydropower), and it's estimated that ratepayers will save \$1.3 billion in energy costs over the life of the deal.

Can offshore wind pick up the slack from Pilgrim and other fading nukes? Its proponents think so, as long they can respond to concerns about potential harm to fisheries and marine life, as well as successfully connect to the existing power grid on land. Wind power is [nothing new](#) in the US, with 56,000 turbines in 41 states, Guam, and Puerto Rico producing a total of 96,433 MW nationwide. But wind farms located offshore, where wind blows steady and strong, unobstructed by buildings or mountains, have yet to start cranking. In recent years, however, the turbines have grown bigger and the towers taller, able to generate three times more power than they could five years ago. The technology needed to install them farther away from shore has improved as well, making them more palatable to nearby communities. When it comes to wind turbines, bigger is better, says David Hattery, practice group coordinator for power at K&L Gates, a Seattle law firm that represents wind power manufacturers and developers. Bigger turbines and blades perform better under the forces generated by strong ocean winds. "Turbulence wears out bearings and gear boxes," Hattery said. "What you don't want offshore is a turbine that breaks down. It is very expensive to fix it."

In the race to get big, Vineyard Wind plans to use a 9.5 MW turbine with a 174-meter diameter rotor, a giant by the standard of most wind farms. But GE last year unveiled an even bigger turbine, the 12 MW Haliade-X. When complete in 2021, each turbine will have a 220-meter wingspan (tip to tip) and be able to generate enough electricity to light 16,000 European homes. GE is building these beasts for offshore farms in Europe, where wind power now generates [14 percent](#) of the continent's electricity (compared to 6.5 percent in the US). "We feel that we have just the right machine at just the right time," says John Lavelle, CEO of GE Renewable Energy's Offshore Wind business.

US officials say there's a lot of room for offshore wind to grow in US coastal waters, with the potential to generate more than 2,000 gigawatts of capacity, or 7,200 terawatt-hours of

electricity generation per year, [according](#) to the US Department of Energy. That's nearly double the nation's current electricity use. Even if only 1 percent of that potential [is captured](#), nearly 6.5 million homes could be powered by offshore wind energy.

Of course, getting these turbines built and spinning takes years of planning and dozens of federal and state permits. The federal government made things a bit easier in the past five years with new rules governing where to put the turbines. The Bureau of Ocean Energy Management (a division of the Department of Interior) now sets boundaries for offshore leases and accepts bids from commercial enterprises to develop wind farms.

The [first offshore project](#) was a 30 MW, five-turbine wind farm that went live at the end of 2016. Developed by Deepwater Wind, the installation replaced diesel generators that once serviced the resorts of Block Island, Rhode Island. Now there are [15 active proposals](#) for wind farms along the East Coast, and others are in the works for California, Hawaii, South Carolina, and New York.

By having federal planners determine where to put the turbines, developers hope to avoid the debacle that was Cape Wind. Cape Wind was proposed for Nantucket Sound, a shallow area between Nantucket, Martha's Vineyard, and Cape Cod. Developers began it with high hopes back in 2001, but pulled the plug in 2017 after [years of court battles](#) with local residents, fishermen, and two powerful American families: the Kennedys and the Koch brothers, both of whom could see the turbines from their homes.

Like an extension cord that won't reach all the way to the living room, Cape Wind's developers were stuck in Nantucket Sound because existing undersea cables were limited in length. But new undersea transmission capability means the turbines can be located further offshore, away from beachfront homes, commercial shipping lanes, or whale migration routes.

Even though cables can stretch further, somebody still has to pay to bring this electricity back on land, says Mark McGranaghan, vice president of integrated grid for the Electric Power Research Institute. McGranaghan says that in Denmark and Germany the

governments pay for these connections and for the offshore electrical substations that convert the turbine's alternating current (AC) to direct current (DC) for long-distance transmission. Here in the US, he predicts these costs will likely have to be paid by utility ratepayers or state taxpayers. "Offshore wind is totally real and we know how to do it," McGranaghan says. "One of the things that comes up is who pays for the infrastructure to bring the power back."

It's not just money. Offshore wind developers must also be sensitive to neighbors who don't like power cables coming ashore near their homes, fishermen who fear they will be shut out from fishing grounds, or [environmental advocates](#) who worry that offshore wind platform construction will damage sound-sensitive marine mammals like whales and dolphins.

Still, maybe that's an easier job than finding a safe place to put all the radioactive waste that keeps piling up around Pilgrim and the nation's 97 other nuclear reactors.



CAPE COD TIMES

DPU approves Vineyard Wind contracts

By Mary Ann Bragg 4/17/19

BOSTON — State public utility regulators have approved long-term offshore wind contracts between Vineyard Wind and electric distribution companies in Massachusetts, giving the offshore wind farm developer a crucial approval needed to start construction by the end of the year.

“The approval of these contracts is an important step toward the completion of the largest offshore wind project in the country,” Gov. Charlie Baker said in a statement issued by the state Department of Public Utilities. The project will “significantly reduce greenhouse gas emissions, provide Massachusetts residents and businesses with cost-effective clean energy and promote economic development,” Baker said.

In mid-July, Eversource, National Grid and Unitil each filed a petition with the department for approval of long-term contracts to purchase offshore wind energy and associated renewable energy certificates. Two months earlier, Vineyard Wind’s bid on the long-term power contracts for 800 megawatts a year was selected for contract negotiation by the three electricity distribution companies.

“This approval ensures that this project offering competitively priced and locally produced offshore wind energy to the Commonwealth can move forward,” state Energy and Environmental Affairs Secretary Matthew Beaton said in the statement. A spokesman for Vineyard Wind declined comment Tuesday, citing previously agreed-upon legal constraints.

The company intends to start construction of the \$2 billion wind farm later this year to take advantage of a one-time federal investment tax credit program. Use of the tax credit within a long-term power purchase agreement was a key factor in the company’s ability to make a competitive offer for the contracts, the company’s CEO, Lars Pedersen, said previously.

An approval of Vineyard Wind's plan to land its high-voltage cable on the southern coast of Barnstable still needs to be approved by the state's Energy Facilities Siting Board, which had been delayed after initial estimates pegged that decision for March 1. The board is expected to meet May 9 in Boston. Likewise, the Cape Cod Commission has continued to May 2 its public hearing on its review of the cable-laying as a development of regional impact.

In the contracts, Vineyard Wind has committed to contributing \$15 million to a fund that will invest in projects designed to promote the use of battery storage in low-income communities and support the state's goal to further the development of energy storage systems across the state, according to the statement.

Criteria used in the evaluation of the bids — where Vineyard Wind emerged the winner, in May — included an economic evaluation of the benefits for ratepayers, the project's ability to foster employment and economic development in Massachusetts, and the project's environmental impacts and the extent to which a project demonstrates that it avoids or mitigates impacts to natural resources and tourism, according to the statement.

The department's order on Tuesday approved the selection of Vineyard Wind — which plans to build 84 turbines south of Martha's Vineyard — and found that the contracts are cost-effective as well as in the public interest, according to the statement.

In August 2016, Governor Baker signed into law an energy diversification measure requiring utilities to competitively solicit and contract for approximately 1,600 megawatts of offshore wind and approximately 1,200 megawatts of clean energy.

The solicitation of the second 800 megawatts of offshore wind energy is expected later this year, with a proposed deadline for submission of confidential proposals set for Aug. 9. However, the request for proposals has not yet been approved by the Department of Public Utilities, a department spokeswoman said.



Vineyard Wind commits to fisheries monitoring

By Mary Ann Bragg

4/7/19

Vineyard Wind says it will adopt research measures recommended by a local university to monitor the effects on fisheries of the 84-turbine offshore wind farm.

NEW BEDFORD — Vineyard Wind has announced that it will adopt research measures recommended by a local university to monitor the effects on fisheries of the 84-turbine offshore wind farm, which when operational could be the first industrial-sized installation in the country.

The company, which intends to begin construction later this year of an 84-turbine wind farm south of Martha's Vineyard, entered into a multi-faceted agreement in 2017 with the University of Massachusetts Dartmouth School for Marine Science and Technology. Part of the agreement was for the school to design an approach to research that would be capable of monitoring the effects on fisheries of the one-time construction of the wind farm. The approach also needed to be capable of handling longer-term, regional studies.

“The fishing industry has raised important questions about the impacts of offshore wind development on the marine environment and on sea life,” the company said in a statement released Friday.

While Rhode Island fishermen in February approved a mitigation package that includes \$4.2 million in payments over 30 years for direct impacts to commercial fishermen as a result of the wind farm, as well as the creation of a \$12.5-million trust set up over five

years that could be used to cover additional costs to fishermen resulting from the project, tensions continue to exist.

“It’s this industry against the world,” Lanny Dellinger, a leader in the Rhode Island commercial fishing community, said at a February meeting. “Look around and see what you’re up against. That’s what we had to weigh as a group. There is no choice here.”

The methodology the school is recommending is based on workshops held in November and December, and pilot projects. The procedures should encompass an array of fish species, and an integration of methods that can support additional and on-going fisheries research; the use of a “nested and modular” study design for both a relatively small construction site as well as a wider region; the creation of a standing committee of commercial fishermen to review findings and make recommendations; and the use of local fishermen to provide vessels to support the studies.

The research is meant to be used by the growing U.S. offshore wind industry and fishing communities, beyond its application to the Vineyard Wind project, the company said.

As part of the 2017 agreement, the school will also conduct the studies, which are expected to begin later this spring.

“SMAST worked with Vineyard Wind as well as fishing industry representatives and government regulators to conduct a series of workshops that culminated in the recommendations,” Steven Lohrenz, the school’s dean said in an email. “Key aspects are that the monitoring will cover a range of spatial scales and will include ongoing interactions with the fishing industry throughout the course of the monitoring effort.”

Last May, Vineyard Wind was selected to negotiate what could be the first contracts in the country for a large-scale, offshore wind farm, to provide 800 megawatts of electricity to three power distributors in Massachusetts. The contracts are now signed and are pending approval before the state Department of Public Utilities. The power cables from the wind farm are to land at a south-facing beach in Barnstable and then snake underground to a new substation off Independence Drive in Hyannis, to connect to the regional power grid. Those cable connection plans, too, are pending approval before the state Energy Facilities Siting Board.

The final environmental impact statement on the project’s construction and operations plan is expected to be completed this summer.



Vineyard Wind and R.I. strike bargain

R.I. Fishery Advisory Board chairman doesn't like settlement.

By

Rich Saltzberg

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March 4, 2019

Vineyard Wind recently announced a \$16.7 million deal with the Rhode Island Fisheries Advisory Board. The deal was made on behalf of Rhode Island fishermen who ply the waters where a farm of 84 wind turbines is slated to be built by Vineyard Wind. The farm will be situated about 14 miles south of Martha's Vineyard.

"The package agreed to today by the [Rhode Island Fisheries Advisory Board] includes \$12.5 million in funding to a trust fund that would be managed by Rhode Island fishermen for the purpose of ensuring safe and effective fishing in and around Vineyard Wind's project area and future wind farms generally," a release states. "Vineyard Wind will pay \$2.5 million per year for five years into this fund. In addition to this fishermen-directed fund of \$12.5 million, a separate fund totaling \$4.2 million would be established to compensate for any direct impacts to Rhode Island fishermen or other sectors of the Rhode Island fishing industry."

“I just think it was a [expletive] deal for the industry, but it’s the deal that we got,” Newport, R.I., lobsterman Lanny Dellinger, chairman of the Rhode Island Fisheries Advisory Board, told The Times.

“I just don’t think the negotiations were set up fairly,” he said. Dellinger said that he and his fellow advisory board members were pressured with unreasonable timelines and forced to negotiate with an entity backed by a multibillion-dollar energy company, all the while running their own small businesses without any sort of compensation or help to offset the time and energy they spent.

Dellinger said the board felt it had to take the deal because, he said, Vineyard Wind could have appealed to the federal government, the National Oceanic and Atmospheric Administration (NOAA), and the Bureau of Ocean Energy Management (BOEM) for a lesser sum or no compensation at all.

“We were between a rock and a hard place,” he said. “No other way to put it.”

Richard Fuka, Rhode Island Fishermen’s Alliance president, said squid fishermen, who comprise the most lucrative part of the Rhode Island fishing industry, weren’t represented on the board and were therefore cut out of negotiations.

When asked if Vineyard Wind was aware squid fishermen might have not had a seat at the table for negotiations, Vineyard Wind spokesman Scott Farmelant declined to talk about any part of the deal, and referred The Times to the Vineyard Wind release.

Fuka said the immediate area around the Vineyard Wind turbine farm produces \$400 million of annual revenue for the squid fishery. He said the turbines threaten that revenue. Among other concessions, Fuka wants transit corridors between wind turbines to be four miles wide. To date, Vineyard Wind has assented to [two-mile-wide corridors](#). Fuka said that width is insufficient for

mobile-gear fishing boats, like squid boats. He said the gear those boats trail behind them stretches a long way: “Smaller boats, a quarter- to half-mile — bigger boats twice that. It’s quite a bit of wire and net.”

John Keene, president of the Martha’s Vineyard Fishermen’s Preservation Trust, said his organization maintains its support for a four-mile-wide corridor.

Meghan Lapp, fishery liaison for Sea Freeze, Ltd., a commercial fishing enterprise with a squid fleet, told The Times she wants to see a study about transit corridors because the scale of the Vineyard Wind project has no precedent and because the scope of radar interference, if any, remains undetermined. “How far does that radar interference extend?” she asked.

The Times posed several radar questions to BOEM officials when they came to the Vineyard on [Feb. 12](#) to hold a hearing on a draft environmental impact statement for the Vineyard Wind project. The Times was told the BOEM engineering specialist was not present, and nobody else on their team could field the inquiries.

Calls to their Washington, D.C., media office weren’t immediately returned on Friday.

Lapp also alleged the impacts to commercial fisheries were first categorized as “major” in the draft environmental impact statement for the project, but since BOEM expects mitigating measures, it reduced the impact to “moderate.”

Lapp criticized the transparency of the negotiations between Vineyard Wind and Rhode Island Fisheries Advisory Board, alleging the public was kept out of key parts of the process and that some of the economic data used in crafting the deal hasn’t been made publically available. “This sets the precedent for how other projects could go,” she said.

“People don’t seem to realize you’re talking about over 1,400 square miles of uninterrupted turbines between Rhode Island and Massachusetts,” Dellinger said.

Menemsha fisherman Stanley Larsen told The Times he was unconcerned about the potential for piloting problems in and around Vineyard Wind’s project area, citing the sophistication of modern navigation equipment.

Keene said he is in support of Vineyard and other Massachusetts fishermen receiving just compensation for “known” or “expected losses” stemming from wind farms.

Larsen, who is about to return squid fishing to Menemsha in the next two weeks aboard the wooden dragger Richard and Arnold, waxed optimistic about the ramifications of the Vineyard Wind project. “Hope it will drive the price up,” he said.



Overwhelming support for Vineyard Wind at hearing

BOEM officials learn climate change and jobs drive local support.

By

Rich Saltzberg

February 13, 2019

A team from the Bureau of Ocean Energy Management (BOEM) came to the Vineyard Tuesday night to gather public comment on a draft environmental impact statement (EIS) for Vineyard Wind's proposed wind farm some 15 miles south of Aquinnah, and got an earful of enthusiastic support.

Bill Lake, director of Vineyard Power, a Vineyard green energy company affiliated with Vineyard Wind, said the project would be impactful in the quest to combat climate change.

"I think my principal point is in considering the environmental impact statements of the project, it's very important to keep them in perspective," he said. "Any project of this size will have some local impacts. The draft impact statement identifies those impacts and the steps that are possible to minimize them. But the far greater impact of this project will be the positive contribution it will make to meeting the existential threat posed by climate change. The speed at which our climate is changing and the effects, both those we're feeling now and those that are predicted, are just staggering. Few things could be as important as reducing carbon emissions by moving from fossil fuels to renewable energy, and this project will be a huge step in that direction."

Greer Thornton, co-owner of Atria in Edgartown, said she spoke on behalf of her family in support of the Vineyard Wind project.

“As a year-round resident and business owner on Martha’s Vineyard for 20 years, I would like to express my total support for the Vineyard Wind project,” she said. “This project is so needed at this critical time, a time when we may be able to repair, may be able to repair, the severe damage we’ve made to our planet through irresponsible use and production of fossil fuels. In addition to creating much-needed year-round jobs for this Island and its residents, this project could catapult us to compete with the global initiative to be more sustainable and economically viable. If we do not do this now, we will lose on all fronts.”

Nicola Blake, an environmental scientist at the University of California, said the project was particularly right for the commonwealth. “In terms of mitigating climate change, as you know the scientific consensus is that the ocean-atmosphere-terrestrial climate system has already absorbed dangerously large amounts of extra heat, energy, and CO₂, which is an acid, a weak acid, because of fossil fuel emissions such that it’s probably at a tipping point in terms of extreme weather, sea level rise, ocean health, et cetera,” she said. “So also I want to lend my voice to the fact that we cannot afford to wait longer for the transition to renewable offshore wind energy — wind energy is our best option for Massachusetts, given its abundance.”

Rob Hannemann, chairman of Chilmark’s energy and finance committees and a former Tufts engineering professor, said the project was an important step in reducing dependency on fossil fuels. “It’s very clear we will need to cut our fossil fuel usage by 50 percent by the year 2030 from where we sit today,” he said. “That is not going to happen without many projects such as the Vineyard Wind project.”

Speaking on behalf of Tisbury’s board of selectmen, selectman Melinda Loberg said the town was pleased to welcome Vineyard Wind’s yet-to-be-built operation and maintenance facility to the Packer marine terminal on Beach Road, and emphasized the “positive economic impact of jobs, of training our young people,” the facility would bring.

“We are enthusiastic. We can’t wait for this to happen,” she said of the facility and the overall wind farm project.

Loberg described Tisbury as “the gateway town to the Island,” and said it’s especially susceptible to climate change.

“We feel the effects of climate change early in our harbor,” she said. “We’re very vulnerable to storm[s] and sea level rise. As a matter of fact, I think we should all pay attention to the roadway through which all visitors who arrive to the Island on the ferry and material that comes to Packer’s wharf has to travel. This is a roadway that takes people to our hospital and to our neighboring town, and it’s already being undermined by high tides and rainstorms.”

Hunter Moorman, a West Tisbury resident and member of the Massachusetts Chapter of Elders Climate Action, said two recent news items are omens of climate change and underscore the urgency of tackling it.

“Polar bears driven south by the premature breakup of polar ice are now marauding in Russian islands in the Arctic,” he said, disrupting community life, threatening children on their way to school, and even mauling two residents to death. This phenomenon is the result of the melting polar ice cap, which contributed to the steady rise in global sea levels and also to the diminished ability of the ice sheet to reflect the sun’s heat back into the atmosphere.”

He went on to say the world insect population is in peril, based on reports of “a more than 40 percent decline in the world insect population that ‘threatens the collapse of nature,’ and signals unmistakably the launch of the sixth great extinction.”

Moorman said Vineyard Wind could offer some regional and global relief. “Vineyard Wind addresses one of the chief causes of such calamities, global warming caused in large part by greenhouse gases emitted into the atmosphere,” he said. “This project, this Vineyard Wind

project, will achieve over 1.6 million tons of carbon dioxide reductions. That's the equivalent of taking 325,000 cars off the road, along with sizable reductions in nitrous and sulphur dioxides."

There were a few words of caution, however. Megan Ottens-Sargent of Aquinnah and Wes Brighton of Chilmark both warned that wind farm construction could be perilous for the critically endangered right whale.

Brighton, a commercial fisherman and board member of the Martha's Vineyard Fishermen's Preservation Trust, said pile-driving for monopiles could negatively impact both right whales and recently rebounded haddock stocks. He said the project lease area is a type of haddock nursery.

"That exact area is called the Old Haddock Grounds. If you talk to old-timers, that was where a lot of great fishing occurred, and it's a reproductive area for them." Brighton advocated for the use of bubble shields or walls as a way to mitigate the acoustic shock generated by pile-driving.

Ottens-Sargent asked if there was a way to put the brakes on the project should some critical flaw be discovered late in the process. While BOEM officials generally kept silent during the commentary period, Krevor said BOEM has the authority to halt construction if something dire is unearthed after the EIS is finalized.

Alice Berlow expressed her support for the project, but said also, "BOEM, B-O-E-M, you guys and Vineyard Wind, we're watching you. We want you to do this right and we will continue to watch you — hold you accountable to our communities ... So I support you, but I want to say that we're not stopping here, OK?"

State: Vineyard Wind can seek local permits for cable

By Mary Ann Bragg / Cape Cod Times

2/6/19

Vineyard Wind can now move forward with regional and local permitting for its planned offshore wind farm after receiving a critical certificate from state environmental officials, and regulators on the Cape and Islands say they are ready.

“We’ve looked at cables before,” said Paul Foley, the development of regional impact coordinator with the Martha’s Vineyard Commission.

The commission will hold its first public hearing Feb. 21 on Vineyard Wind’s cable-laying plans after receiving a referral from the Edgartown Conservation Commission. The hearing is only on the cables but Foley said he expects community members to be curious about the entire project, which could be the first industrial scale offshore wind farm in the country.

As planned, the two undersea cables would start at an 84-turbine wind farm 15 miles south of the Vineyard and then run north between the Vineyard and Nantucket, in Muskeget Channel, to William H. Covell Memorial Beach in Barnstable, which is the company’s first choice for landfall. The cables would then run underground for about five miles to a new substation off Independence Drive, where they will connect to an existing substation that leads to the regional electricity grid.

On Feb. 1, state Energy and Environmental Affairs Secretary Matthew Beaton issued a certificate determining that the cable-laying project as described in Vineyard Wind’s final environmental impact report complies with state environmental policy law and regulations. But Beaton raised several issues that he said should be addressed as the company seeks its permits. These include better protection of piping plovers at Covell Beach, further analysis for protection of sand lance, and better monitoring and

protections for rare birds. In addition, Vineyard Wind must come up with a better plan to document disturbances and recovery of marine and ocean-floor life, according to the certificate.

Beaton offered specific expectations, based on the company's filing, for the protection of wetlands, waterways, rare species, marine mammals — including critically endangered North Atlantic right whales — shellfish, water and air quality, and historical and archaeological materials. The expectations for mitigation extended to dampening the effects of noise and reducing the effects of construction, including the company paying for a construction monitor, to act on the towns' behalf, to ensure expectations are met.

The company will be expected to pay at least \$240,000 under the state Oceans Act to compensate the state and the public for the project's footprint and anticipated effects, according to the certificate. The fee could increase, with no cap, if the cable laying exceeds estimates. The company will be expected to pay a tidelands occupation fee, under state Chapter 91 licensing, which will be determined after construction is completed.

The two cables will cross both state and federal waters but the certificate applies only to the 23 miles of state waters affected. "The project may proceed to state permitting," Beaton wrote.

His agency considered 84 public comments, some with multiple individuals and groups named, received between Dec. 19 and Jan. 28 in evaluating the Vineyard Wind final environmental impact report.

"The environmental review process provided a significant benefit to the project, allowing numerous stakeholders, advocacy groups, and interested citizens to help identify and address impacts so they can be effectively managed or mitigated," Vineyard Wind's chief development officer Erich Stephens said Tuesday. The company is in the process of asking for permit reviews from the Martha's Vineyard Commission, the Cape Cod Commission, the Barnstable Conservation Commission and others, Stephens said.

The Nantucket Conservation Commission is scheduled to hold its public hearing Wednesday Feb. 6 on Vineyard Wind's notice of intent application for the proposed cables, which will be about three miles from the Nantucket shoreline, at their closest.

The effects will be similar to those from other submarine cable installations reviewed by the conservation commission in 1995 and 2005, according to the application.

At their closest point, the proposed offshore export cables will be approximately 1.2 miles from the Edgartown shoreline. Two possible routes are still under consideration through Muskeget Channel, the company said in its application for a development of regional impact review by the Vineyard commission.

So far on Cape Cod, Vineyard Wind has filed no specific application with the Barnstable Conservation Commission, a department spokeswoman said Tuesday. No specific application from the company has crossed the desks of the Yarmouth Conservation Commission either, board Vice Chairman Thomas Durkin said Tuesday. The company listed an alternative landfall for the cable in West Yarmouth in its final environmental impact report.

The Cape Cod Commission will open a development of regional impact public hearing period within 45 days of the Feb. 1 certificate issued by Beaton, said Jonathon Idman , the agency's chief regulatory officer.

Vineyard Wind was chosen in May to sell 800 megawatts of electricity to three distributors in Massachusetts as part of a mandate in the 2016 Act to Promote Energy Diversity. A state review of the power purchase agreements the company signed with the distributors is expected to conclude in March.

Public meetings hosted by the federal Bureau of Ocean Energy Management start Monday, Feb.11, on Nantucket for Vineyard Wind's draft environmental impact statement for its construction and operations plan. The company intends to start construction onshore this year. The state's Energy Facilities Siting Board is expected to make a decision in April on the cable landing site.

Bloomberg

Whales Will Get Right of Way at Huge Martha's Vineyard Wind Farm

By Chris Martin

January 23, 2019

Migrating whales will have the right of way off the coast of Martha's Vineyard starting this month under a new agreement between a wind developer and environmental groups.

Vineyard Wind, which is building the first commercial-scale offshore wind farm in the U.S., has agreed to halt some construction activity between January and April, during the period when some endangered North Atlantic right whales are most likely to pass through the area. Extra protocols, including whale spotting, will be in place in November, December and May.

Vineyard Wind agreed to stop pile driving for the 800-megawatt offshore wind farm during peak whale-traffic periods, according to a joint statement Wednesday with the Natural Resources Defense Council, National Wildlife Federation and Conservation Law Foundation. That means it won't insert foundation poles for the arrays into the seabed when whales might be around.

"The right whale protection provides an important template other offshore wind projects should consider," Mark Drajem, an NRDC spokesman, said in an email. Vineyard Wind, a partnership of Avangrid Inc. and Copenhagen Infrastructure Partners, will also reduce boat speeds and curtail some work during nearby whale sightings, according to the agreement.

More than 10 gigawatts of offshore wind is expected to be built along the U.S. East Coast over the next decade, according to BloombergNEF.



Climate collaborative endorses Vineyard Wind

Jan 18, 2019

The Cape Cod Climate Change Collaborative board of directors has formally endorsed the Vineyard Wind project, a large-scale offshore wind energy project.

Proposed for siting 14 miles off the coast of Martha's Vineyard, the project intends to bring 800 megawatts of electricity to the Cape and Islands and generate clean, renewable, cost-competitive energy for 400,000 residents of the Commonwealth.

“With climate change posing the biggest global threat of our time and recent federal reports describing acceleration and increased severity of climate change, we must take immediate action to generate clean renewable energy for the Cape Cod region, Massachusetts, and beyond. We believe the Vineyard Wind project will make major strides in advancing this goal,” said Mon Cochran, executive director of the collaborative.

“Climate change poses existential threats to our environment, human health, and the economy—indeed, our entire way of life on Cape Cod.” Cochran continued.

“The Cape’s fishing industry will be especially impacted by warming water, which means cold water fish species will leave the area in search of cooler water or become extinct. It’s imperative that we change our energy sources to a low-carbon mix containing a significant amount of renewable energy, starting yesterday,” Cochran said.

The collaborative noted that Vineyard Wind has developed community agreements with municipal partners on the Vineyard and town of Barnstable, committing \$15 million for numerous initiatives that benefit Cape and Islands residents, including programs to recruit, mentor and train Massachusetts workers, particularly those in southeastern Massachusetts, for careers in the new offshore wind industry.

According to the National Climate Assessment, “Without substantial and sustained efforts to reduce greenhouse gas emissions and regional initiatives to prepare for anticipated changes, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.”

Established in 2015, the Cape Cod Climate Change Collaborative is a consortium of Cape and Islands-based organizations and individuals whose mission is to unite available resources, organizations and intelligence to mitigate climate change impacts on Cape Cod, reduce greenhouse gas emissions, and work toward achieving “net zero”-based goals for the region.

Board members represent organizations such as the Association to Preserve Cape Cod, Cape Air, Cape Light Compact, Center for Coastal Studies, Friends of Pleasant Bay, Outer Cape Energize, Woods Hole Research Center, among others.



MHI Vestas Offshore Wind Sets Up Shop In Boston

Posted by MHI Vestas
on 11/14/2013

Manufacturer and service provider MHI Vestas Offshore Wind is establishing its first U.S. office in Boston, enabling the company to focus closely on sales and strategy in the region.

"I am very pleased that MHI Vestas has chosen the Commonwealth of Massachusetts as the location for their corporate offices in America," says state Sen. Marc R. Pacheco. "This announcement is tremendous news for the commonwealth's promising offshore wind industry. Our commitment to a clean energy future will mean more clean energy jobs, improved public health and an overall reduction in statewide carbon emissions."

The new office will be led by wind industry veteran Jason Folsom, the company's U.S. national sales director. MHI Vestas Offshore Wind hired Folsom in November.

The company says additional administrative staff will be hired in the coming months as it continues with its plans for the 800 MW Vineyard Wind project off the coast of Martha's Vineyard, as well as exploring potential projects in nearby states.

"We believe that the U.S. offshore wind industry is starting a prosperous journey," says MHI Vestas Co-CEO Lars Bondo Krogsgaard. "Our office in Boston is our first step before establishing an actual supply chain."

Bloomberg

Martha's Vineyard Wind-Farm Sites Spur \$405 Million Bids

By Jennifer A Dlouhy

December 14, 2018

Three companies bid a record-shattering \$405.1 million to nab U.S. rights to build offshore wind farms near Massachusetts on Friday, a testament to the surging appeal of renewable power and investors' confidence in state demand for it.

[Equinor Wind US](#) LLC, Mayflower Wind Energy LLC and [Vineyard Wind LLC](#) each pledged \$135 million to secure individual leases from the U.S. government, drawn by state pledges to buy offshore wind power. Mayflower is a joint venture of EDP Renewables and [Royal Dutch Shell Plc's](#) Shell New Energies US LLC.

The auction raked in more than nine times [the previous high-water mark](#): a 2016 sale of an offshore wind lease near New York to [Equinor ASA](#) for \$42.47 million. Each of the winning bids also approached [the highest sum](#) paid for oil drilling rights in the Gulf of Mexico since the start of area-wide leasing: \$157 million that Equinor spent nabbing a single 5,760-acre tract in 2012.

This time, the companies were jockeying over three leases spanning nearly [390,000 acres](#) (157,800 hectares) south of the resort islands of Martha's Vineyard and Nantucket where they could install turbines to generate electricity from wind. The location gives them a chance to serve power-hungry cities along the U.S. East Coast and help satisfy state pledges to buy renewable energy.

"These \$100 million-plus bids reflect the strength of state commitments to offshore wind," Cheryl Wilson, an analyst at Bloomberg Intelligence. "They're creating momentum for an offshore industry in the Northeast."

Revenue from the wind auction flows to U.S. government coffers. There are parallels to offshore oil leasing, with energy companies bidding on drilling rights and paying royalties on eventual crude and natural gas production. But the wind leases sold Friday are at least 22 times the size of a typical U.S. offshore oil block, at 127,388, 128,811 and 132,370 acres.

The sale spanned two days and unfolded over 32 rounds, with companies submitting anonymous electronic bids that grew rapidly from \$254,776. Eleven companies were actively bidding at the beginning of the auction on Thursday morning, nearly twice the most-recent record for participation, in 2016, when six developers competed for the New York offering. But by Friday morning, just four remained.

Gust of Interest

The frenzy reflects growing interest in U.S. offshore wind since 2016, when the nation's first such facility, a 30-megawatt facility development near Block Island, Rhode Island, went online.

"The intense competition we've seen in this offshore wind lease auction is completely unprecedented," said Nancy Sopko, director of offshore wind policy at the American Wind Energy Association. "Global businesses now recognize the potential of America's world-class offshore wind resources."

Playing Catch-up

Wind developers are being lured to American waters by near-guaranteed demand, as coastal states ratchet up commitments to buy renewable electricity. Massachusetts doubled its goal for buying offshore wind to 3,200 megawatts in August.

If fully developed, the Massachusetts leases could support approximately 4,100 megawatts of commercial wind generation, enough electricity to power nearly 1.5 million homes, according to the [Bureau of Ocean Energy Management](#).

"Looking up and down the East Coast -- and specifically in the Northeast -- we see states with huge commitments to buying this power," Sopko said. "That is driving incredible demand for this energy."

Declining installation costs and uncertainty about the timing of the next U.S. sale of an offshore wind lease helped feed interest. Analysts also describe growing investor confidence in the stability and predictability of the market, as President Donald Trump continues making territory available for new projects. The U.S. has held eight auctions of federal offshore wind rights since the Obama administration started competitive lease sales in 2013, including two under Trump.

Equinor's victory gives the Norwegian energy company a second U.S. offshore wind lease, building on its existing holding east of New York. State requests to buy renewable power are key to the company's "great confidence in the U.S. market," Christer af Geijerstam, president of Equinor Wind US, said in a phone interview.

The acquisition "gives us a foothold to engage in the Massachusetts and wider New England market, a region notable for its strong commitment to offshore wind," af Geijerstam said. "This is a long-term bet, because it is relying on the states to actually act their ambitions when it comes to offshore wind, but we think that we will prove ourselves to be competitive."

Shell's collaboration with EDPR Offshore North America represents a chance to expand its U.S. wind portfolio beyond existing onshore facilities in California, Texas and Wyoming.

"Shell sees offshore wind in the U.S. as a great opportunity to grow our power business and bring clean energy and economic benefits to the people of Massachusetts," said Dorine Bosman, vice president of Shell Wind Development.

The other victor, Vineyard Wind, is 50 percent owned by funds of Copenhagen Infrastructure Partners and 50 percent by Avangrid Renewables. In an emailed statement, the company said it was committed to working with the fishing industry, environmentalists and other stakeholders "to build a new industry for the region and making substantial contributions to fighting climate change."

Rising Demand

U.S. offshore wind power is [expected to surge](#) over the next decade -- reaching 10,000 megawatts by 2030, compared to just 30 megawatts installed in the water today, according to Bloomberg New Energy Finance.

“Just three years ago, these lease areas had no bidders at all,” noted Liz Burdock, president of the Business Network for Offshore Wind. “This strong interest from the offshore wind marketplace demonstrates the economic potential of the offshore wind industry.”

To keep momentum, industry experts say the Trump administration needs to plan more offshore wind sales, beyond a possible auction of territory near New York in early 2020. The [National Ocean Industries Association](#) has pushed the government to conduct at least four auctions annually, arguing a reliable inventory of regularly scheduled sales is necessary to sustain interest.

“Today’s euphoria is tempered a bit by knowing that we had eight companies not win leases, including someone willing to invest \$120 million in America for a lease but instead left the sale empty handed,” said Tim Charters, vice president of the group.

Companies that participated in the auction included [Cobra Industrial Services Inc.](#), East Wind LLC, EC&R Development LLC, EDF Renewables Development Inc., Innogy US Renewable Projects LLC, Northeast Wind Energy LLC, [PNE WIND USA Inc.](#) and wpd offshore Alpha LLC.

Vineyard Wind enters host community agreement with the Town of Barnstable

By [Michelle Froese](#) | October 5, 2018

Massachusetts offshore wind developer [Vineyard Wind](#) has entered into a host community agreement (HCA) with the Town of Barnstable. The agreement, which has been filed with the Massachusetts Energy Facilities Siting Board (EFSB), represents another milestone for the United States' first large-scale offshore wind farm as it advances through the permitting process to the onset of construction in 2019 and operations by 2021.



The agreement with Barnstable follows the award and execution of long-term contracts between Vineyard Wind and Massachusetts' electric distribution companies to construct an 800 MW wind farm in federal waters south of Martha's Vineyard and approximately 34 miles south of the Cape Cod mainland.

The HCA requires Vineyard Wind to make annual payments to Barnstable of at least \$1.534 million each year in combined property taxes and host community payments. The pact guarantees a total Host Community Payment of \$16 million, plus an additional \$60,000 (adjusted for inflation annually), for each year the project is in operation beyond 25 years.

The HCA also provides opportunity for detailed review of Vineyard Wind's specifications for a new substation by the Town, further ensuring protection of groundwater along with reliable delivery of clean energy to serve over 400,000 Massachusetts homes and businesses.

According to the company, transformers and other electrical equipment at the substation will be underlain by full volume, impervious containment systems. Transmission cables, which will not contain any fluids, will be sited under public roads or sidewalks connecting to an existing substation in an industrial park and requiring no changes to the existing electrical transmission system.

The agreement with Barnstable follows the award and execution of long-term contracts between Vineyard Wind and Massachusetts' electric distribution companies (EDCs) to construct an 800-MW wind farm in federal waters south of Martha's Vineyard and approximately 34 miles south of the Cape Cod mainland. When the Vineyard Wind's project becomes operational, it will reduce Massachusetts' carbon emissions by over 1.6 million tons per year, or the equivalent of removing 325,000 cars from state roads while offering billions in energy-related cost savings over the life of the project.

The Massachusetts Department of Energy Resources reported total net benefits of approximately \$1.4 billion for Massachusetts ratepayers.

In addition to federal and state permitting reviews, the project is actively consulting with tribal and local agencies, including the Conservation Commission and Planning Boards of the Towns of Barnstable and Yarmouth. The project will also be reviewed by the Cape Cod Commission.

In total the Vineyard Wind project will face substantial public review and consultations by nearly 30 federal, tribal, state, and local approval agencies, including from the Army Corps of Engineers, National Marine Fisheries Service, the Massachusetts Energy Facilities Siting Board, Massachusetts DEP and CZM, the Cape Cod Commission and local conservation commissions.

The Boston Globe

Vineyard Wind has a big selling point for its power: cheaper prices

By **Jon Chesto** GLOBE STAFF
AUGUST 14, 2018

The first major offshore wind farm to be built off New England's coast has at least one big selling point, compared to the doomed Cape Wind project that preceded it: much cheaper electricity.

The new project, known as Vineyard Wind, is slated to begin construction next year, some 15 miles south of Martha's Vineyard. Vineyard Wind has generated less opposition than Cape Wind, which succumbed to years of litigation because of its proposed location in Nantucket Sound, as close as six miles to shore.

Cape Wind's high prices fueled some of the opposition, but that apparently won't be a problem for Vineyard Wind.

The state's three investor-owned electric utilities recently disclosed that they will pay Vineyard Wind about \$89 a megawatt hour, on average, over the course of a 20-year contract for the first phase of the project, scheduled to come online in 2021.

A second phase would cost less, an average of \$79 per megawatt hour.

"I'm somewhat speechless at that number," said Paul Flemming, managing director at ESAI Power LLC, an energy consultancy in Wakefield. "We've seen numbers like that in Europe. But they've got the infrastructure set up [already]."

Those prices are roughly one-third the rate of what the Cape Wind project would have charged, and at least half the cost of more recent offshore wind contracts in the United States. They are also about one-fourth the rate charged by Deepwater Wind's Block Island project, a much smaller installation with just five turbines. It's the country's first offshore wind farm.

It's hard to predict precisely how the Vineyard Wind contracts will translate into electric bills for homeowners, because the wholesale power markets fluctuate over time. But the state Department of Energy Resources says it sees the potential for modest savings to ratepayers over the life of the 20-year contracts.

So what gives? How is Vineyard Wind able to deliver such a better price, when its 800-megawatt wind farm would be located farther out to sea, in deeper waters, than Cape Wind's? Many factors make offshore wind more financially viable now than it was a decade ago:

■ **Competition:** Cape Wind was the only game in town when National Grid signed a contract in 2010 at prices that began at \$187 per megawatt hour, and escalated from there. Eversource signed a similar deal, but both utilities backed out when Cape Wind ran into trouble lining up financing.

In contrast, there were three development teams offering to sell off-shore power to the state's electric utilities in a bidding process set in motion by the state's 2016 energy law. Vineyard Wind had one key

advantage: It's furthest along in the permitting process, enabling it to be the one most likely to capitalize on federal tax credits that are scheduled to expire soon.

■ **Experience:** As the first proposed offshore wind farm in the United States, Cape Wind was a trailblazer. But company president Jim Gordon's experience was primarily in developing gas-fired plants, not wind farms.

Bloomberg NEF analyst Tom Harries noted that Vineyard Wind is being developed by more experienced investors: utility Avangrid and investor Copenhagen Infrastructure Partners. That experience, Harris said, is vital to managing expenses. It also lowers the perception of risk, which helps reduce financing costs.

"We had three companies that had real experience that had bid for these projects, [with] the technology and capital to build them," said Bob Rio, an energy expert at Associated Industries of Massachusetts. "The industry matured. It caught up to what we needed."

■ **Technology:** Cape Wind had proposed using 3.6-megawatt turbines, at the time considered cutting edge. Now, though, offshore turbines are bigger and more powerful. General Electric, for example, recently announced plans to make a 12-megawatt turbine. Vineyard Wind will use either 8- or 10-megawatt turbines.

Plus, the more advanced technology seen already in Europe allows wind farms to be built in deeper waters, enabling them to harness stronger winds. That means Vineyard Wind's 80 to 100 turbines will run more efficiently, more frequently approaching peak capacity.

"Our price is more of a reflection of where the global market has moved," said Lars Thaaning Pedersen, Vineyard Wind's chief executive.

■ **Financing:** It's a minor twist, but worth noting. Cape Wind could only secure 15-year contracts from utilities. These new contracts are for 20 years, which spreads costs over a longer period.

■ **Opposition:** Because its turbines will be larger, Vineyard Wind can be built farther from shore. Vineyard Wind does have issues — fishermen are concerned about the towers' impact, and Yarmouth residents worry about a transmission line that's proposed to come ashore in their town.

But Cape Wind would have been in sight of a far more populous area, and was ensnared by years of costly legal appeals. It's hard to know how much of a role, if any, that played in its price for electricity. But the opposition eventually sank that project, while Vineyard Wind has been generating much more support.

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Bloomberg

Climate-Changed

First Big U.S. Offshore Wind Farm Offers \$1.4 Billion Savings to Customers

By Jim Efstathiou Jr

August 1, 2018, 1:41 PM EDT *Updated on August 1, 2018, 4:16 PM EDT*

Project expected to cut monthly power bills up to 1.5%

Vineyard Wind project will be 18% cheaper than alternatives

Massachusetts electricity users will save about \$1.4 billion over 20 years from the first commercial-scale offshore wind farm in the U.S.

Avangrid Inc. and Copenhagen Infrastructure Partners, joint developers of the 800-megawatt project south of Martha's Vineyard, expect to provide power and renewable energy credits for 6.5 cents a kilowatt-hour according to a [letter](#) Wednesday from the state Department of Energy Resources.

That's a levelized price in 2017 dollars over the term of the contracts, and makes the Vineyard Wind project about 18 percent cheaper than other alternatives, according to the letter. It's also lower than the wind industry expected and shows that offshore wind can be a competitive source of clean energy as costs continue to come down.

"That's pretty shocking for us," said Tom Harries, a wind analyst at Bloomberg NEF. "I think the wider industry expected much higher prices. The repercussions of this are it will probably awaken a lot of other coastal states to the value of offshore wind."

As prices continue to fall, offshore wind is expected to grow by [16 percent](#) annually through 2030, driven by installations in the U.K., Germany, Netherlands and China, according to BNEF. The U.S. is a latecomer to the market, and early projects may cost more than those in Europe, in large part because developers will need to import components for the massive offshore structures, which can be as big as 600 feet (183 meters).

With Vineyard Wind, the U.S. is starting to close the gap, Harries said. While offshore wind is still more costly than onshore wind and solar, it offers other advantages, notably that the turbines will generate power in the winter when prices are high.

Federal tax credits and a long-term power-purchase agreement were part of the equation that helped the wind project “offer an attractive price to the benefit of consumers,” Lars Thaaning Pedersen, chief executive officer of Vineyard Wind, said in a statement.

‘Pretty Fast’

“The general consensus was that it would take a while for new markets to reach levels we’ve seen in Europe and the U.S. seems to be doing this pretty fast,” he said.

The wind farm 15 miles (24 kilometers) south of Martha’s Vineyard is expected to deliver power at a price that lowers monthly energy bills by about 0.1 percent to 1.5 percent, according to the letter. Construction is expected to begin in 2019, with the project in operation by 2021, the developers said in May. It will reduce the state’s carbon emissions by more than 1.6 million tons per year, the equivalent of removing 325,000 cars from the road.

The contracts between the developers and distribution companies [National Grid Plc, Eversource Energy](#) and Unitil Corp. were filed for review Tuesday with the Department of Public Utilities.

Massachusetts has set a goal of installing 1,600 megawatts of offshore wind, enough to power about 1 million homes, by 2027, and lawmakers [approved](#) legislation on Wednesday to double that figure. New York, New Jersey and Maryland are also targeting a combined addition of more than 6 gigawatts by 2030.

[Deepwater LLC](#) built the first U.S. offshore farm in 2016, the 30-megawatt, \$300 million Block Island project off the Rhode Island coast.

“The Vineyard Wind offshore wind generation long-term contracts provide a highly cost-effective source of clean energy generation for Massachusetts customers,” according to the Department of Energy Resources’ letter.

Study gauges economic impact of offshore wind

Job, tax benefits for Mass. much greater than Canadian hydro imports



[BRUCE MOHL](#) Mar 12, 2018

MASSACHUSETTS WON'T GAIN MUCH economically by importing hydro-electricity from Quebec into New England, but a new report indicates the Bay State's upcoming procurement for offshore wind will have a positive impact.

A study commissioned by Vineyard Wind, one of three bidders on the procurement, said an 800 megawatt offshore wind project would yield between 1,180 and 1,633 direct, full-time equivalent jobs in Massachusetts, with most of them in southeastern Massachusetts. Most of the jobs would be in development and construction, with only about 80 in ongoing operations and maintenance.

The project is also expected to generate \$17 million a year in new state and local tax revenue, the report said.

Vineyard Wind commissioned the Public Policy Center at UMass Dartmouth to study the economic impacts of an 800 megawatt and 400 megawatt project. Only the report for an 800 megawatt project was released.

Michael Goodman, the executive director of the UMass Dartmouth center and one of the authors of the report, said the jobs will be high paying (wages ranging from \$77,671 to \$85,021) and located in a section of the state that needs them.

To meet its emissions targets, Massachusetts is in the midst of negotiating a contract for the import of hydro-electricity from Quebec. Most of the economic benefits of the imported electricity (jobs, taxes, and economic development) will flow out of state to Quebec and which ever state hosts the transmission line – either New Hampshire or Maine.

By contrast, the offshore wind procurement is focused on companies that will build wind farms off the coast of Massachusetts and use Massachusetts as a staging area. Goodman said the UMass analysis of

Vineyard Wind's proposal is unique to that project, but he acknowledged the ventures of the other two bidders (Bay State Wind and Deepwater Wind) would probably have a somewhat similar economic impact.

Massachusetts will procure 1,600 megawatts of offshore wind in stages. The initial stage could run anywhere from 250 megawatts to a maximum of 800 megawatts. All of the bidders were required to submit 400 megawatt bids.

The bidders have engaged in a heated behind-the-scenes debate over the optimum size of the initial procurement. Bay State Wind has indicated an 800 megawatt initial procurement would be best because it would deliver low prices for the power and signal to the offshore wind industry that Massachusetts is serious about garnering a large chunk of the emerging industry.

Deepwater Wind has taken a go-slow approach, urging the state to start small and go bigger over time. Officials at Deepwater Wind argue a smaller, initial procurement would give Massachusetts time to build up its capacity to serve the offshore wind industry and capture a greater chunk of the supply chain and more jobs. An 800 megawatt initial procurement, the company argues, could put a damper on bidding for future procurements and lead to more imports of equipment and labor from Europe.

Although the companies have made their arguments for big or small procurements, they have also hedged their bets with proposals of varying sizes.

Goodman said a bigger project is likely to prevail in the procurement because of its ability to offer a lower price due to economies of scale. "I don't follow the logic of smaller is better," he said.



CAPE COD TIMES

Vineyard Wind to hold open houses in [Barnstable, Yarmouth](#)

By Geoff Spillane

Posted Nov 6, 2017 at 5:43 PM Updated Nov 6, 2017 at 5:55 PM

HYANNIS — Vineyard Wind will host two public open houses this week for Barnstable and Yarmouth residents to learn more about offshore wind and a grid/cable connection planned for the towns.

The Barnstable open house will be from 5 to 8 p.m. Tuesday in the cafeteria at Barnstable Intermediate School, 895 Falmouth Road in Hyannis. The Yarmouth event is scheduled for 5 to 8 p.m. Wednesday at the Senior Center, 528 Forest Road in West Yarmouth.

Vineyard Wind is proposing to build an offshore wind energy project 30 miles south of Martha's Vineyard that would power more than 450,000 Massachusetts homes each year.

New Bedford meeting brings wind, fishing industries together

By Michael Bonner / mbonner@s-t.com

Posted Oct 4, 2017 at 5:22 PM Updated Oct 4, 2017 at 7:11 PM

NEW BEDFORD — Jim Kendall painted the city's streets with snow when he articulated how fishermen may feel about offshore wind during a meeting Wednesday that brought both sides together.

As a child on SouthCoast, Kendall spent his snows days sledding on the streets.

"You just can't do stuff like that anymore," he said.

He's seen the same influx in traffic on the ocean in his evolution from fisherman to fishermen representative for Vineyard Wind. Time has added stock limits, marine monuments and the latest is offshore wind. More traffic equates to more difficulty fishing.

"That's part of the problem," Kendall said. "There's constraints now where there never were earlier."

Both offshore wind and commercial fishing understand neither is leaving the ocean. So John Quinn chaired a New England Fisheries Management Council habitat committee meeting in New Bedford, which invited offshore wind representatives.

"My general policy view is I'm viewing wind as complementing not replacing fishing," Quinn said. "That balance is why we're having meetings, seminars and symposiums about it."

Vineyard Wind, Bay State Wind, Deep Water Wind and the Bureau of Ocean Energy Management presented information to the committee for about two hours before an hour question-and-answer session.

Concerns from the committee included navigation around the turbines, radar interference and the burying of cables under the ocean's surface.

It's uncertain how many towers would be erected in certain areas, so the total number of turbines vessels would have to navigate around is unknown. The quota is often based on the demand of specific states. However, many maps were provided of the area where companies own leases off the coast of Massachusetts and Rhode Island.

Research also continues on the effects the turbines impose on marine life in the area.

As one of the first formal meetings between the sides, answers weren't always available. But the discussion set in motion a process where at some point the issues could be solved.

“Oftentimes stuff can be resolved with a phone call or an email,” Quinn said. “They’ve got to work collaboratively to solve some of these pressing issues but not confrontationally.”

There may be no other choice.

“It’s going to happen so I guess we have to try to make the best of it or minimize any of the problems,” Kendall said.

The Inquirer and Mirror

Wind-farm survey vessels off Nantucket for next two weeks

By The Inquirer and Mirror

Posted Aug 8, 2017 at 8:47 AM Updated Aug 8, 2017 at 9:02 AM

(Aug. 8, 2017) Over the next two weeks, Vineyard Wind will be conducting seafloor surveying between its offshore wind-lease site, located approximately 14 miles southwest of Nantucket, and Cape Cod, including Muskeget Channel and Nantucket Sound. In addition, the survey will also include Nantucket's Madaket and Dionis areas.

The company's 45-foot surveying vessel may come within 50 feet of Nantucket's shores in these specific areas between the hours of 9 a.m.-5 p.m. A professional marine mammal observer will be onboard to ensure no danger to sea life or beachgoers.

Vineyard Wind, which is competing with Deepwater Wind and a partnership between DONG Energy and Eversource to build major wind energy installations in leased tracts 15 miles south of Martha's Vineyard, began geophysical surveys last week of the ocean floor "to identify best cable locations," the company said in a notice to boaters.

A 45-foot boat may be operating an unoccupied underwater robot, the company said, and a second boat, a 100-foot vessel, will be conducting shallow coring or collecting sediment samples while maintaining station further offshore.

Both vessels may be towing geophysical equipment up to 300 feet behind them, Vineyard Wind said. The survey work began late last week and is expected to last about three weeks, the offshore wind developer said.

A 2016 law requires Massachusetts utilities to procure 1,600 megawatts of offshore wind and 1,200 megawatts of new hydropower, solar, wind and other renewable sources by 2027. Proposals for 400-800 megawatt projects of offshore wind are due in December, and Vineyard Wind officials have said the company is preparing to submit its bid by then.

For more information, visit: <https://www.vineyardwind.com/>

Dartmouth man joins Vineyard Wind management

Posted Jul 12, 2017 at 5:00 PM Updated Jul 12, 2017 at 5:00 PM

Vineyard Wind, an offshore wind energy developer vying to build the first utility-scale project off the coast of Massachusetts, has hired Dartmouth resident Jack Arruda to serve as technical development manager for the company.

Arruda has a lengthy background in developing and operating power projects in the Northeast, according to a news release from Vineyard Wind. In his new role, he will lead the local technical development of the proposed Vineyard Wind project and oversee issues such as grid interconnection, on-shore route permitting and cable installation, and managing the development and use of the port facilities for both construction and operation of the project, the release said. He will work closely with the project's fisheries' representative Jim Kendall, the U.S. Coast Guard, the Port of New Bedford and the harbormaster, and other city and state officials.

Vineyard Wind is one of three companies that has acquired lease rights to build wind projects off the coast of Massachusetts. Vineyard Wind's project area is about 15 miles south of Martha's Vineyard, the developer said. Last summer, Massachusetts required utilities to procure 1,600 megawatts of clean, offshore wind energy within the next decade. When the 1,600 megawatts of generation capacity are completed, they will generate enough clean, homegrown energy to power the equivalent of more than 750,000 Massachusetts homes every year, according to the company.

"Jack brings a tremendous depth of technical experience, as well as local knowledge, to Vineyard Wind — exactly what we need to ensure the project is built on time and on budget, and all the while being a good neighbor with the many people who live and work on the SouthCoast and the waters offshore," said Vineyard Wind CEO Erich Stephens. "We're thrilled to have someone with Jack's background join our team as his local experience and knowledge WILL be essential for a successful project and adds to the level of expertise on our team."

A lifelong resident of Dartmouth and a graduate of Massachusetts Maritime Academy with a degree in marine engineering, Arruda has more than 25 years of experience operating and managing energy projects.

"I'm thrilled to be working with Vineyard Wind," Arruda said in the release. "It's the perfect opportunity for me given my background in the power-generation field and having been in the maritime industry earlier in my career. I'm excited about this project. I think offshore wind will play a key role in the energy future of our region, and it's going to bring tremendous opportunity to the South Coast area."

Prior to joining Vineyard Wind, Arruda served as the director of operations for Caithness Energy. Previously, he spent 17 years with Energy Management Inc., where he worked in the development of

solar and combined cycle natural gas-fired electrical generation facilities. In addition, as part of EMI, he was involved in the design and planning around the proposed Cape Wind energy project. He was previously the operations and facility manager at the 270-megawatt natural gas-fired power plant in Tiverton, Rhode Island, for eight years working for Calpine and GE.



Avangrid acquires big stake in Massachusetts offshore wind project with Vineyard Wind

May 11, 2017 [Paul Dvorak](#)

Partnership combines global experience, strategic expertise, and deep financial backing

Avangrid Renewables and Vineyard Wind have formed a strategic partnership to jointly develop a large scale wind energy project off the coast of Massachusetts. Avangrid Renewables is acquiring a 50% ownership interest in Vineyard Wind, the offshore wind energy developer that is part of the Copenhagen Infrastructure Partners (CIP) portfolio.

The companies say this is a major strategic partnership that combines Avangrid Renewables' U.S. onshore wind development capabilities with Copenhagen Infrastructure Partners and Iberdrola's European offshore wind expertise to give Vineyard Wind a significant advantage in building Massachusetts' first offshore wind project.

Avangrid Renewables is a subsidiary of AVANGRID Inc Iberdrola S.A., a worldwide leader in the energy industry with significant offshore wind holdings in Europe, owns 81.5% of the outstanding shares of AVANGRID common stock.

The partnership of the two companies will bring extensive offshore wind expertise and substantial financial firepower to the Commonwealth's initiative to build offshore wind projects in Massachusetts. Last summer, Massachusetts required utilities to procure 1,600 MW of clean, offshore wind energy within the next decade, setting off an intense competition among offshore wind developers in the region.

Three companies to date have acquired lease rights to build projects off the coast, including Vineyard Wind. Vineyard Wind's project area is about 15 miles south of Martha's Vineyard. Vineyard Wind plans to begin construction of its project in early 2020, in order to bring the economic development and clean energy benefits of offshore wind to Massachusetts as soon as possible. Vineyard Wind has also worked hard to establish long-term relationships and partnerships with the local community that will provide significant benefit to the project



Martha's Vineyard Offshore Wind Project Acquired By Danish Company

Posted by **Lauren Tyler**

-

August 26, 2016

Danish fund management company Copenhagen Infrastructure Partners (CIP) has [acquired](#) 100% of Offshore MW LLC, a company holding a 166,886-acre offshore wind energy lease south of Martha's Vineyard in Massachusetts.

The lease was issued by the U.S. Bureau of Ocean Energy Management. The project will be continuously developed by the existing local development team and supported by CIP.

Offshore MW is eligible to participate in the utility tender program established by [recently enacted legislation](#) in Massachusetts. According to CIP, the first tender round to obtain a long-term power off-take agreement is expected to take place in mid 2017.

Richard Andre, president of [Vineyard Power](#), a partner of OffshoreMW, says, "We're very pleased that we'll now be working with the CIP team. We've met with them and know they bring an enormous amount of offshore wind expertise, they have the investment capacity and they appreciate what we have to offer as a local community partner. Together we'll be able to deliver a great project for the Vineyard and for the entire commonwealth."

In addition, the name of the project will be Vineyard Wind to reflect the project's proximity to the island, as well as OffshoreMW's long-standing ties to Vineyard Power Cooperative.



SECTION 8 OF APPENDIX A TO THE RFP ENGINEERING AND TECHNOLOGY; COMMERCIAL ACCESS TO EQUIPMENT

OVERVIEW

The section describes Vineyard Wind 2's (the "Project") engineering and construction plans, and equipment procurement plans. These plans employ highly reliable, commercially available technologies, and were developed by an [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Vineyard Wind is the only developer to go through the procurement process for a large-scale offshore wind project in the US. [REDACTED]

[REDACTED]

[REDACTED]

Vineyard Wind's unparalleled experience in the US offshore wind market means the Project also benefits from the company's:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Final manufacturer decisions will be based on previously completed assessments of engineering and supply chain capabilities in the US and abroad, with strong considerations for local sourcing.

Dimensions indicated in this section are typical; and final dimensions will be dependent on the model of wind turbine generator (WTG) selected and final design.

8.1 Provide a reasonable but preliminary engineering plan which includes the following information:



PRELIMINARY ENGINEERING PLAN

The Project incorporates high performance equipment components with established track records in the offshore wind sector. [REDACTED]

[REDACTED]

[REDACTED] Vineyard Wind is therefore confident that the Project's preliminary design and engineering plan will deliver a robust and reliable Project for Massachusetts' ratepayers.

An overview of the major components associated with Project deployment, including specialized equipment required to complete each of the work packages, is provided in **Table 8.1-1**.

i. Type of generation and delivery technology

Type of Generation and Delivery Technology

The Project will generate and deliver renewable emission-free electricity through an offshore wind generation and transmission system. The seven major technology and equipment groups that comprise this system are illustrated in **Figure 8.1-1** and described below.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

ii. Major equipment to be used (including nacelle, hub, blade, tower, foundation, delivery facilities structures and platforms, electrical equipment and cable)

Major Equipment

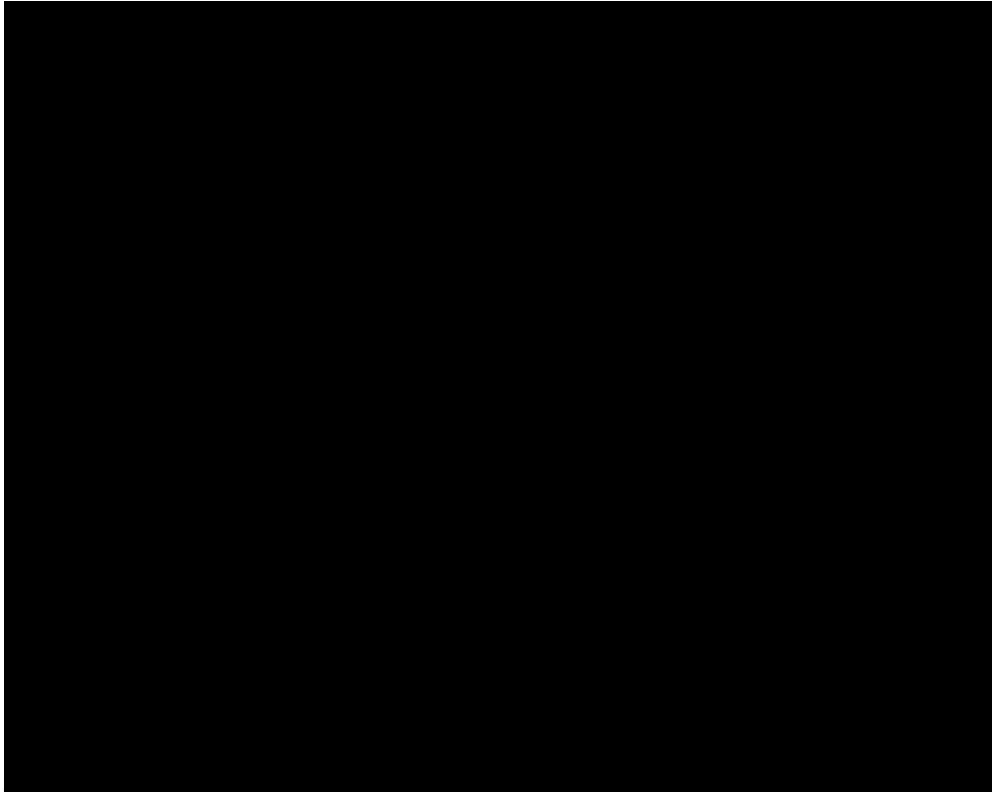
Wind Turbine Generators

A WTG consists of a steel tower [REDACTED]. On top of the WTG tower is a nacelle (housing) and hub. The nacelle contains a driveshaft and gearbox or direct-drive system (depending on WTG type), as well as the electrical generator, electric motors to yaw the turbine, and workspace. The nacelle also contains a full array of instrumentation, controls, fire protection systems and other safety equipment, ventilation and cooling, and ancillary equipment. Wind sensors mounted on the top of the nacelle are used to control the yaw system, which ensures that the nacelle is facing into the wind, thus maximizing power production. [REDACTED]

[REDACTED]

[REDACTED]

A schematic presentation of a typical WTG of the type planned for the Project is provided as **Figure 8.1-2**.

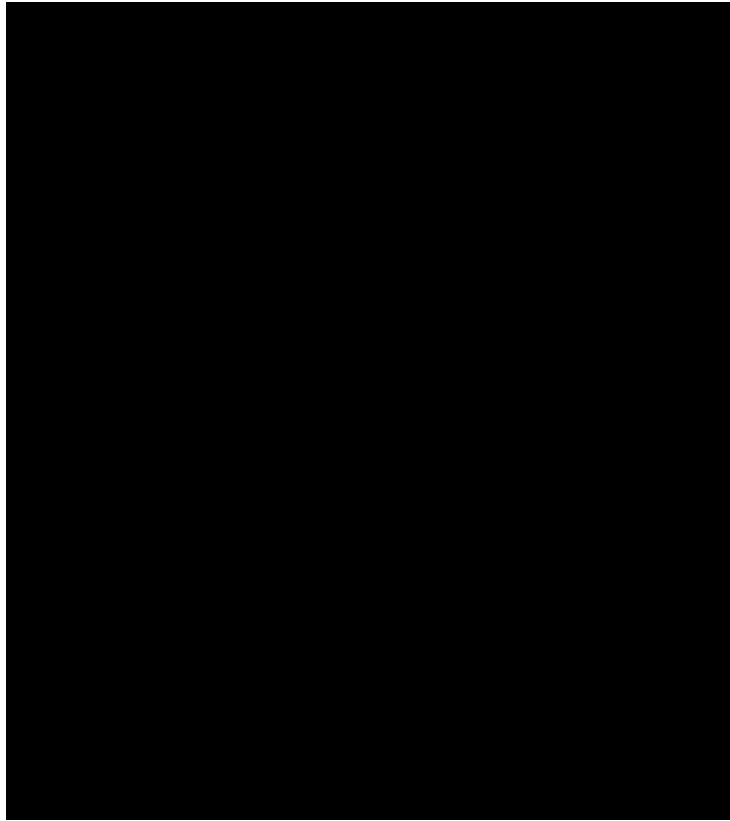


Foundations for WTGs

The Project will use either monopiles or jackets as the support structure for the WTGs.

Monopile Foundation Concept

A monopile is a single, hollow cylinder fabricated from steel that is driven into the seabed. A TP is mounted on top of the monopile to make the transition from the top of the monopile to the bottom of the WTG tower. Various electrical equipment is located inside the TP to connect the WTG to the inter-array cables. The TP also includes a boat landing for technician access. The Project's monopile foundation concept is illustrated in **Figure 8.1-3**.



The foundation includes the following: inter-array cable hang-off supports, corrosion protection systems (both internally and externally), a boat landing for accessing each turbine, Davit crane to lift tools and parts from the service vessel, marine navigation aids (e.g. ID marking and lights), external and internal platforms (scaffolding), and various electrical components. Scour protection may be installed around each WTG foundation to protect the foundations from scour development.

Jacket Foundation Concept

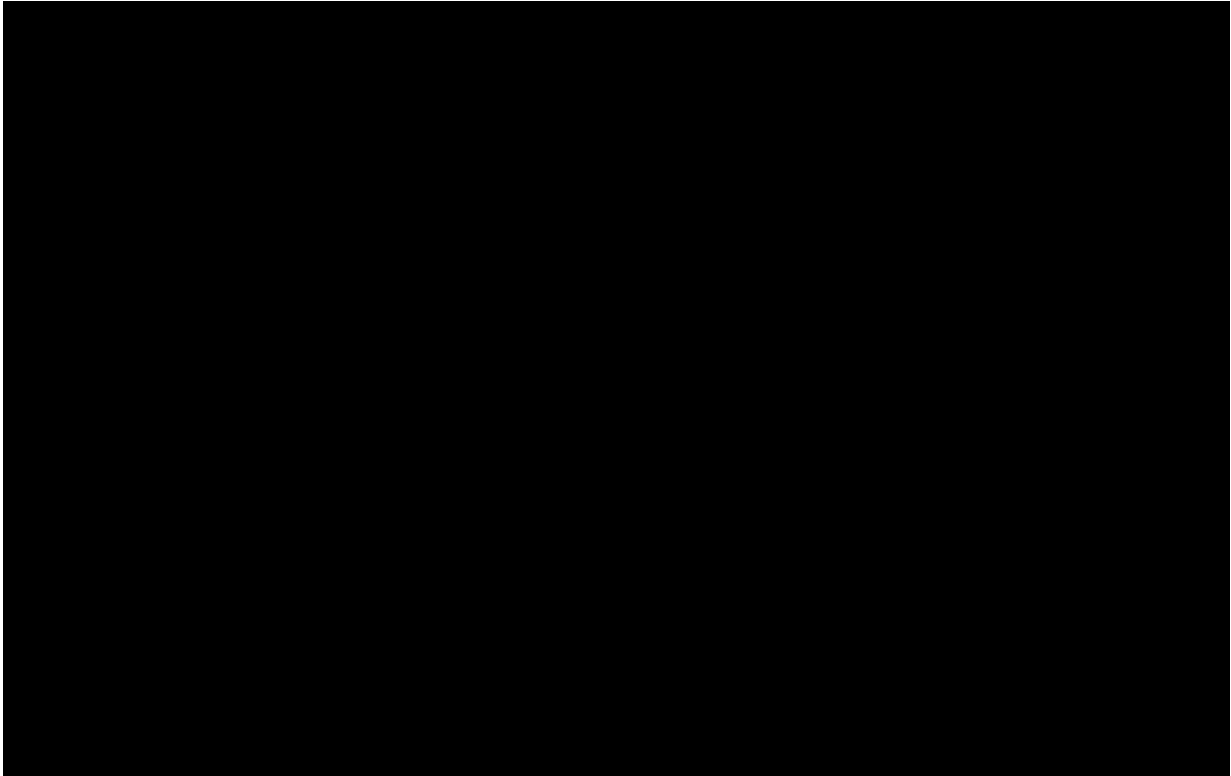
The jacket design concept consists of three to four-legged support structure with an integrated TP.

The jacket will also contain secondary structures, such as boat landings and cable tubes. The jacket will also be equipped with a corrosion protection system designed in accordance with relevant standards. The jacket concepts are illustrated in **Figure 8.1-4**.



The jacket will contain secondary structures such as tower flange for mounting the WTG, internal and external platforms, and various types of electrical equipment needed during installation and operation.

[REDACTED]



Inter-array Cables

[REDACTED]

[REDACTED] The medium voltage inter-array cables will connect the WTGs to the ESP. The total length of the cables will be optimized according to the Project's layout and WTG model chosen.

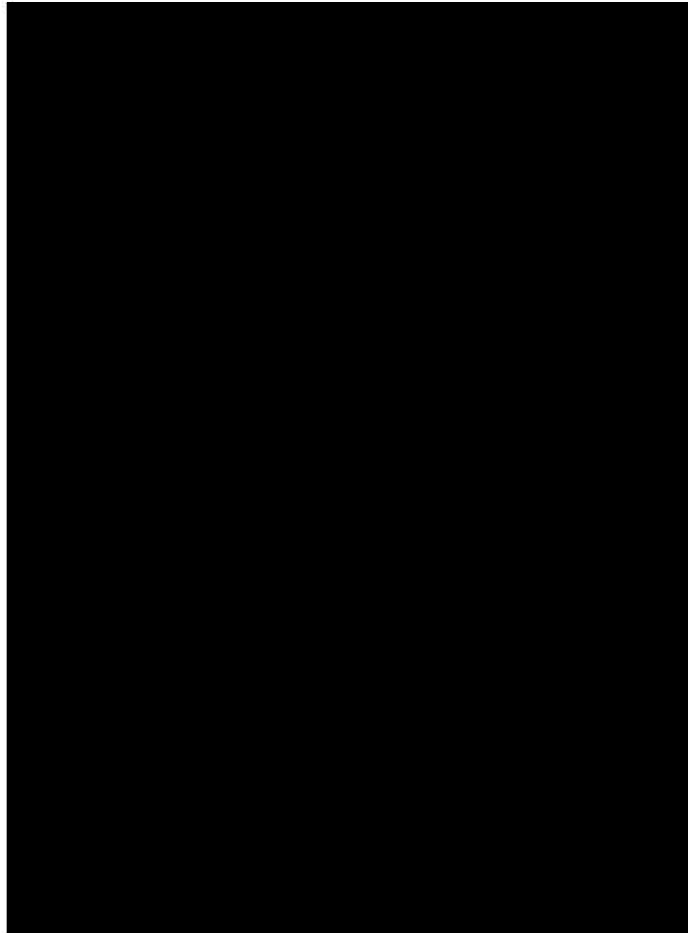
[REDACTED]

[REDACTED]

[REDACTED]

Electrical Service Platform

The ESP is comprised of two primary structures: the topside, which contains the electrical components and is located above water, and the foundation substructure, which is mainly below water. The ESP topside will be mounted on a jacket foundation, as depicted in **Figure 8.1-5**.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The topside will be a conventional steel frame or stretched skin structure with various deck levels, such as the cable deck, main deck, mezzanine or intermediate deck, and roof deck, all designed to house the electrical components. A helideck will likely also be installed on the ESP to improve operations and maintenance (O&M) workability.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

The ESP will contain several additional components, such as a supervisory control and data acquisition (SCADA) system, heating, ventilation, and air conditioning (HVAC), a fire safety system, hydraulic platform crane(s), electrical hoist crane(s), a closed-circuit television (CCTV) system, a communication system (including antenna), Automatic Identification System (AIS), safety kits, aviation and navigational marking, a pollution prevention system, export and inter-array cable hang-off supports, corrosion protection systems, and more.

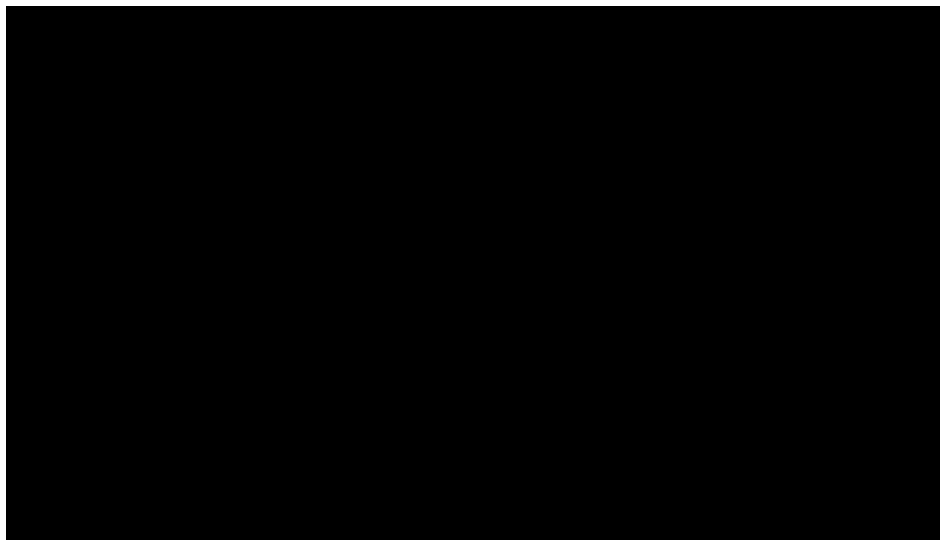
Offshore Export Cables

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



The export cable system is designed with redundancy to secure reliable transmission from the Project to the grid. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



iv. Status of acquisition of the equipment components

Supply Chain Investigations

Vineyard Wind has completed extensive engineering assessments and investigation of supply chain capabilities and options in Massachusetts, the US, and abroad. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted]

[Redacted]

v. Whether the bidder has a contract for the equipment. If not, describe the bidder's plan for securing equipment and the status of any pertinent commercial arrangements

[Redacted]

[Redacted]

[Redacted]

For more information regarding local employment and economic development impact, please refer to **Section 14**.

[Redacted]



[REDACTED]

[REDACTED]

[REDACTED]

On the basis of the procurement packages overview and the detailed Project schedule set out in **Section 9**, a comprehensive procurement plan has been developed. [REDACTED]

[REDACTED]

[REDACTED] The procurement timeline accounts for:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

vi. Equipment vendors selected/considered

Equipment Vendors

Based on Vineyard Wind’s engagement and dialogue with prospective supply chain partners, the following major equipment vendors listed in **Table 8.1-2** are being considered for the Project. More details on equipment vendor considerations and selection criteria are further detailed in the response to **Question 8.1.viii**.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Foundations

Monopiles and TPs are a technology that has been proven in numerous offshore wind projects worldwide. The first monopile projects were installed at the Blyth Offshore Wind Farm (England) in 2000 (Blyth Windfarm, England) and the Horns Rev 1 project (Denmark) in 2002. Since then, more than 2,500 monopiles have been deployed in the offshore wind industry. [REDACTED]

[REDACTED]

Inter-array Cables

Inter-array cables are a well-known technology that has been used for many years in the wind industry. [REDACTED]

[REDACTED]



Electrical Service Platforms

ESPs have been in use in the offshore wind industry since 2002. [REDACTED]

[REDACTED] All suppliers are expected, and will be encouraged, to design the ESP using well-known and proven concepts. The shareholder companies and members of Vineyard Wind's staff also have experience with ESPs of similar complexity.

Export Cables

[REDACTED]

Onshore Substation

The onshore substation's electrical design will be comparable to that of most other offshore wind onshore substations. The electrical design will be derived from the final design of the Project's entire electrical system and based on well-known and proven concepts. There are many experienced contractors in New England and the rest of the US with the expertise to build this type of onshore substation. Shareholder company Avangrid Renewables and affiliate Avangrid Networks have long track records and substantial US onshore experience with designing and constructing onshore substations.

viii. If the equipment manufacturer has not yet been selected, identify in the equipment procurement strategy the factors under consideration for selecting the preferred equipment

Equipment Procurement Strategy

Vineyard Wind's procurement strategy builds [REDACTED]

[REDACTED]

[REDACTED] **Table 8.1-3** outlines key factors that Vineyard Wind will consider when procuring equipment for the Project.



SAME OR SIMILAR EQUIPMENT IN COMMERCIAL OPERATION

A general overview of the equipment track records is provided in response to **Question 8.1.vii.**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

8.4 For less mature technologies, provide evidence (including identifying specific applications) that the technology to be employed for energy production is ready for transfer to the design and construction phases. Also, address how the status of the technology is being considered in the financial plan for the project.

TECHNOLOGICAL MATURITY

[REDACTED]

Further, all equipment will be manufactured by or with the involvement of industry leaders. As part of the financing process, an in-depth review of the applied technologies will be performed and taken into consideration when designing the Project management plan.



8.5 Please indicate if the bidder has a full and complete list of equipment needed for all physical aspects of the bid, including generation facilities, turbine support structures, electrical platforms delivery facilities, and mandatory and voluntary transmission system upgrades. If not, identify the areas of uncertainty and when the full and complete list of equipment will be identified.

LIST OF EQUIPMENT NEEDED

The response to **Question 8.1.ii** provides a full and complete list of all major equipment needed for all physical aspects of the bid. [REDACTED]

8.6 Please indicate if the bidder has secured its equipment for all physical aspects of the bid, including generation facilities, delivery facilities, and mandatory and voluntary transmission system upgrades. If not, identify the long-lead equipment and describe the timing for securing this equipment.

EQUIPMENT PROCUREMENT

Vineyard Wind has completed extensive engineering assessments and investigations of US supply chain capabilities and options, [REDACTED]

That Vineyard Wind has not yet secured equipment for the Project, which is normal at this stage of the Project development process. [REDACTED]

The Project's engineering and procurement plan has been prepared in full [REDACTED]

Please refer to the response to **Question 8.1.v** above for details on the Project's procurement plan.



VINEYARD WIND

ATTACHMENT TO:

**SECTION 8 OF APPENDIX A TO THE RFP
ENGINEERING AND TECHNOLOGY; COMMERCIAL ACCESS TO
EQUIPMENT**

ATTACHMENT 8.1-1

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 8 OF APPENDIX A TO THE RFP
ENGINEERING AND TECHNOLOGY; COMMERCIAL ACCESS TO
EQUIPMENT**

ATTACHMENT 8.1-2

REDACTED



SECTION 9 OF APPENDIX A TO THE RFP PROJECT SCHEDULE

OVERVIEW

This section outlines the schedule and critical path for Vineyard Wind 2 (the “Project”), and details how Vineyard Wind expects to [REDACTED] Vineyard Wind’s confidence in this timeline is based on the shareholder companies’ extensive experience and successful track record managing the execution of projects of similar scope and magnitude around the world. Importantly, this schedule also incorporates the most recent lessons learned and experience from the Vineyard Wind team’s development of the nation’s first commercial-scale offshore wind project, Vineyard Wind 1. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

9.1 Identify the elements on the critical path. The schedule should include, at a minimum, preliminary engineering, financing, acquisition of real property rights, Federal, state and/or local permits, licenses, environmental assessments and/or environmental impact statements (including anticipated permit submittal and approval dates), completion of interconnection studies and approvals, procurement, facility contracts, start of construction, construction schedule, and any other requirements that could influence the project schedule and the commercial operation date.

PROJECT SCHEDULE AND CRITICAL PATH

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

As **Figure 9.1-1** shows, Project planning and implementation is well underway. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Vineyard Wind is also the first offshore wind developer to go through supply chain procurement for all major contract packages for a large-scale offshore wind project. The insights and experience gained through that process have been incorporated into the Project's schedules.

[REDACTED]

[REDACTED]

The detailed schedules will enable the team to coordinate activities, monitor schedule performance, and analyze the impact of changes and adjustments to the Project both during detailed planning and execution.



[Redacted]

[Redacted]



[Redacted text]

[Redacted content]



[Redacted text]

[Redacted content]

CRITICAL PATH ANALYSIS

[REDACTED]

Vineyard Wind is therefore confident that the Project's schedule is achievable and that the Project will be delivered as planned.

The Project's critical path includes three key activities, which are discussed in turn below:

[REDACTED]

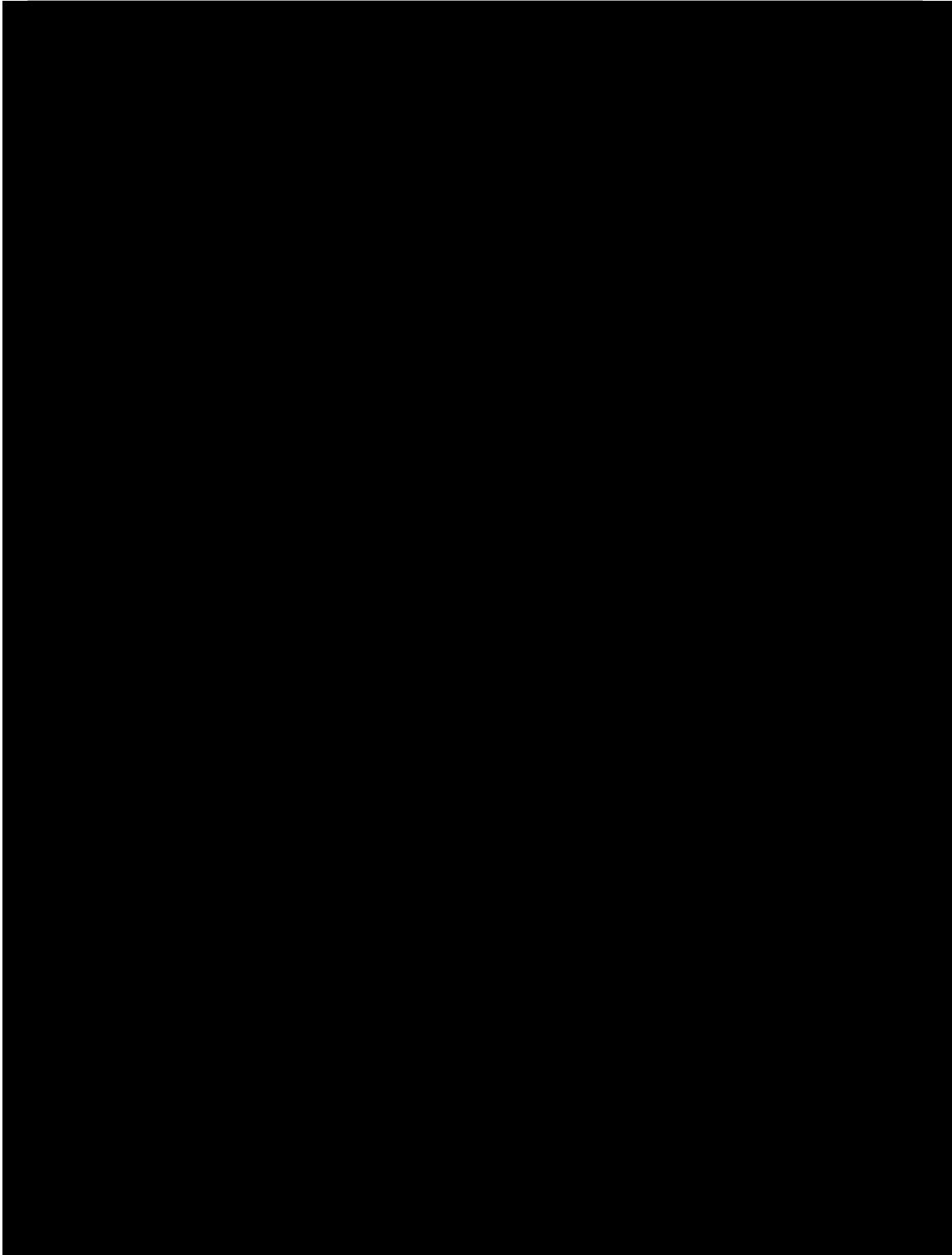
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



9.2 Include a discussion on use of maritime vessels and access to them. Also include a description and discussion of the laydown facility/facilities to be used for construction, assembly, staging, storage, and deployment.

MARITIME VESSELS AND ACCESS

[REDACTED]

[REDACTED]

The central logistical and installation related scopes that Vineyard Wind has identified for the Project are as follows:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Table 9.2-1 provides a description and status of the key scopes listed above. Robust solutions have been identified for each scope, and Vineyard Wind is confident of the availability of these market solutions, [REDACTED] Further detail, including information on marine vessels and access, can be found in Section 10.

[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]

[illegible]

[illegible]

9.3 Detail the status of all critical path items, such as receipt of all necessary siting, environmental, and ISO-NE approvals.

STATUS OF CRITICAL PATH ITEMS

Table 9.3-1 details the status of the key activities and critical path items for the Project. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED]

[illegible]



VINEYARD WIND

ATTACHMENT TO:
SECTION 9 OF APPENDIX A TO THE RFP
PROJECT SCHEDULE

ATTACHMENT 9.1-1
REDACTED



SECTION 10 OF APPENDIX A TO THE RFP OPERATION AND LOGISTICS

OVERVIEW

This section provides a detailed construction plan for Vineyard Wind 2 (the “Project”) addressing all necessary arrangements and processes for outfitting, assembly, storage, and deployment of major Project components. The construction plan has been validated by suppliers, is based on the construction plan for the first 800 megawatt (MW) project (“Vineyard Wind 1”), [REDACTED]

[REDACTED] The Project’s construction plan draws on the successes and difficulties of the parent companies’ previous offshore wind developments and their deployments; as such, Vineyard Wind is fully prepared for the Project’s installation.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

10.1 Please list the major tasks or steps associated with deployment of the proposed project and the necessary specialized equipment (e.g. vessels, cranes).

MAJOR PROJECT DEPLOYMENT STEPS AND NECESSARY EQUIPMENT

The installation of Vineyard Wind 2 consists of the following six main work packages:

- Wind turbine generator foundations
- Wind turbine generators
- Inter-array cables
- Electrical service platform
- Offshore export cables
- Onshore cable and substation



A schematic construction plan that depicts the projected sequence of major tasks for each of the Project's work packages is provided in **Figure 10.1-1**. A detailed Project schedule can be found in **Section 9**.



[Redacted]

[Redacted]

[Redacted]



10.2 Please provide documentation to demonstrate site control for all marine terminals and other waterfront facilities that will be used to stage, assemble, and deploy the project for each stage of construction.

- i. Evidence that the bidder or the equipment/service provider have a valid lease, or option to lease, a marine terminal and/or waterfront facility for construction of the offshore wind energy project (e.g., by virtue of ownership or land development rights obtained from the owner).*
-

MARINE TERMINAL FACILITIES

[Redacted content]

[REDACTED]

[REDACTED]

-
- ii. *If not available, describe the status of acquisition of real property rights for necessary marine terminal and/or waterfront facilities, any options in place for the exercise of these rights and describe the plan for securing the necessary real property rights, including the proposed timeline. Include these plans and the timeline in the overall project schedule.*
-

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

iii. Identify any joint use of existing or proposed real property rights for marine terminal or waterfront facilities.

[REDACTED]

For the remaining marine terminal and waterfront facilities, the situation regarding joint use is as follows:

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

10.3 Please describe the proposed approach for staging and deployment of major project components to the project site. Indicate the number, type and size of vessels that will be used, and their respective roles. Please include specific information on how the bidder's deployment strategy will conform to requirements of the Merchant Marine Act of 1920 (the Jones Act).

STAGING AND DEPLOYING MAJOR PROJECT COMPONENTS

The proposed approach for staging and deployment of major components for each of the Project's six work packages is provided in the following subsections. Vineyard Wind has thoroughly reviewed the Jones Act and confirms that the Project's deployment strategy conforms to the requirements of the Jones Act, as summarized below:

- **WTG Foundation and ESP installation:** A foreign flagged installation vessel that remains stationary using dynamic positioning (DP), only allowing necessary movement at the offshore position to safely perform installation activities on site, is not considered coastwise transportation and is thereby in compliance with Jones Act. [REDACTED]

[REDACTED]

- **Inter-array and offshore export cable installation:** The Jones Act generally does not apply to cable laying as cables are not considered "unlading merchandise" between coastwise points because the cable is instead "paid out" in the course of cable laying..

- **WTG installation:** A foreign flagged jack-up installation vessel that remains jacked-up at the offshore position to safely perform installation activities on site is not considered coastwise transportation and is thereby in compliance with the Jones Act; the installation vessel will be fed by Jones Act compliant feeders from the WTG staging port site.
- **Crew transfer:** Crew transfer vessels (CTVs) used to transport personnel from shore to an installation vessel, foundation, WTG, or ESP will be Jones Act compliant vessels and comply with the requirements of the Passenger Vessel Services Act (46 U.S.C. § 55103 (b)).

WTG Foundations

Foundation staging, deployment, and installation broadly consists of the following major tasks, which are further described below:

1. Foundation Component Harbor Transport
2. Foundation Harbor Operation
3. Scour Protection Installation
4. Foundation Site Transport and Installation

WTG Foundation Component Harbor Transport

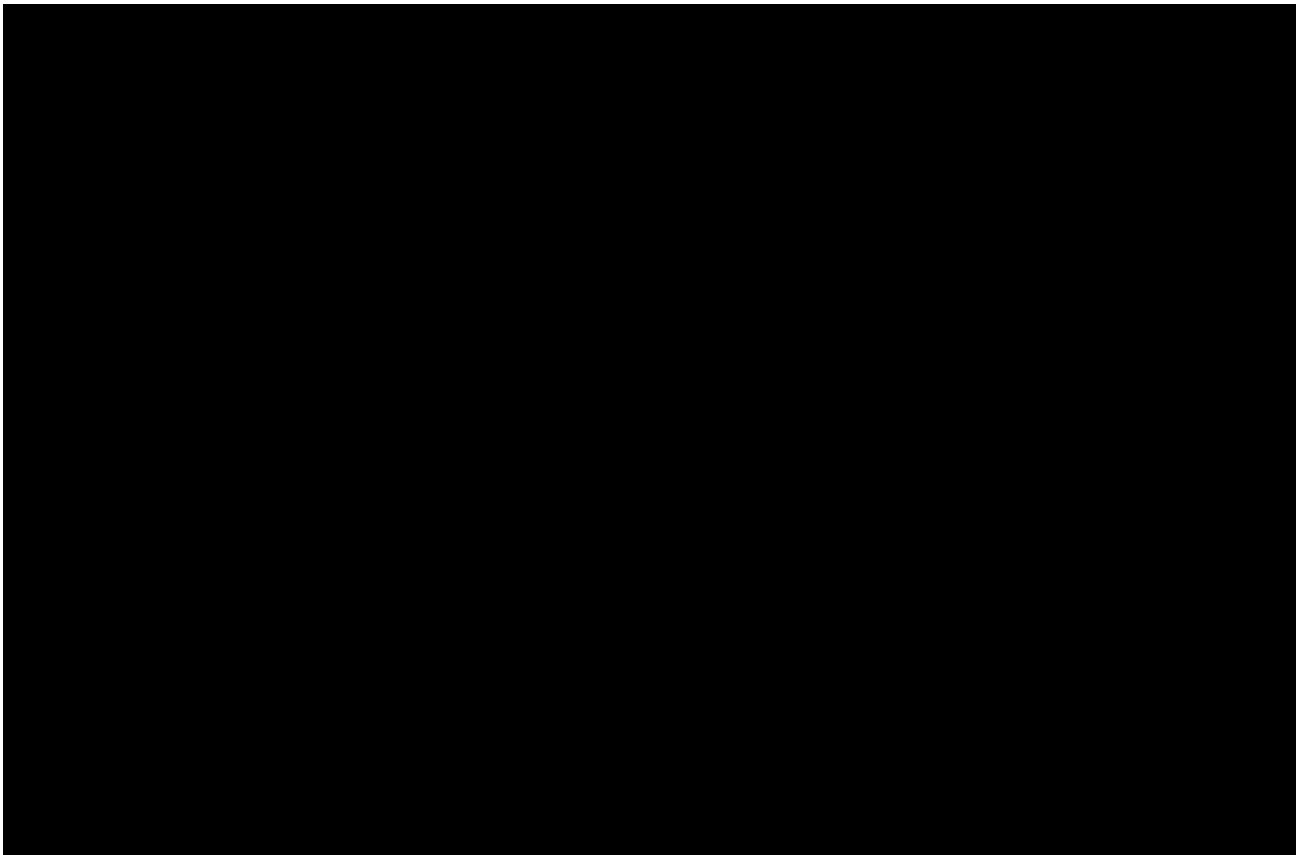
[REDACTED] as detailed in **Table**

10.3-1. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]

[Redacted]



WTG Foundation Harbor Operation

[Redacted]

The specific harbor logistics steps for the handling of foundations are provided in **Table 10.3-2**.

[Redacted]

[Redacted]	
[Redacted]	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Scour Protection Installation

Scour protection will be installed according to the steps outlined in **Table 10.3-3**. Several techniques for placing scour exist (e.g., fall pipes, side dumping, grab placement). Fall pipes involve the use of a pipe that extends from the vessel to the vicinity of the foundation location. This technique is sometimes supported by a remotely operated vehicle (ROV)-guiding the lower end of the pipe, as depicted in **Figure 10.3-2**. [REDACTED]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Figure 10.3-2 *Scour Protection Installation via Fall Pipe with ROV-guided Lower End*



Foundation Site Transport and Installation

The foundation consists of either a monopile and transition piece or a jacket with suction buckets or piles at each leg. [REDACTED]

Table 10.3-4 describes a potential installation method for the foundations.

[REDACTED]	
[REDACTED]	
[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]
[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]

[illegible]

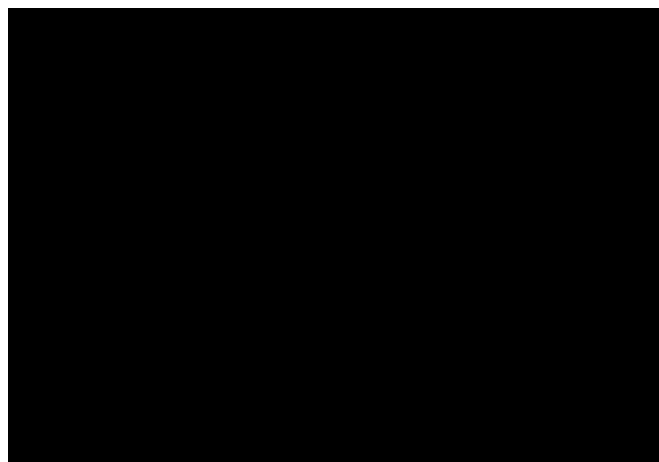


[REDACTED]

[REDACTED]	
[REDACTED]	
[REDACTED]	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

[REDACTED]
[REDACTED] as shown in **Figure 10.3-3.** [REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]



[REDACTED]

Electrical Service Platform

The ESP consists of a topside component, which houses the electrical elements, and a jacket foundation substructure secured by piles or suction buckets. ESP deployment and installation consist of the following major tasks, which are further described below:

1. ESP Transport to Site
2. ESP Installation
3. ESP Offshore Commissioning

Electrical Service Platform Transport to Site

[REDACTED]

[REDACTED] The ESP transport steps are shown in **Table 10.3-5**.

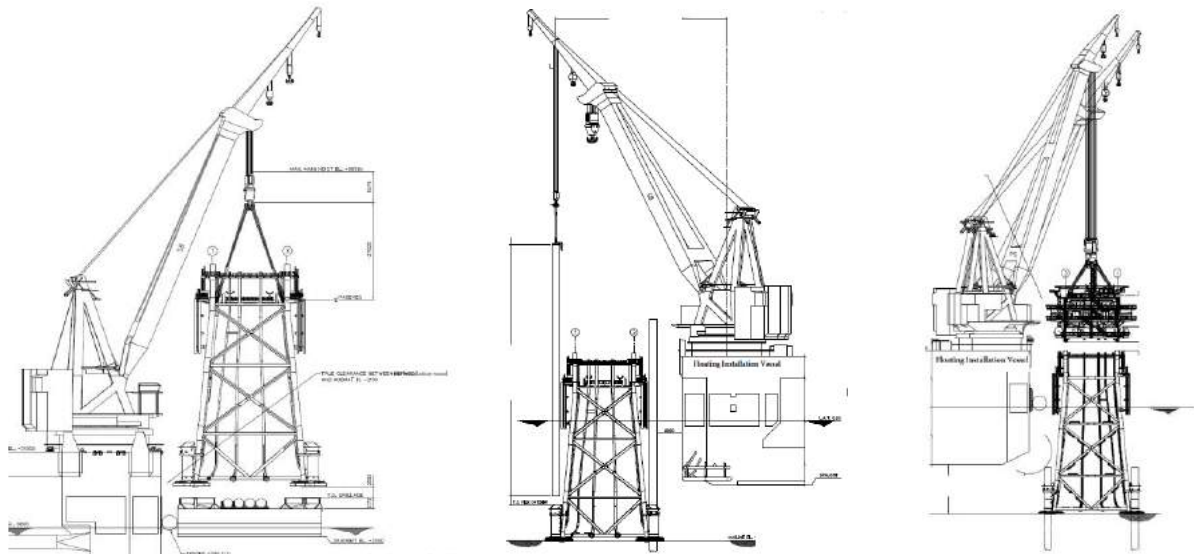
[REDACTED]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Electrical Service Platform Installation

In general, ESP foundation installation is similar to the process described for WTG foundation installation and [REDACTED]

[REDACTED] A typical ESP foundation and topside installation process is depicted in **Figure 10.3-4**.



Seabed preparation may be required prior to ESP installation. If scour protection is needed, it will be placed at the same time the scour protection for the WTG foundations is installed. The ESP installation steps are provided in **Table 10.3-6**.



[Redacted]	
[Redacted]	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]
	[Redacted]

[REDACTED]	
[REDACTED] [REDACTED] [REDACTED]	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] If required, once the inter-array cables are connected to the ESP, the corrosion protection/control system will be installed around the ESP foundation structure utilizing a similar design as the WTG foundations.

Electrical Service Platform Offshore Commissioning

After installation of ESP, the commissioning will commence in accordance with the steps indicated in **Table 10.3-7**.

[REDACTED]	
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

Offshore Export Cables

The offshore export cables transmit power from the ESP to shore. Offshore export cable deployment consists of the following main steps, which are further described below:

1. Export Cable Transportation
2. Pre-installation Surveys and Pre-lay Grapnel Run



3. Landfall Installation
4. Cable Laying and Burial
5. Cable Pull-In into the ESP
6. Cable Termination and Commissioning

Export Cable Transportation

[REDACTED]

Pre-installation Surveys, Pre-Lay Grapnel Run, and other Pre-installation Activities

[REDACTED]

Cable Pull-in at the Landfall Installation

[REDACTED]

Cable Laying and Burial

Once the cable landing is complete, the cable laying vessel will move along the offshore export cable route while simultaneously laying and burying the cable. The offshore export cables will be buried beneath the seafloor at a target depth of five to eight feet. [REDACTED]

[REDACTED]

Cable Pull-in into the Electrical Service Platform

[REDACTED]



Cable Termination and Commissioning

[REDACTED]

Inter-array Cables

The inter-array cables connect the WTGs to one another and the ESP. [REDACTED]

[REDACTED]

Inter-array cable deployment consists of the following main steps, which are further described below:

1. Inter-array Cable Transportation
2. Pre-installation Surveys and Pre-lay Grapnel Run
3. First-end Cable Pull-in into the WTG Foundations
4. Cable Installation Between Foundations
5. Second-end Cable Pull-in into the WTG and ESP Foundations
6. Cable Termination and Commissioning

Inter-array Cable Transportation

[REDACTED]

Pre-Installation Surveys and Pre-Lay Grapnel Run

[REDACTED]

First-end Cable Pull-in into the WTG Foundations

[REDACTED]

[REDACTED]

Cable Installation Between Foundations

[REDACTED]

Figure 10.3-5 *Inter-array Cable Installation Vessel*



Second-end Cable Pull-in into the WTG and ESP Foundations

After the inter-array cable is laid, the second end of the inter-array cable will be pulled-in at the next WTG or ESP foundation following a process similar to the first-end pull-in.

Cable Termination and Commissioning

[REDACTED]

Wind Turbine Generators

WTGs are comprised of several components: one to three tower sections, one nacelle, one hub, and three blades. [REDACTED]

WTG staging and deployment consists of the following major tasks, which are further described below:

1. WTG Transport to Pre-assembly Harbor
2. Harbor Operation and Pre-assembly
3. WTG Transport to Site and Installation
4. WTG Commissioning

WTG Transport to Pre-assembly Harbor

Prior to the commencement of WTG installation, components will be transported to the designated port to create a sufficient stock of components to maintain a steady pace of installation activities. WTG components will be transported on multi-purpose HTVs with crane capacities capable of loading and unloading the components.

[REDACTED]

[REDACTED]

[REDACTED]

Figure 10.3-6 *Multi-purpose / Heavylift Vessels with WTG Components*

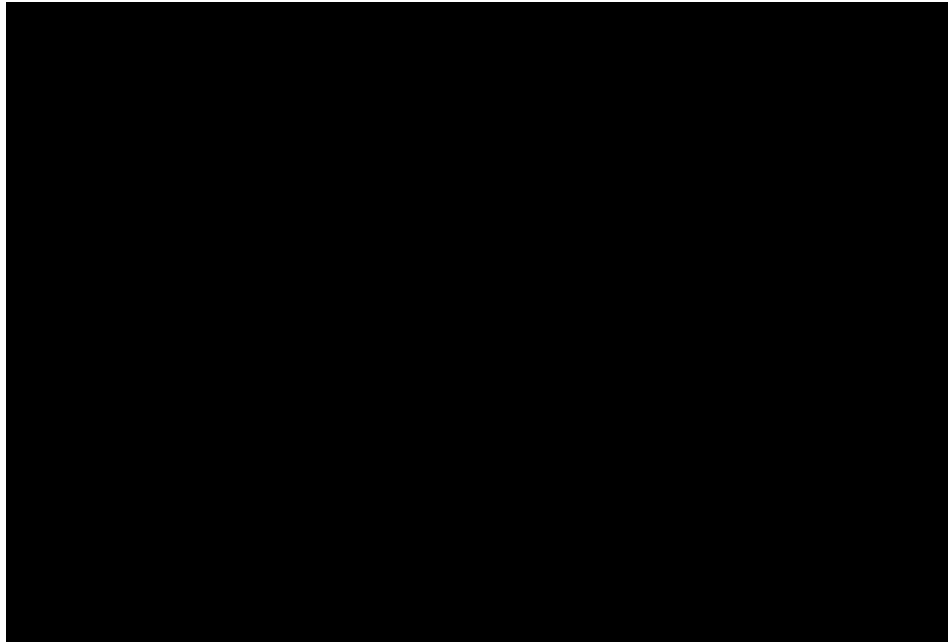


[REDACTED]

WTG transport will proceed according to the steps outlined in **Table 10.3-8**.

[REDACTED]

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]



The WTG installation process is further described in **Table 10.3-10**.

[REDACTED]	
[REDACTED]	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
[REDACTED]	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

WTG Commissioning

WTG installation will be followed by commissioning where the WTGs will be prepared for operation and energized. Commissioning involves conducting tests of the electrical infrastructure and the WTG before responsibility is passed on to the operation and maintenance teams for the duration of the WTG service life. The WTG commissioning and testing phase will happen in parallel with the WTG installation phase.

Onshore Substation and Cable

Onshore Works for staging and deployment consists of the following major tasks, which are further described below:

1. Onshore Substation Construction
2. Landfall Works
3. Duct Bank Works
4. Cable Installation



Onshore Substation Construction

Construction of the onshore substation is planned to occur in parallel with the onshore duct bank and cable installation. Preliminary concepts have been completed, but the final design cannot be completed until the ISO-NE interconnection studies are completed, confirming the final equipment sizing and overall configuration.

Landfall Works

As described previously, HDD will likely be required to create conduits for the offshore export cables at the landfall location. The conduits will connect to the onshore transition vaults. Within the transition vaults, the [REDACTED]

Duct Banks Works

The onshore cables will be installed in individual conduits within a concrete-encased duct bank through public roads and existing rights-of-way before terminating at the onshore substation in [REDACTED] (see **Figure 10.3-8**). Temporary trenching will be required to install the duct bank, and once installation is complete, the trenches will be backfilled, and the road restored to its original condition.

Figure 10.3-8 ***Onshore Open Trench and Duct Bank***



The cable supplier and installer will survey the duct bank conduit with video and mandrel pulling prior to commencing cable installation.

Cable Installation

The onshore cabling will consist of single conductor [REDACTED] [REDACTED] which are likely to be transported to the installation site by truck. This will reduce the need for a large staging area for cable laydown as the cable can be delivered in small lots as required. The cables will be installed between manholes at splice vault locations. A reel containing a segment of the onshore cable will be positioned at one manhole and the pulling vehicle with a winch will be at the next manhole along the onshore export cable route. Once cables are pulled into the duct bank between the vaults, the cables will be spliced together. The supplier will test and commission the cable following cable installation and terminations.

10.4 List the party (e.g. the bidder, or equipment/service providers under contract to the bidder) responsible for each deployment activity and describe the role of each party. Describe the status of bidder's contractual agreements with third-party equipment/service providers.

RESPONSIBLE PARTY FOR EACH DEPLOYMENT ACTIVITY AND ROLE OF EACH PARTY

A list of the potential parties involved in Project deployment is provided in **Table 10.4-1**. This list represents the suppliers with whom Vineyard Wind has been in direct dialogue with and should not be viewed as comprehensive as other suppliers could be relevant. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]

[REDACTED]		[REDACTED]	
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

The experience gained from this process, along with the supply



VINEYARD WIND

ATTACHMENT TO:

**SECTION 10 OF APPENDIX A TO THE RFP
OPERATION AND LOGISTICS**

ATTACHMENT 10.2-1

REDACTED



ATTACHMENT TO:
SECTION 10 OF APPENDIX A TO THE RFP
OPERATION AND LOGISTICS

ATTACHMENT 10.2-2
REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 10 OF APPENDIX A TO THE RFP
OPERATION AND LOGISTICS**

ATTACHMENT 10.2-3

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 10 OF APPENDIX A TO THE RFP
OPERATION AND LOGISTICS**

ATTACHMENT 10.2-4

REDACTED



The Project's O&M plan is comprised of the following elements:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

These elements are aimed at ensuring the most reliable and best possible availability of the Project, while maintaining the highest safety standards and minimizing costs.

O&M Logistics Strategy

A key element supporting the reliable operation of an offshore wind project is a robust O&M logistics strategy. An appropriately designed logistics strategy is essential to ensure the people and materials needed to service and maintain an offshore wind project are available and can be delivered to the site in the required timeframes. [REDACTED]

Vineyard Wind has investigated several potential offshore O&M logistics strategies for the Project.

[REDACTED]

[REDACTED]

Organization and Workforce Strategy

[REDACTED]

Initially, the WTG original equipment manufacturer (OEM) will provide scheduled and unscheduled maintenance services and will be responsible for operating the WTGs under the terms of a full-service warranty agreement. [REDACTED]

[REDACTED]



[REDACTED] the use of major service contractors and their subcontractors will create additional jobs both locally and in the wider supply chain. The O&M workforce can be divided into two key groups:

- **Local Administrative and Management Staff:** This group manages the Project on a day-to-day basis (e.g., the site manager, assistant site manager, engineers, planners, and warehouse staff) and is generally based at a nearby shore location to the Project, preferably a location with good transportation access and marine infrastructure such as New Bedford.
- **Offshore Wind Technicians:** This group is comprised of technical staff that primarily work offshore and is responsible for inspection and maintenance activities. [REDACTED]

[REDACTED] These numbers reflect operational efficiencies resulting from Vineyard Wind 1, which reduce the cost of O&M for the Project. The Project will also require seasonal workers for various offshore campaigns and inspections provided by local suppliers.

Service and Warranty Strategy

Preventive Maintenance

[REDACTED]

Scheduled maintenance will include visual inspections, mechanical and electrical checks and tests, tightening of mechanical connections, if required, and the exchange of consumable products such as filters, oil, grease, and coolant. Equipment testing will occur concurrently with scheduled maintenance but, depending on maintenance requirements, [REDACTED]

To ensure the good working condition of all WTGs, sensors will be installed on the WTGs to detect potential faults at an early stage. This is particularly advantageous in the case of complex replacements of large components, in which case Vineyard Wind will proactively plan a replacement campaign and execute works in a safe and efficient manner.



Corrective Intervention

The O&M logistics setup optimized for the Project will ensure that technicians can be deployed quickly to the WTGs year-round to minimize production losses caused by faults.

[REDACTED]

[REDACTED]

[REDACTED]

Extraordinary Maintenance Campaigns

O&M workloads often increase during the summer months or during major repair and replacements events. In the event of a significant increase in workload, Vineyard Wind would procure additional staff to support the Project. Bringing in additional staff on a short-term basis, including offshore technicians and onshore site management staff, to supplement existing O&M capacity is common practice in the offshore wind industry. Any jobs created during an extraordinary maintenance campaign would be in addition to the FTE positions noted above.

Health and Safety Strategy

[REDACTED]

During the operational phase, safe systems of work such as risk assessments, method statements, lifting plans, and a permit to work system will be developed and implemented before work begins. The safe systems of work will be based on regulatory HSE requirements, Project requirements, and best practice, and adopt international standards to the extent possible and beneficial.

11.2 Please provide documentation to demonstrate site control for all marine terminals and other waterfront facilities that will be used for O&M.

- i. If available, evidence that the bidder or the equipment/service provider have right(s) to use a marine terminal and/or waterfront facility for O&M of the offshore wind energy project (e.g., by virtue of ownership or land development rights obtained from the owner).*
-



MARINE TERMINAL FACILITIES

A project's requirements for marine terminals and waterfront facilities during the operations phase are largely determined by the [REDACTED]

[REDACTED]

-
- ii. *If not available, describe the status of acquisition of real property rights for necessary marine terminal and/or waterfront facilities, any options in place for the exercise of these rights and describe the plan for securing the necessary real property rights, including the proposed timeline. Include these plans and the timeline in the overall project schedule.*
-
- [REDACTED]
- [REDACTED]

-
- iii. *Identify any joint use of existing or proposed real property rights for marine terminal or waterfront facilities.*
-
- [REDACTED]



11.3 Describe in detail the proposed O&M funding mechanism and funding levels to support planned and unplanned O&M requirements.

O&M FUNDING MECHANISM

To estimate O&M funding requirements, Vineyard Wind prepared an initial Operational Expenditure (OPEX) budget,

As a result, Vineyard Wind is highly confident in its estimate of the funding levels required for the Project's O&M.

11.4 Describe the terms (or expected terms) of the warranties and/or guarantees on major equipment that the bidder is utilizing or proposing to utilize.

MAJOR EQUIPMENT WARRANTIES

As part of equipment supply agreements, Vineyard Wind will negotiate industry standard warranty periods on all major Project components. The warranties will be those that are typically available for offshore wind projects and aligned with industry best practice. The anticipated details of the warranties are summarized in the following tables.

Wind Turbine Generators

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

Balance of Plant

Table 11.4-2 below outlines the warranties and coverages that Vineyard Wind anticipates securing for BOP components.

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

11.5 Describe the status of the project sponsor in securing any O&M agreements or contracts. Include a discussion of the sponsor’s plan for securing a medium-term or long-term O&M contract, including the expected provider of O&M services.

PROGRESS IN SECURING O&M AGREEMENTS

[REDACTED]

Table 11.5-1 lists the key O&M agreements that will be secured ahead of going into operation.

[REDACTED]		
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

Wind Turbine Generators

Vineyard Wind will enter into a full-service agreement with the WTG OEM prior to the commencement of the operational phase. The service agreement will be procured simultaneously with the WTG supply agreement. [REDACTED]

***Balance of Plant***

With respect to the BOP O&M, Vineyard Wind plans to use [REDACTED]

[REDACTED]

[REDACTED]

All required maintenance contracts will be in place in advance of the commencement of operations.

11.6 Provide examples of the bidder's experience with O&M services for other similar projects.

O&M EXPERIENCE***Copenhagen Infrastructure Partners***

Copenhagen Infrastructure Partners (CIP) is active in the development and operation of offshore wind projects across the globe, and is currently involved in the operation, together with project partners, of the 402 MW Veja Mate offshore wind project in the German North Sea. The experience gained in developing this offshore wind project, as well as the ongoing experience from operating it, will be leveraged to the benefit of the Project.

CIP is also a shareholder in the 588 MW Beatrice offshore wind project in the UK North Sea, which is currently under construction. The Beatrice project exported first power in July 2018 and is expected to be fully operational in 2019. The experience and lessons learned from developing this project and preparing the site for operations will also be available to the Project. CIP is currently developing offshore wind projects in the US, Taiwan, Atlantic Canada, South Korea, Japan, and Australia, including O&M preparation activities similar to the activities described above. Finally, CIP also operates a portfolio of onshore wind projects in Texas and the UK (see **Section 12**).

Avangrid Renewables

Avangrid Renewables has more than 7,100 MW of owned and controlled renewable generation capacity, primarily wind and solar, across 22 US states. Avangrid Renewables' ultimate shareholder company, Iberdrola S.A. (Iberdrola), is a Forbes Global 2000 company. (see **Section 12**).

Iberdrola

Iberdrola has one of the largest renewable energy asset bases of any company in the world with over 29,00 MW of installed capacity globally. Iberdrola therefore has significant expertise operating both onshore and offshore wind projects across multiple continents (see **Section 12**). The company's key areas of focus are:



- Spain: onshore wind—5,508 MW
- US: onshore wind—5,693 MW
- Mexico: onshore wind—367 MW
- UK: onshore wind—1,796 MW
- UK: offshore wind—194 MW
- Brazil: onshore wind—187 MW

Iberdrola is currently developing, constructing, and operating several offshore wind projects, including:

- The up to 1,200 MW East Anglia Three wind project in the UK, which has been permitted and is now pending financial close. Iberdrola is the owner of this project..
- 476 MW Baltic Eagle and 10 MW Wikinger Süd wind projects in the German Baltic Sea, which have won a competitive auction and are heading towards financial close. Iberdrola is the owner of these projects.
- 496 MW St Brieuc wind project off the coast of Brittany in France, which is currently under development. Iberdrola is 70% owner of this project.
- 714 MW East Anglia ONE wind project in the UK North Sea. Iberdrola is currently constructing this 102-turbine project, which is due to be operational in 2020.
- 350 MW Wikinger offshore wind project in the German Baltic Sea. Iberdrola is the owner and operator of this 70-turbine project.
- 389 MW West of the Duddon Sands offshore wind project. Iberdrola is 50% owner of this operational 108-turbine project.

Iberdrola is also pursuing several development opportunities globally, including the further development of the East Anglia Zone in the UK (East Anglia ONE North – up to 800 MW – and East Anglia TWO projects – up to 900 MW), Baltic Sea area in Germany (Windanker project – up to 250 MW), and the Kitty Hawk offshore wind project proposed in North Carolina (up to 2,400 MW).

SECTION 12 OF APPENDIX A TO RFP

PROJECT MANAGEMENT/EXPERIENCE

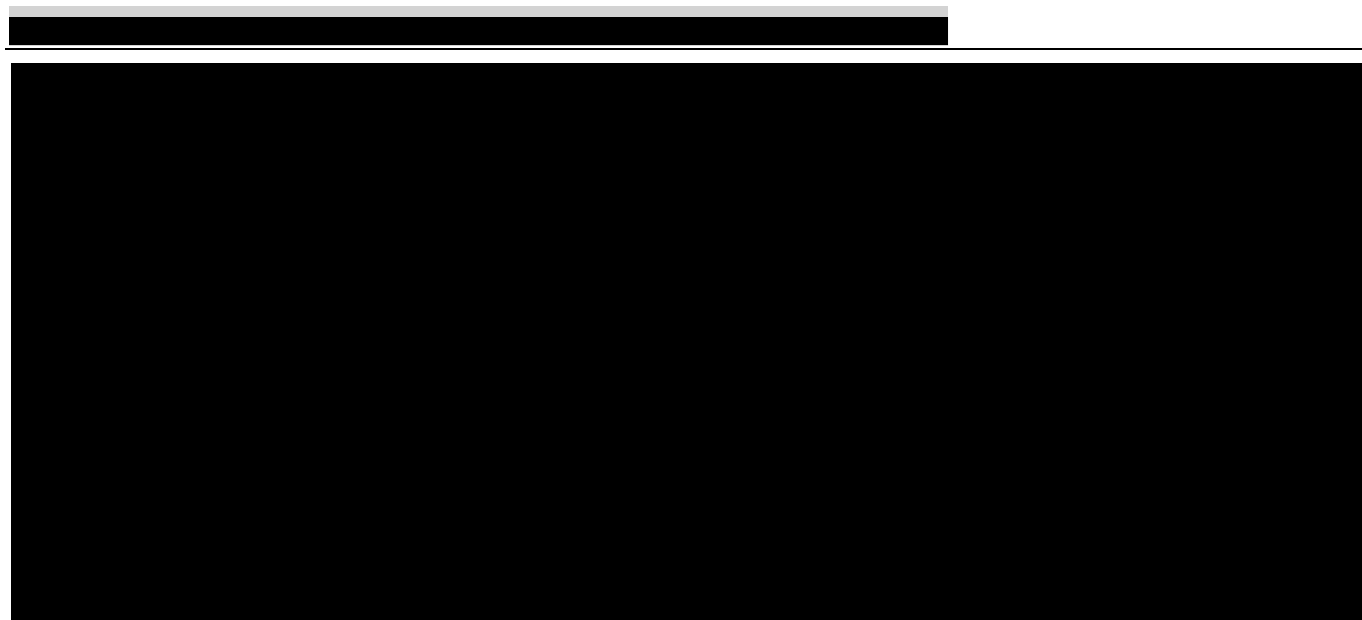
OVERVIEW

This section demonstrates the strong offshore wind project experience and management capability of Vineyard Wind, the most experienced US offshore wind development company. With more than 100 full-time equivalent positions covering all key positions, Vineyard Wind has the resources, capacity, and experience required to successfully shepherd Vineyard Wind 2 (the “Project”) through development to construction and operations. The Project also benefits from the global offshore wind expertise and management capabilities of Vineyard Wind’s shareholder companies- Avangrid Renewables LLC (Avangrid Renewables), and Copenhagen Infrastructure Partners (CIP). Together, these companies and their affiliates have experience across 32 offshore wind projects totaling more than 11,000 megawatts (MW) of capacity in the US, Europe, and Southeast Asia. What’s more, the Project’s development schedule complements that of Vineyard Wind’s first 800 MW project (“Vineyard Wind 1”). This provides the opportunity to transfer trained and experienced staff from the first project to the second as they transition to different stages of development and operation. Finally, the Project’s ultimate success is further assured through the support of key project consultants, partners, and personnel who possess the experience and skills required to deliver the Project.

12.1 Provide an organizational chart for the project that lists the project participants and identifies the corporate structure, including general and limited partners.

ORGANIZATIONAL CHART

Vineyard Wind LLC (Vineyard Wind) was established in 2009 (at the time called Offshore MW). The company is a 50-50 partnership of CIP (through two investment funds CI II and CI III) and Avangrid Renewables, a subsidiary of Avangrid Inc. (Avangrid). Vineyard Wind’s ownership structure allows the company to take advantage of the substantial experience and capability that each shareholder company has to offer. An organizational chart for Vineyard Wind is provided in **Figure 12.1-1**.



12.2 Provide statements that list the specific experience of the bidder and each of the project participants (including, when applicable, the bidder, partners, and proposed contractors), in developing, financing, owning, and operating generating and delivery facilities, other projects of similar type, size and technology, and any evidence that the project participants have worked jointly on other projects.

BIDDER AND PROJECT PARTICIPANT EXPERIENCE

Vineyard Wind

Vineyard Wind's team of industry experts has a long track record of developing offshore and onshore wind projects throughout the US, Europe, and Southeast Asia. The Vineyard Wind team is comprised of local staff with expertise in offshore wind, permitting and local infrastructure, personnel provided by the shareholder companies, and expert consultants to ensure a well-rounded team with the skillset required to develop and operate offshore wind projects in Massachusetts. **Table 12.2-1** provides an overview of the Project team's offshore wind experience. Vineyard Wind also has unique local experience gained while developing, permitting, and financing Massachusetts' first offshore wind project.

Vineyard Wind's corporate structure allows the company to draw heavily on key resources and experience gained from the successful development, permitting, financing, construction, and/or operation of more than 11,500 MW of offshore wind capacity across 32 projects in the US, Europe, and Southeast Asia. For example, CIP and Avangrid Renewables each have recent experience in the construction of offshore wind projects of a similar type, size, and technology as the Project, including the following projects:

- West of Duddon Sands, UK- 389 MW
- Veja Mate, Germany- 402 MW
- Beatrice, UK- 588 MW
- Wikinger, Germany- 350 MW
- East Anglia ONE, UK- 714 MW (currently under construction)
-

[illegible]

CIP has gained market-leading competencies and experience developing a number of offshore wind projects in Europe. CIP's senior partners have been involved in a significant proportion of offshore wind projects and transactions globally, which represent some of the largest and most complex projects within the energy infrastructure investment universe. Today, CIP is the only offshore wind developer in the world to have projects in development on four continents- North America, Europe, Asia and Australia.

A New Course for Offshore Wind

Recent and notable offshore wind achievements include delivery of the Veja Mate project in record time. The project was completed four months ahead of schedule despite the installation of 67 foundations and 6 MW wind turbine generators (WTG) under challenging conditions almost 60 miles (mi) from shore and in water depths of up to 135 feet (ft). In the process, the team set several other world records, including the first use of the world's largest installation vessel (*Seajacks Scylla*) and installing a 1,300-ton monopile – the largest monopile foundation ever installed.

Other notable experience includes financing the construction of the 900 MW DolWin3 Offshore Wind Farm Connection in Germany, an offshore high-voltage direct current (HVDC) transmission platform that was successfully completed in September 2018 when it began exporting power from two offshore wind farms. The platform is one of nine HVDC systems in the German North Sea, constructed and operated by TenneT, which exports more than 6,000 MW into the onshore grid. The converter platform is located approximately 31 mi offshore in the German North Sea.

Avangrid Renewables

Avangrid Renewables is the third largest developer of onshore wind projects in the US. Avangrid Renewables has successfully completed four onshore wind projects in New England and has extensive experience operating wind projects in ISO-NE as a Lead Market Participant. The company is also in full compliance with North American Electric Reliability Corporation and ISO-NE requirements for maintaining the security and reliability of its operations in its National Control Center (NCC) in Portland, Oregon.

Avangrid Renewables is a wholly owned subsidiary of Avangrid Inc., whose majority shareholder is Iberdrola SA. This enables Avangrid Renewables to draw on resources and benefit from the experience of numerous affiliates, such as Avangrid Networks and ScottishPower Renewable Energy Ltd. (ScottishPower Renewables). These affiliates have substantial expertise in offshore and onshore wind development, transmission project development, finance, construction, and operations (including market participant experience) in ISO-NE. Further details on the corporate relationship between Avangrid Renewables and its affiliates are provided in **Section 5**, and Avangrid Renewables' capabilities are further detailed below.

Development and Construction

Avangrid Renewables is a leading renewable energy developer in the US, pursuing greenfield projects, repowering projects, and acquisitions. The company currently has more than 25,000 MW of both wind and solar projects under active development. In ISO-NE, Avangrid Renewables has developed, constructed, and currently operates four wind projects in Vermont, Massachusetts, and New Hampshire (see **Table 12.4-1**).

Origination

Avangrid Renewables has a wide and varied customer base that includes commercial and industrial end-use customers, public utility districts, investor-owned utilities, electric cooperatives, and federal power marketing administrations. In ISO-NE, the company has long-term Power Purchase Agreements (PPAs) with NSTAR, Public Service of New Hampshire, and Green Mountain Power.

Operations and Maintenance

Avangrid Renewables' operations and maintenance (O&M) group currently operates 24/7 to oversee the operation of the company's 7,100 MW of installed renewable capacity in the US. The company has also developed in-house expertise for the maintenance of its project fleet; staff is present at each facility, providing balance-of-plant O&M, substation oversight, and maintaining an inventory of spare parts and equipment.

National Control Center

In early 2010, Avangrid Renewables launched its 24/7 NCC in Portland, Oregon. Avangrid Renewables uses the most sophisticated technology available to lead the industry in asset-monitoring and system control and has the ability to control every turbine under its management across North America. The company's expert technicians can troubleshoot 24/7, adjust turbine activity to comply with local grid demands, shut down individual turbines for safety or reliability concerns, and manage turbine output to maximize efficiency.

Diverse Asset Base

The map in **Figure 12.2-1** depicts Avangrid Renewables' wind, solar, biomass, gas-fired power plants, and natural gas storage facilities. The portfolio's geographic diversity allows the company to optimize lessons learned across the country and maximize each project's generation capabilities.

Figure 12.2-1 Map of Avangrid Renewables Assets in the US (May 2019)

U.S. Power Assets




Avangrid Networks

Avangrid Networks is focused on the transmission and distribution of electricity and natural gas principally through eight regulated electric and natural gas utilities, serving approximately 3.2 million customers in New York and New England, as well as an unregulated business focused on transmission development. Vineyard Wind will be supported by Avangrid Networks through its shared service employees.

12.3 Provide a management chart that lists the key personnel dedicated to this project and provide resumes of the key personnel. Key personnel of the bidder's development team having substantial project management responsibilities must have:

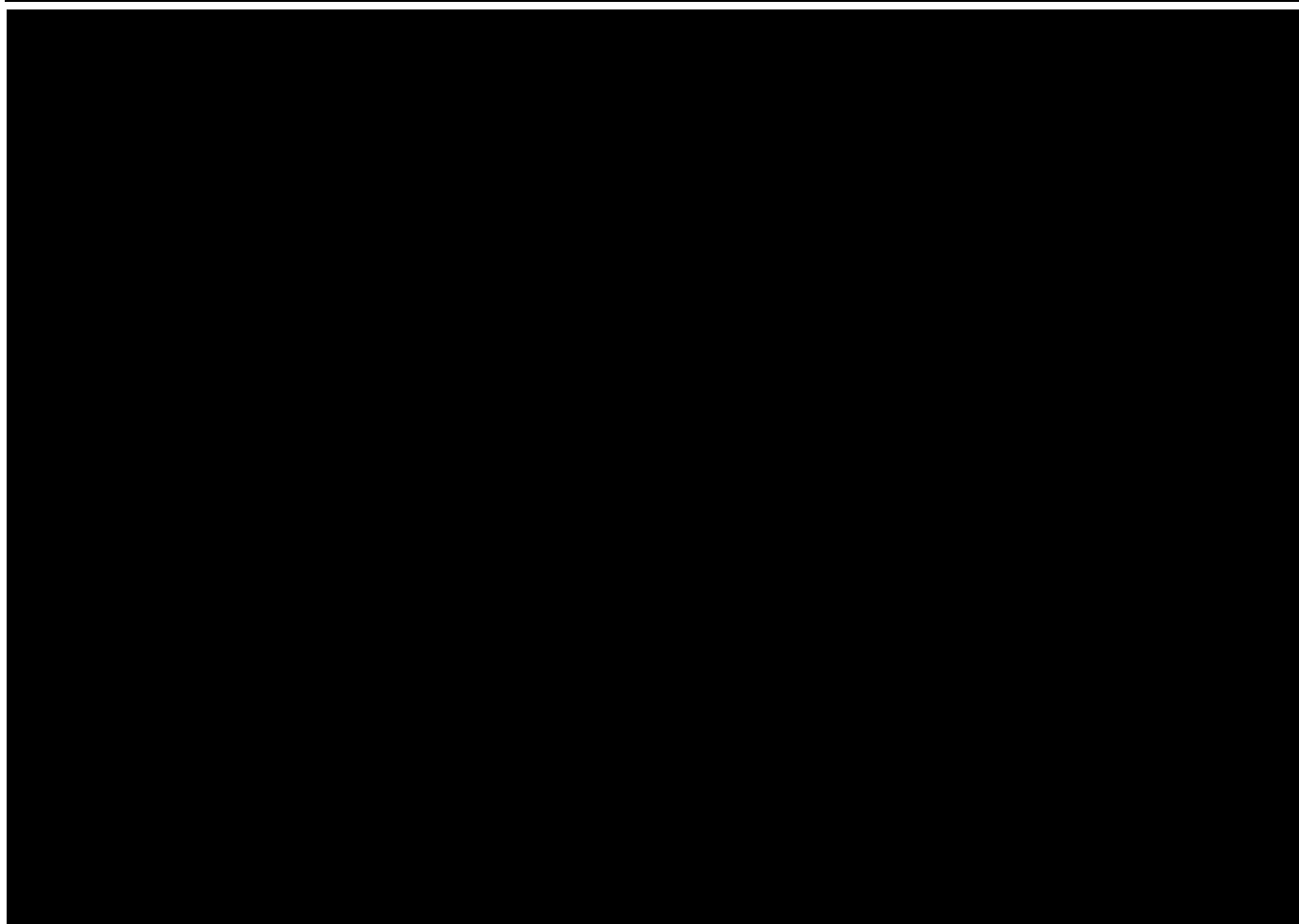
- 1. Successfully developed and/or operated one or more projects of similar size or complexity or requiring similar skill sets; and*
- 2. Experience in financing power generation projects (or have the financial means to finance the project on the bidder's balance sheet).*

KEY PROJECT PERSONNEL

Vineyard Wind has assembled a highly qualified and experienced team for the Project. The company's leadership team is based in the US and the full resources of the shareholder companies are available to support the team in successfully executing the Project. **Figure 12.3-1** provides an overview of the positions and teams supporting the Project. 







Board of Managers

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Officers of Vineyard Wind

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



12.4 Provide a listing of all projects the project sponsor has successfully developed or that are currently under construction. Provide the following information as part of the response:

- i. Name of the project*
 - ii. Location of the project*
 - iii. Project type, size and technology*
 - iv. Commercial operation date*
 - v. Estimated and actual capacity factor of the project for the past three years*
 - vi. Availability factor of the project for the past three years*
 - vii. References, including the names and current addresses and telephone numbers of individuals to contact for each reference.*
-

RELEVANT PROJECTS

The projects listed in **Tables 12.4-1 and 12.4-2** include ISO-NE land-based projects in operation or under construction by Avangrid Renewables as well as offshore generation and offshore transmission projects operating, in pre-construction, or in construction for ScottishPower Renewables, and CIP. The remainder of Avangrid Renewables' 7,100 MW of operating onshore projects are provided in **Attachment 12.4-1**.

References

Vineyard Wind is providing the following client references from the shareholder companies' similar wind energy projects that have been developed, executed, and are currently in operation. Additional references will be provided upon request.

Avangrid Renewables

[Redacted text block containing client references for Avangrid Renewables, consisting of multiple lines of blacked-out text.]

- i. *Construction Period Lender*
- ii. *Operating Period Lender and/or Tax Equity Provider*
- iii. *Financial Advisor*
- iv. *Environmental Consultant*
- v. *Facility Operator and Manager*
- vi. *Owner's Engineer*
- vii. *Transmission/Delivery Consultant*
- viii. *Legal Counsel*

Vineyard Wind and the shareholder companies have extensive contacts and access to all of the firms required to satisfy the financing, environmental assessment, operation, engineering, transmission, and legal counsel requirements of the Project.

[illegible]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



ATTACHMENT TO:
SECTION 12 OF APPENDIX A TO THE RFP
PROJECT MANAGEMENT/EXPERIENCE

ATTACHMENT 12.3-1
REDACTED



ATTACHMENT TO:

**SECTION 12 OF APPENDIX A TO THE RFP
PROJECT MANAGEMENT/EXPERIENCE**

ATTACHMENT 12.4-1 Avangrid Renewables Onshore Projects

Wind facilities (1/3)

Location	Wind Project	Turbines	MW	Year of installation	NERC Region	PPA/ Merchant	PTC/ ITC	Tax Equity
Arizona	Dry Lake I	30 (Suzlon S88, 2.1 MW)	63	2009	WECC	PPA	ITC Cash Grant	
Arizona	Dry Lake II	31 (Suzlon, 2.1 MW)	65	2010	WECC	PPA	ITC Cash Grant	
California	Dillon	45 (Mitsubishi, 1 MW)	45	2008	WECC	PPA	PTC	
California	Manzana	126 (GE, 1.5 MW)	189	2011	WECC	PPA	ITC Cash Grant	
California	Mountain View III	34 (Vestas V47, 0.66 MW)	22	2003	WECC	PPA	PTC Expired	
California	Phoenix Wind Power	3 (NMicon-Vestas, 0.66MW)	2	1999	WECC	PPA	PTC Expired	
California	Shiloh	100 (GE, 1.5 MW)	150	2006	WECC	PPA	PTC Expired	Tax Equity
California	Tule	57 (GE, 2.3MW)	132	2017	WECC	PPA	PTC	
Colorado	Colorado Green(2)	54 (GE, 1.5 MW)	81	2003	WECC	PPA	PTC Expired	
Colorado	Twin Buttes	50 (GE, 1.5 MW)	75	2007	WECC	PPA	PTC Expired	
Colorado	Twin Buttes II	30 (Gamesa, 2.1 MW) 6 (Gamesa, 2.0 MW)	75	2017	WECC	PPA	PTC	
Illinois	Providence Heights	36 (Gamesa G87, 2.0MW)	72	2008	MRO	Merchant	PTC	
Illinois	Streator Cayuga							
Illinois	Ridge South	150 (Gamesa, 2.0MW)	300	2010	MRO	Merchant	ITC Cash Grant	
Iowa	Barton	80 (Gamesa, 2.0 MW)	160	2009	MRO	PPA	ITC Cash Grant	
Iowa	Flying Cloud	29 (GE, 1.5 MW)	44	2004	MRO	PPA	PTC Expired	
Iowa	New Harvest	50 (Gamesa G87, 2.0MW)	100	2012	MRO	PPA	ITC Cash Grant	
Iowa	Top of Iowa II	40 (Gamesa G87, 2.0MW)	80	2008	MRO	PPA	PTC	Tax Equity
Iowa	Winnebago I	10 (Gamesa G83, 2.0MW)	20	2008	MRO	PPA	PTC	
Kansas	Elk River	100 (GE, 1.5 MW)	150	2005	MRO	PPA	PTC Expired	Tax Equity
Mass.	Hoosac	19 (GE, 1.5 MW)	29	2012	MRO	PPA	ITC Cash Grant	

Wind facilities (2/3)

Location	Wind Project	Turbines	MW	Year of installation	NERC Region	PPA/ Merchant	PTC/ ITC	Tax Equity
Minnesota	Elm Creek	66 (GE, 1.5 MW)	99	2008	MRO	PPA	PTC	
Minnesota	MinnDakota	100 (GE, 1.5 MW)	150	2008	MRO	PPA	PTC	Tax Equity
Minnesota	Trimont	67 (GE, 1.5 MW)	100	2005	MRO	PPA	PTC Expired	Tax Equity
Minnesota	Elm Creek II	62 (Mitsubishi, 2.4)	149	2010	MRO	Merchant	ITC Cash Grant	
Minnesota	Moraine I	34 (GE, 1.5 MW)	51	2003	MRO	PPA	PTC Expired	
Minnesota	Moraine II	33 (GE, 1.5 MW)	50	2009	MRO	PPA	ITC Cash Grant	
Missouri	Farmers City	73 (Gamesa G87, 2.0 MW)	146	2009	MRO	Merchant	ITC Cash Grant	
New Hampshire	Groton	24 (Gamesa G87, 2.0MW)	48	2012	NPCC	PPA	ITC Cash Grant	
New Hampshire	Lempster	12 (Gamesa, 2 MW)	24	2008	NPCC	PPA	PTC	
New Mexico	El Cabo	142 (Gamesa, 2.1 MW)	298	2017	CAISO	PPA	PTC	
New York	Hardscrabble	37 (Gamesa G90, 2MW)	74	2011	NPCC	Merchant	ITC Cash Grant	
New York	Maple Ridge I(2)	70 (Vestas V82, 1.65 MW)	116	2006	NPCC	Merchant	PTC Expired	Tax Equity
New York	Maple Ridge II(2)	27 (Vestas V82, 1.65 MW)	45	2006	NPCC	PPA	PTC Expired	
North Carolina	Amazon Wind Farm U.S. East	104 (Gamesa, 2.0 MW)	208	2016	SERC	PPA	PTC	
North Dakota	Rugby	71 (Suzlon S88, 2.1 MW)	149	2009	MRO	PPA/Merchant	ITC Cash Grant	
Ohio	Blue Creek	152 (Gamesa G90 – 2.0 MW)	304	2012	RFC	PPA/Merchant	ITC Cash Grant	
Oregon	Hay Canyon	48 (Suzlon S88, 2.1 MW)	101	2009	WECC	PPA	ITC Cash Grant	
Oregon	Klondike I	16 (GE, 1.5 S – 1.5 MW)	24	2001	WECC	PPA	PTC Expired	
Oregon	Klondike II	50 (GE, 1.5 S – 1.5 MW)	75	2005	WECC	PPA	PTC Expired	
Oregon	Klondike III	44 (Siemens, 2.3 MW);80 (GE, 1.5 SLE, 1.5 MW);1 (Mitsubishi, 2.4 MW)	224	2007	WECC	PPA	PTC Expired	Tax Equity
Oregon	Klondike IIIa	51 (GE, 1.5 MW)	77	2008	WECC	PPA	PTC	Tax Equity

Wind facilities (3/3)

Location	Wind Project	Turbines	MW	Year of installation	NERC Region	PPA/ Merchant	PTC/ ITC	Tax Equity
Oregon	Leaning Juniper II	74 (GE, 1.5 MW);43 (Suzlon, 2.1 MW)	201	2011	WECC	PPA/ Merchant	ITC Cash Grant	
Oregon	Pebble Springs	47 (Suzlon S88/2100, 2.1 MW)	99	2009	WECC	PPA	ITC Cash Grant	
Oregon	Star Point	47 (Suzlon, 2.1 MW)	99	2010	WECC	PPA	ITC Cash Grant	
Pennsylvania	Casselman	23 (GE, 1.5 MW)	35	2008	RFC	PPA	PTC	Tax Equity
Pennsylvania	Locust Ridge I	13 (Gamesa G87, 2.0)	26	2006	RFC	PPA	PTC Expired	
Pennsylvania	Locust Ridge II	51 (Gamesa G83, 2.0 MW)	102	2009	RFC	PPA/Merchant	ITC Cash Grant	
Pennsylvania	South Chestnut	23 (Gamesa, 2.0 MW)	46	2012	RFC	PPA	ITC Cash Grant	
South Dakota	Buffalo Ridge I	24 (Suzlon, 2.1 MW)	50	2009	MRO	PPA	PTC	
South Dakota	Buffalo Ridge II	105 (Gamesa G87, 2.0 MW)	210	2010	MRO	Merchant	ITC Cash Grant	
Texas	Baffin	101 (Gamesa G97, 2.0 MW)	202	2015	TRE	Merchant	PTC	
Texas	Barton Chapel	60 (Gamesa, 2.0 MW)	120	2009	TRE	Merchant	ITC Cash Grant	
Texas	Peñascal I	84 (Mitsubishi, 2.4 MW)	202	2009	TRE	PPA/Merchant	ITC Cash Grant	
Texas	Peñascal II	84 (Mitsubishi, 2.4 MW)	202	2010	TRE	PPA/Merchant	ITC Cash Grant	
Vermont	Deerfield	15 (Gamesa, 2.0 MW)	30	2017	NEISO	PPA	PTC	
Washington	Big Horn I	133 (GE, 1.5 MW)	200	2006	WECC	PPA	PTC Expired	
Washington	Big Horn II	25 (Gamesa, 2.0 MW)	50	2010	WECC	PPA	ITC Cash Grant	
Washington	Juniper Canyon	63 (Mitsubishi, 2.4 MW)	151	2011	WECC	PPA/ Merchant	ITC Cash Grant	
Total			6,387					

Note: 242 MW consolidated through equity method

SECTION 13 OF APPENDIX A TO THE RFP

EMISSIONS

OVERVIEW

Vineyard Wind 2 (the “Project”) is a large-scale, zero-emissions offshore wind project. This section describes how the Project will generate a host of environmental benefits and contribute significantly to the Commonwealth’s emissions reduction targets mandated by the Global Warming Solutions Act (GWSA).

13.1 Provide emissions estimates based on available data from the unit manufacturer. Alternatively, provide actual emissions data determined in accordance with the paragraph above for a similar facility built within the past 3 years. Include copies of supporting documentation for all emissions estimates.

PROJECT EMISSIONS

Vineyard Wind 2 is an offshore wind facility. The Project’s units are wind turbine generators (WTGs) that do not generate greenhouse gas emissions or other air pollutants. Rather, electricity generated by the WTGs will displace electricity generated by fossil fuel power stations and significantly reduce emissions from the ISO-NE power grid over the lifespan of the Project. Emissions estimates for the facility are therefore not applicable.

Table 13.1-1 **Project Anticipated Emissions, pounds/megawatt-hour (lbs/MWh)**

Source of Information	Date of Test (if applicable)	Greenhouse Gases (all except methane) Expressed as Carbon Dioxide equivalent (CO2e)	Nitrogen Oxides (NOx)	Sulfur Oxides (SOx)	Carbon Monoxide (CO)	Particulate Matter (PM 2.5)	Methane (CH4)
N/A	N/A	0	0	0	0	0	0

13.2 Describe any past investments that will or have been made to your facility to improve its emissions profile or any planned future investments made to your facility in order to improve its emissions profile.

INVESTMENTS TO IMPROVE THE PROJECT'S EMISSIONS PROFILE

The Project is a zero-emission renewable energy resource. As such, no investments are required or will be made to improve the emissions profile of the Project's WTGs.

[REDACTED]

13.3 Describe how your project will contribute to the Massachusetts 2008 Global Warming Solutions Act (GWSA) and the 2010 Clean Energy and Climate Plan for 2020, updated in 2015. Describe how your project will contribute to the Commonwealth's 2030, 2040 and 2050 GHG emission targets and any benefits associated with an earlier operational date.

CONTRIBUTION TO THE COMMONWEALTH'S EMISSION REDUCTION TARGETS

Vineyard Wind 2 will generate approximately [REDACTED]. [REDACTED], the Project will make significant contributions to the Commonwealth's 2030, 2040, and 2050 greenhouse gas (GHG) emission reduction targets.

Global Warming Solutions Act Emission Reduction Mandate

The GWSA commits Massachusetts to GHG emission reduction targets of between 10% and 25% below 1990 levels by 2020 and at least 80% below 1990 levels by 2050. Achieving these goals will require the deployment of a suite of renewable energy, energy efficiency, demand response, and storage solutions. It is also widely recognized that a key element in any path to achieving the GWSA's

¹ The avoided emissions analysis assumes a [REDACTED]. The analysis is based on NPCC New England subregion annual non-baseload output CO₂ emission rate of 975.1 lbs/MWh from EPA's Emissions & Generation Resource Integrated Database eGRID2016 released February 15, 2018. Available at: <https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid>.

emission reduction goals is electrification of heating, cooling, and transport demand, which will increase the need for emission-free electric generation.

Massachusetts' electric grid has become significantly cleaner from a GHG perspective in recent years due in large part to energy efficiency, policies that support renewable energy, the retirement of coal- and oil-fired generation units, and increased reliance on natural gas. Emissions from the electricity sector were almost cut by half between 1990 – 2012. However, as recognized by the “2015 Update to the Massachusetts Clean Energy and Climate Plan for 2020”², most of these reductions were achieved through closures of existing large fossil fuel (particularly coal-fired) generators.

The opportunity for additional emission rate reductions within the fossil fuel fleet are limited, given that coal fired generation has been virtually eliminated from the region and oil-burning units are also retiring or generating at very low levels. Additional use of natural gas would not reduce the CO₂ emissions rate in the Massachusetts electricity sector.³ Further progress towards lowering emissions in the electricity sectors therefore hinges on Massachusetts reducing its reliance on natural gas and dramatically increasing the installed capacity of zero emission renewable energy resources like offshore wind. Projects like Vineyard Wind 2 are therefore essential to meet GWSA targets.

Emission Reductions to 2050

The GWSA's 80% by 2050 emission reduction mandate requires overall GHG reductions of 83.2 million US tons from all sectors relative to 1990 levels.⁴ Although the Commonwealth has yet to establish specific targets for 2030 or 2040, a linear decrease in GHG emissions between 2020 and 2050 would require additional reductions relative to 2020 levels of approximately 19, 38, and 57 million US tons by 2030, 2040, and 2050, respectively.⁵

² Massachusetts Executive Office of Energy and Environmental Affairs (2015). 2015 Update to the Massachusetts Clean Energy and Climate Plan for 2020. December 31, 2015. Available at: <http://www.mass.gov/eea/docs/eea/energy/cecp-for-2020.pdf>.

³ The current CO₂ emissions rate in the Massachusetts electricity sector currently stands at 846 lbs/MWh. See US Energy Information Administration (2019). Massachusetts Electricity Profile 2017. January 18, 2019. Available at: <https://www.eia.gov/electricity/state/massachusetts/>. This is less than the average CO₂ emission rate for natural gas combined cycle power stations, which stands at 895 lbs/MWh. See US Department of Energy (2016). Environment Baseline, Volume 1: Greenhouse Gas Emissions from the U.S. Power Sector. June 2016. Available at: <https://www.energy.gov/sites/prod/files/2017/01/f34/Environment%20Baseline%20Vol.%201--Greenhouse%20Gas%20Emissions%20from%20the%20U.S.%20Power%20Sector.pdf> (406.6 kg/MWh from Section 2.1.2, units converted).

⁴ Massachusetts annual GHG emissions in 1990 were 104 million US tons (94.4 million metric tons) of CO₂-equivalent (CO₂e). Achieving the 80% by 2050 target would require annual emissions to decrease to 20.8 million US tons (18.9 million metric tons) of CO₂e. See Mass.gov (n.d.). MA GHG Emission Trends. Available at: <https://www.mass.gov/service-details/ma-ghg-emission-trends> (accessed August 1, 2019).

⁵ Assumes a 2020 emission reduction of 25% below 1990 levels (or annual GHG emissions of 78 million US tons CO₂e), a 2030 emission reduction target of 43% below 1990 levels (or annual GHG emissions of 59 million US tons CO₂e), and a 2040 emission reduction of 62% below 1990 levels (or annual GHG emissions of 40 million US tons CO₂e).

These are substantial contributions – from a single project – to Massachusetts’ emissions reduction goals.

Benefits of an Earlier Operations Date

The Project’s early operations date provides significant GHG emissions reduction benefits and cost savings relative to later projects.

⁶ These savings were estimated by on behalf of Vineyard Wind (see **Attachment 13.3-1**).



ATTACHMENT TO:
SECTION 13 OF APPENDIX A TO THE RFP
EMISSIONS

ATTACHMENT 13.3-1
REDACTED

SECTION 14 OF APPENDIX A TO THE RFP
DEMONSTRATED, VERIFIABLE COMMITMENT TO CREATE AND FOSTER
EMPLOYMENT AND ECONOMIC DEVELOPMENT AND OTHER DIRECT BENEFITS

OVERVIEW

VINEYARD WIND 2 – MAKING MASSACHUSETTS THE HUB FOR THE REGION’S OFFSHORE WIND INDUSTRY

The Vineyard Wind 2 800 megawatt (MW) proposals build on the momentum of the offshore wind industry’s growth spurred by Massachusetts’ first Section 83C solicitation by accelerating the rapid development of the offshore industry in Massachusetts and New England, and generating jobs and economic development benefits across the Commonwealth. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] and infrastructure investments. The Base Proposal will also include \$12 million (Nominal) in direct funding for supply chain, workforce development, and low-income ratepayer initiatives.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

FIRM COMMITMENTS TO DELIVER ECONOMIC BENEFITS TO THE COMMONWEALTH

Massachusetts can count on Vineyard Wind 2's economic benefits being realized. Vineyard Wind has substantial experience developing and implementing local supply chain and workforce development initiatives and integrating local businesses into its projects. Vineyard Wind has also demonstrated its commitment to delivering economic growth and job creation to the Commonwealth, not the least including the project offices for the company's first 800 MW project ("Vineyard Wind 1") in New Bedford and Boston where a team of over 100 highly skilled engineers, project managers, contract managers, and analysts are working diligently to deliver on Vineyard Wind's promise to make Massachusetts home to the nation's first utility-scale offshore wind farm.

[REDACTED]

The economic development benefits package of Vineyard Wind 2, including directly funded initiatives, is described in this Section 14, demonstrating how Vineyard Wind 2 will deliver substantial incremental economic benefits to Massachusetts covering all components and phases of an offshore wind project. [REDACTED]

[REDACTED] These economic benefits packages are designed to support Massachusetts' efforts to further build the offshore wind industry, centered here in Massachusetts, and create substantial lasting benefits that are in addition to those provided directly by the Project.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

14.1 Please provide an estimate of the number of jobs to be created directly during project development and construction, and during operations, and a general description of the types of jobs created, estimated annual compensation, the employer(s) for such jobs, and the location. Employment impacts should be broken out by state and the region as a whole and highlight any impacts in economically distressed areas. Please treat the development, construction, and operation and maintenance periods separately in your response. All information provided must be measurable.

Please describe the status of any contractual commitments with respect to direct job creation and provide any pertinent agreements that have been executed.

Enter appropriate explanation in this space or reference applicable attachment(s)

JOB ESTIMATES

The Project will create jobs throughout all the project phases both at the offshore site, on the harbor sites, and in the already established Massachusetts offices in New Bedford and Boston. [REDACTED]

[REDACTED] as well as additional

benefits resulting from establishing permanent infrastructure capable of serving future offshore wind projects and facilitating other commercial activities.

Pre-Construction Development Direct Jobs

Vineyard Wind's has already made contributions to the Massachusetts economy through Vineyard Wind 1, with the company's offices in New Bedford and Boston a total of 110 full-time employees are currently working on developing the Vineyard Wind 1 project's design, permitting, and financing in Massachusetts. In addition, hundreds of consultants and professionals in the region are working daily on the project, creating hundreds of millions in economic activity. Almost all of these jobs are highly-skilled, professional positions, and include engineers and scientists focused on permitting and project design along with lawyers and executives managing the project and project financing. The Project will benefit from the work and experiences already developed by Vineyard Wind's local team while at the same time creating new job opportunities and providing longer-term employment opportunities for some of the existing project development positions.

The jobs benefits of the Project extend beyond the positions that will be created within Vineyard Wind. As detailed in **Section 12**, Vineyard Wind's team draws support from a host of local companies, local consultancies, advisors, and specialists to develop, permit, and finance offshore wind projects. Examples of the wide range of job opportunities that will be available in Massachusetts during the pre-construction of Vineyard Wind 2 are provided in **Table 14.1-1**.

Table 14.1-1 ***Examples of Jobs in the Pre-Construction and Development Phase***

Category	Types of jobs
Permitting	Environmental engineer, civil engineer, field ecologist, GIS specialists, graphic designer, visual analyst, lawyer and paralegal, public communications, editor, acoustic modeler, archeologist, subject matter expert
Geological Surveys and Analysis	Acoustical engineer, vessel captain and crew, ocean engineer, protected species observers, geologist, archeologist, marine ecologist, meteorologist
Engineering and Design	Civil engineer, structural engineer, electrical engineer, mechanical engineer, risk and schedule analyst, CAD and GIS specialist, meteorologist, oceanographer
Procurement and Financing	Lawyer, procurement professional, investment specialist
Legal	Lawyer, paralegal
Management and Administrative	Management executive, office and business manager, IT specialist, contracts manager, HR specialists

Construction Phase Direct Jobs

Local construction will be centered around the harbor sites for infrastructure upgrades, facilities improvements, and construction and installation activities for turbine and foundation components. Substantial additional short-term construction jobs will be created for the Project's onshore transmission system and network upgrades. Typically, these positions are with engineering and construction management firms, construction firms utilizing building and maritime trades, and vessel and port operations companies. Examples of the wide range of job opportunities that will be available in Massachusetts during construction of Vineyard Wind 2 are provided in **Table 14.1-2**.

Table 14.1-2 *Examples of Jobs in the Construction Phase*

Category	Types of jobs
Wind Turbines	Rigging & Lifting Engineer, Company Representative, Vessel Manager, Marine Coordinator, Yard Supervisor, Marine Warranty Surveyor, Welders and Welding Supervisors, Coaters and Coating Inspectors, Quality Assurance Inspectors and Manager, Quality Assurance Representatives, IT Technicians, Project Management, Engineering Management, Construction Management, Commissioning Manager, Site Manager, Controller, Health & Safety Representatives, Structural Engineer, Permit Coordinator, General Supervision and Management, Administrators
Foundation	Plater, Welder, Pipefitter, Electrician, Riggers, Crane Driver, Scaffolder, Painter, Rigging & Lifting Engineers, Welders, Supervisors, Quality Assurance Representatives, Quality Assurance Manager, Health & Safety Representatives, Structural Engineer, CAD Technicians, Coating Inspectors, Electrical Inspector, Welding Inspector Project Management, Engineering Management, Construction Management, Site Representative, Fabrication Manager, Quality Assurance Manager, Health & Safety Manager, Heavy Lift Specialist, Dimensional Controller, Supply Chain & Procurement Management, Contract Managers, Administrators, Vessel Manager, Vessel Master, Marine Coordinator, Marine Warranty Surveyor
Cables	Site Representative, Rigging & Lifting Engineers, Network Controller, Permit Coordinator, Quality Assurance Manager, Quality Assurance Representatives, Health & Safety Representatives, Structural Engineer, CAD Technicians, Vessel Manager, Vessel Masters, Marine Coordinator, Yard Supervisor, Marine Warranty Surveyor, Project Management, Cable Installation Manager, Commissioning Manager, Engineering Management, Construction Management, Supply Chain & Procurement Management, Contract Managers, Administrators
Electric Service Platform	Plater, Welder, Pipefitter, Electrician, Riggers, Crane Driver, Scaffolder, Painter, Supervisors, Heavy Lift Specialist, Rigging & Lifting Engineer, Yard Supervisor Quality Assurance Representatives, Health & Safety Representatives, Welding Inspector, Coating Inspector, Electrical Inspector, Project Management, Commissioning Manager, Network Controller, Permits Coordinator, Platform Design Manager, Grid Manager, Interface Manager, Certification Manager, Insurance Liaison, Engineering Management, Construction Management, Site Representative, Vessel Manager, Vessel Master, Marine Coordinator, Marine Warranty Surveyor, Mate



[REDACTED]

[REDACTED]

Sustainable Job Creation and Economic Development for the Commonwealth

Vineyard Wind 2 is as much an offshore wind project as it is a comprehensive, long-term strategy of economic development and job creation, building on the momentum the industry has gained since of Massachusetts' first offshore wind procurement as well as the efforts to-date under Vineyard Wind 1 to develop and integrate local businesses and workers into Vineyard Wind's activities and the regional industry as a whole.

Credible Economic Benefit Estimates

[REDACTED]

Beyond Direct Jobs and Economic Expenditure

[REDACTED]

14.2 Please describe and quantify any other economic activity or development expected to result directly from the proposed project. Impacts should be broken out by state and the region as a whole and highlight any impacts in economically distressed areas. Direct economic activity/development will be evaluated based on scale, credibility and firmness. Commitments that secure long-term

¹ See https://www.bls.gov/oes/current/oes_ma.htm#00-0000



benefits are preferred. Commitments will be evaluated by the degree or extent to which the asserted benefits are contractually committed to by the bidder. Specific commitments to economic activity or development should include (but are not limited to):

- Investment in supply chain and infrastructure improvements to support the offshore wind industry, for example, commitment to contribute to the Offshore Wind Accelerator Fund that supports the economic development activities for the offshore wind industry;*
- Investment in workforce development and environmental research facilities to support the offshore wind industry;*
- Commitment to utilize port facilities and office space during project development, deployment during construction, and operation and maintenance of the project.*

Please describe the status of any contractual commitments with respect to economic development and provide any pertinent agreements that have been executed.

ECONOMIC ACTIVITY AND DEVELOPMENT

Vineyard Wind 2 is more than just a second phase to the first utility-scale offshore wind project in the nation. The Project builds on the local investments, supply chain growth, and workforce development spurred by the industry's growth to date and expands both the scope and scale of investments in and commitments to improving and utilizing local infrastructure, businesses, and workers as well as fostering substantial and sustainable economic benefits and job creation [REDACTED]

Economic Development Benefit Categories

In order to best describe the economic development benefits of Vineyard Wind 2, this section will examine economic benefits in the following categories::

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

These categories will be utilized to describe and quantify economic activity and development expected to result directly from the Project, including specific binding commitments and any associated agreements.

1. *Journal of the American Medical Association*, 2000; 283: 2689-2693.

[illegible]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



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[Large redacted text block]

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[REDACTED]

[REDACTED]

[REDACTED]

INFRASTRUCTURE INVESTMENTS

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

DIRECT FUNDING ECONOMIC DEVELOPMENT INITIATIVES

[REDACTED]

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[REDACTED]

[REDACTED]

14.3 Please describe any tracking or reporting mechanisms, such as an annual report(s) of milestones achieved and jobs created to verify the contributions to employment and economic development identified in 14.1, 14.2.



TRACKING AND REPORTING MECHANISMS

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

14.4 To the extent not already specified elsewhere in your response, please address the factors listed in RFP Section 2.3.2.i and describe any benefits or impacts associated with the proposed project.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



Reliability Benefits

The report also qualitatively assessed the reliability benefits of Vineyard Wind 1, concluding that the project would provide the Commonwealth with enhanced electric reliability benefits in several ways. First, the project enhances fuel diversity of the region's generation mix. To the extent that resources face risks to their output that are correlated by resource type – such as natural gas generators being susceptible to pipeline interruptions or congestion, or solar generators not producing output at night – increased fuel diversity can enhance reliability. Offshore wind provides the highest capacity factor of intermittent generation and tends to have a different production profile than solar and even onshore wind.

The Vineyard Wind 1 project would also enhance reliability by injecting power to the regional grid in the capacity constrained SEMA zone, very close to New England's largest load center of Greater Boston. The SEMA zone is seeing significant retirements of baseload generation resources with the recent closure of 1,600 MW Brayton Point Station and the announced closure of 670 MW Pilgrim Nuclear Power Station in May 2019. Other large resources, including the 1,165 MW Canal Station Units 1 and 2 are considered at risk for retirement. In the forward capacity auction for 2018/2019 the SEMA/Rhode Island zone was determined to have inadequate supply to meet local sourcing requirements. The addition of a significant generation resource here will ease some of the most significant potential transmission constraints currently facing the region, enhancing reliability. The Vineyard Wind 2 project, interconnecting in the same capacity zone, will augment these benefits for Massachusetts ratepayers. Additional reliability benefits for Vineyard Wind 2 are described in **Section 3** and **Section 6**.

14.5 Please demonstrate any benefits to low-income ratepayers in the Commonwealth, and the impact, if any, those benefits will have on the cost to the project. Please provide any agreements to effectuate those benefits.

LOW-INCOME RATEPAYER BENEFITS



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



VINEYARD WIND

ATTACHMENT TO:

**SECTION 14 OF APPENDIX A TO THE RFP
DEMONSTRATED, VERIFIABLE COMMITMENT TO CREATE AND
FOSTER EMPLOYMENT AND ECONOMIC DEVELOPMENT AND
OTHER DIRECT ECONOMIC BENEFITS**

ATTACHMENT 14.0-1

REDACTED



ATTACHMENT TO:

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ATTACHMENT 14.2-1 Building Pathways South Support Letter



**Building Pathways South
475 Myles Standish Boulevard
Taunton, MA 02780**

To Whom It May Concern:

On behalf of Building Pathways South, I am writing to support the second bid of the Southeastern Massachusetts-based Vineyard Wind Project.

Building Pathways South (BPS) is a new Pre-apprenticeship program with a mission of helping low-income individuals gain entrance into registered union apprenticeship programs, and ultimately, careers in the Building Trades. As Vineyard Wind is committed to signing Project Labor Agreements for its projects, we hope to be able to provide individuals with career opportunities in the offshore wind industry in Southeastern Massachusetts.

Building Pathways South is a collaboration between the Brockton & Vicinity Building Trades Council, the Southeastern Massachusetts Building Trades Council, The Women's Fund of Southeastern Massachusetts and is fiscally sponsored by the Coalition for Social Justice Education Fund.

Vineyard Wind has demonstrated its commitment to offshore wind bringing good union jobs to Southeastern Mass through signing PLAs for both its first and second projects.

Vineyard Wind's second project will allocate funding to partner with Building Pathways to help recruit minority and low-income communities in Southeastern Mass into this new industry. Building Pathways South welcomes the opportunity to expand on its present curriculum to include the necessary skills to work on the Vineyard Wind project. Building Pathways South looks forward to building a partnership between Building Pathways and Vineyard Wind to ensure access to opportunities in the years to come.

Sincerely,

Yvonne Marie Tobey
Project Coordinator
Building Pathways South



VINEYARD WIND

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ATTACHMENT 14.2-2

REDACTED



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ATTACHMENT 14.2-3 Pile Driver Local Union 56 Support Letter

NEW ENGLAND REGIONAL COUNCIL OF CARPENTERS, AFL-CIO

United Brotherhood of Carpenters and Joiners of America

750 DORCHESTER AVENUE
BOSTON, MA 02125-1132



TELEPHONE (617) 443-1988
FAX (617) 268-0442
www.piledriverslu56.org

DAVID BORRUS
BUSINESS MANAGER
DBORRUS@NERCC.ORG

**PILE DRIVERS
LOCAL UNION 56**

MICHAEL DAVEY
BUSINESS REPRESENTATIVE/ORGANIZER
MDAVEY@NERCC.ORG

August 21, 2019

Erich Stephens,
Chief Development Officer
Vineyard Wind LLC

Dear Erich,

Pile Drivers and Divers Local 56 represents 500 skilled marine construction workers in Massachusetts. We are proud members of the United Brotherhood of Carpenters, and we strongly support the Vineyard Wind 2 development of 800 MW of offshore wind energy at the proposed on the remainder of the BOEM OCS-A 05 01 Lease Site. We provided the majority of the offshore workforce for the nation's first offshore wind installation- Block Island Wind_ and are more than ready to step up and speak out in favor of Vineyard Wind.

We see this very clearly as a win- win- win opportunity, and we are glad to tell you why.

1. Energy Independence

Vineyard wind will help Massachusetts produce its own clean renewable energy. For generations, the citizens of the Commonwealth have been dependent on imported fossil fuels to power our homes and economy, and always sending a sizeable portion of our earnings to out-of-state power generators. Wind energy will reverse that outward cash flow, and reduce carbon emissions as well.

2. Careers in a Changing Economy

The Vineyard Wind 2 project offers lifelong careers with excellent wages and benefits as our national job market is undergoing fundamental changes. As a trade union, we know that offshore wind is not about "a job"- it's a career in a growing industry. Today, apprenticeships and technical certificate programs are the entry points , and Vineyard Wind LLC has already demonstrated meaningful commitment to workforce development with its Windward Force Fund. The company has contributed more than \$200,000 to Mass Clean Energy Center Workforce Grant program. We will be utilizing some of those funds this fall , with a grant award from Mass CEC enabling us to train 40 marine construction

workers in Global Wind Organisation (GWO) Basic Offshore Safety practices. Vineyard Wind both “talks the talk” *and* “walks the walk” in its commitment to growing the workforce.

3. Real-time Meaningful Response to Climate Change

Climate change is having immediate impacts on our families and our communities, especially coastal communities. There are many ways to respond, but inaction is not a choice. Wind energy substantially reduces the amount of heat-trapping gases we put into the atmosphere. The Vineyard Wind 2 project offers us the opportunity to make a difference in our own lives, but more importantly, in the lives of our children and grandchildren.

The men and women of Pile Drivers and Divers Local 56 believe in the offshore wind industry and wholly support the Vineyard Wind 2 proposed development of the OCS- A 0501 lease site.

Sincerely,



David Borrus
Business Manager



ATTACHMENT TO:

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ATTACHMENT 14.2-4 Admiral McDonald Support Letter



Office of the President

21 August 2019

Mr. Lars Thaaning Pedersen, CEO
Vineyard Wind
75 Arlington Street, 7th Floor
Boston, MA 02116

Subj: Letter of Support

Dear Mr. Pedersen:

I am writing to express Massachusetts Maritime Academy's support for Vineyard Wind's bid to build a second wind farm.

As you may know, we have been in discussions with several members of the Vineyard Wind team over the last year and a half regarding workforce development training and employment opportunities for our Cadets. Additionally, the Academy is poised to become the first provider of GWO training in the Northeast. We believe that an award of a second bid to Vineyard Wind would only mean more opportunities for our Cadets and the local workforce as a whole to become part of this exciting industry.

Vineyard Wind has already made a difference in the lives of twelve middle school students living on Cape Cod, Martha's Vineyard and the South Coast of Massachusetts by sponsoring scholarships for them to attend our three week Advanced Studies & Leadership Program (ASLP) this past summer. These high academic achievers would not have otherwise been able to attend this college-like residential experience at Massachusetts Maritime Academy. ASLP emphasizes leadership and development, and project oriented instruction in Science, Technology, Engineering, Math (STEM) areas and the humanities. With these scholarships and other community outreach efforts, Vineyard Wind has successfully begun the first step in the pipeline of opening up opportunities to the future workforce of Massachusetts.

We greatly appreciate all of the efforts Vineyard Wind has put forth to advance offshore wind in the Northeast and look forward to strengthening our collaboration in the future.

Kindest Regards,

Francis X. McDonald, LPD
RADM, USMS
President
fmcDonald@maritime.edu
Office: 508-830-5001



ATTACHMENT TO:

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ATTACHMENT 14.2-5 Cape Cod Community College Support Letter



2240 Iyannough Road
West Barnstable, MA 02668
508-362-2131

August 21, 2019

To Whom It May Concern:

On behalf of Cape Cod Community College (CCCC), I offer our support of Vineyard Wind's submission for the Massachusetts' 83C solicitation, its second project, Vineyard Wind 2. CCCC stands behind this project and is ready to further solidify ourselves as the hub for Offshore Wind education and workforce training for the Cape and Islands.

CCCC is grateful for Vineyard Wind's selection to deliver clean offshore wind power to our nation. Their efforts offer clean energy, economic, and environmental benefits that truly align with Cape Cod's Blue Economy, steeped in maritime tradition and dedicated to innovation. The construction will increase the reliability and diversity of the regional and statewide energy supply. The economic benefits include local job opportunities offering sustainable wages.

Vineyard Wind is a good partner in supporting workforce development on the Cape and Islands. Curriculum was developed in collaboration involving educators from CCCC, local technical high schools, Massachusetts Maritime Academy, Bristol Community College and others. The funding granted to CCCC from the Massachusetts Clean Energy Center (CEC) and Vineyard Wind's Windward Workforce supports our Renewable Energy courses and expansion of the programming to support workforce development. The investment will help educate students, workers, and professionals in Offshore Wind technologies. The programming will start this fall and bring students, both high school-aged and adult learners, into this field of emerging careers.

CCCC is excited to support the opportunities that Vineyard Wind and future projects offer to spur the innovations necessary to build and advance the clean energy industry. As we work to create Massachusetts' preeminent role in clean energy development, as a center for offshore wind production and education, I ask for your support of Vineyard Wind's second project, Vineyard Wind 2.

Yours sincerely,

John L. Cox, Ed.D., CPA
President

Telephone: 508-362-2131 x 4300 FAX: 508-362-3988 Email: jcox@capecod.edu

CAPE COD COMMUNITY COLLEGE

OFFICE OF THE PRESIDENT

WWW.CAPECOD.EDU



VINEYARD WIND

ATTACHMENT TO:

**SECTION 14 OF APPENDIX A TO THE RFP
DEMONSTRATED, VERIFIABLE COMMITMENT TO CREATE AND
FOSTER EMPLOYMENT AND ECONOMIC DEVELOPMENT AND
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ATTACHMENT 14.2-6

REDACTED



VINEYARD WIND

ATTACHMENT TO:

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DEMONSTRATED, VERIFIABLE COMMITMENT TO CREATE AND
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ATTACHMENT 14.2-7

REDACTED



VINEYARD WIND

ATTACHMENT TO:

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ATTACHMENT 14.2-8

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 14 OF APPENDIX A TO THE RFP
DEMONSTRATED, VERIFIABLE COMMITMENT TO CREATE AND
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ATTACHMENT 14.4-1

REDACTED



VINEYARD WIND

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ATTACHMENT 14.4-2

REDACTED



VINEYARD WIND

ATTACHMENT TO:

**SECTION 14 OF APPENDIX A TO THE RFP
DEMONSTRATED, VERIFIABLE COMMITMENT TO CREATE AND
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Section 14 Addendum

REDACTED

SECTION 15 OF APPENDIX A TO THE RFP EXCEPTIONS TO FORM PPA

Please attach an explanation of any exceptions to the Form PPA set forth in Appendices B-1 and B-2. Comments to the proposed Form PPA must include any specific alternative provisions in a redline format to the Form PPA. If the bidder is proposing a two-phased project with each phase covered by a separate contract, the bidder should provide two separate contracts with specific alternative provisions to the Form PPA in redline format.

The Draft Contract (PPA) redline, included as **Attachments 15.0-1 and 15.0-2**, details certain requested changes to be negotiated between the parties.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

A summary of the material changes is included as **Table 15.0-1** below.

[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

[illegible]



ATTACHMENT TO:
SECTION 15 OF APPENDIX A TO THE RFP
EXCEPTIONS TO FORM PPA

ATTACHMENT 15.0-1
REDACTED



ATTACHMENT TO:
SECTION 15 OF APPENDIX A TO THE RFP
EXCEPTIONS TO FORM PPA

ATTACHMENT 15.0-2
REDACTED



SECTION 16 OF APPENDIX A TO THE RFP
EXCEPTIONS TO FORM COMMITMENT AGREEMENT

Please attach an explanation of any exceptions to the Commitment Agreement set forth in Appendix G. Comments to the proposed Commitment Agreement must include any specific alternative provisions in a redline format to the Commitment Agreement.

The proposed Commitment Agreement redline, included as **Attachment 16.0-1**, details certain requested changes to be negotiated between the parties.





ATTACHMENT TO:

**SECTION 4 OF APPENDIX A TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN**

ATTACHMENT 16.0-1

REDACTED